International Boulevard Senior Housing Project

CEQA Analysis

City of Oakland, California

Prepared for:
City of Oakland
Bureau of Planning
250 Frank H. Ogawa Plaza, Suite 2114 Oakland, CA 94612

Prepared by:
Stantec Consulting Services Inc.
1340 Treat Boulevard, Suite 300
Walnut Creek, California 94596

May 17, 2017

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Acronyms

ACM	asbestos containing materials
ACTC	Alameda County Transportation Commissions
ADA	Americans with Disabilities Act
ATCM	Airborne Toxic Control Measure
BRT	Bus Rapid Transit
CARB	California Air Resources Board
CalEEMod	California Emissions Estimator Model
CC-2	Community Commercial Zone 2
CEQA	California Environmental Quality Act
CO	carbon monoxide
dB	decibels
dBA	A-Weighted Decibel
DPM	diesel particulate matter
EBMUD	East Bay Municipal Utility District
EIR	Environmental Impact Report
ESA	Environmental Site Assessment
FHWA	Federal Highway Administration
GHG	greenhouse gas
HRA	Health Risk Assessment
ITE	Institute of Transportation Engineers
Ldn	Day-Night Level
Leq	equivalent sound level
Lmax	maximum sound level
LOS	Level of Service
LUTE	Land Use and Transportation Element
NOx	nitrous oxides
NPDES	National Pollution Discharge Elimination System
PM	particulate matter
PM_{10}	particulate matter 10 microns in diameter
$PM_{2.5}$	particulate matter 2.5 microns in diameter
PPV	Peak particle velocity
RCNM	Roadway Construction Noise Model
ROG	Reactive Organic Gas
RWQCB	Regional Water Quality Control Board
SCA	Standard Condition of Approval
SWPPP	Storm Water Pollution Prevention Plan
TACs	toxic air contaminants
TNM	Traffic Noise Model
TDM	Transportation Demand Management
TIA	Traffic Impact Study
TNM	Traffic Noise Model
UBC	Universal Building Code
V/C	volume to capacity ratio
VMT	Vehicle Miles Travelled
VOC	volatile organic compound
VTR	vehicle trip reductions

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1.0 INTRODUCTION

1.1 PROJECT TITLE

International Boulevard Senior Housing Project

1.2 LEAD AGENCY NAME AND ADDRESS

City of Oakland
Bureau of Planning
250 Frank H. Ogawa Plaza, Suite 2114
Oakland, California 94612

1.3 CONTACT PERSON AND PHONE NUMBERS

Peterson Vollmann, Planner IV
250 Frank H. Ogawa Plaza, Suite 2114
Oakland, California 94612
Phone: (510) 238-6167
pvollmann@oaklandnet.com

1.4 PROJECT LOCATION

The International Boulevard Senior Housing project (proposed project) is located at the southeast corner of 105th Avenue and International Boulevard in Oakland, California. The project site is 3.9 acres, and consists of Assessor Parcel Numbers (APN) 47-5519-5-2, 47-5509-1-1, 47-5509-3, 47-5509-4, 47-5509-5, 47-5509-6, 47-5509-7, 47-5509-9-1, 47-5509-10, and 47-5509-41. The project site is generally bounded by International Boulevard to the west and 105th Avenue to the north. Land uses surrounding the project site include commercial, residential, and industrial properties to the north, east, and south.

1.5 PROJECT SPONSOR'S NAME AND ADDRESS

Riverside Charitable Corporation
14131 Yorba Street
Tustin, California 92780

1.6 LAND USE DESIGNATIONS

The project site is located within the City of Oakland (City) International Boulevard Transit-Oriented Development (TOD) plan, in the Elmhurst South District. The General Plan land use designation for the project site is Community Commercial, which allows up to 125 residential dwelling units per acre. Pursuant the City of Oakland's Zoning Ordinance, the project site is zoned Community Commercial Zone 2 (CC-2).

The intent of the CC-2 zone is to create, maintain, and enhance areas with a wide range of commercial businesses with direct frontage and access along the City's corridors and commercial areas. Community commercial areas may include neighborhood center uses and larger scale retail and commercial uses, such as auto related businesses, business and personal services, health services and medical uses, educational facilities, and entertainment uses. Community commercial areas can be complemented by the addition of urban residential development and compatible mixed use development. The proposed project would involve the development of a senior residential development, and would be consistent with the General Plan.

1.7 REQUESTED PERMITS

In addition to the permits identified in the City's Standard Conditions of Approval (SCAs), disclosed herein, the following permits have been requested for the proposed project.

Actions by the City of Oakland

- Regular Design Review (Planning Code Section17.136.040).
- Tentative Parcel Map.
- Building Bureau – Building permit.
- Other City Permits – Grading permit, encroachment permit and other related onsite and offsite work permits.

Actions by Other Agencies

- Bay Area Air Quality Management District (BAAQMD) – Issuance of permits for installation and operation of the emergency generator.
- Regional Water Quality Control Board (RWQCB) – Acceptance of a Notice of Intent to obtain coverage under the General Construction Activity Storm Water Permit, and Notice of Termination after construction is complete. Granting of required clearances to confirm that all applicable standards, regulations, and conditions for all previous contamination at the site have been met.
- East Bay Municipal Utility District (EBMUD) – Approval of new service requests and water meter installation.

2.0 PROJECT DESCRIPTION

2.1 EXISTING SETTING AND NEIGHBORING LAND USES

The project site is in an urban setting and currently occupied by an auto body shop, and automotive service center, which would both be demolished prior to construction of the proposed project (Figure 2.1-1). There are three existing commercial businesses, Dollar Green, Rockforth Pharmacy, and Borderline Automotive Service Center, which front International Boulevard, and would remain on the project site. A two-story structure that is occupied by a religious organization lies north of the project site; a health care service center and commercial use lie to the west; AC Transit office building lies to the south; and, a parking lot lies to the west.

The local roadway network access includes International Boulevard/SR 185, 98th Avenue, 104th Avenue, 105th Avenue, and Durant Avenue. The Regional access routes include Interstate 880 (I-880), approximately 1.3 miles to the west, and I-580, approximately 1 mile to the east of the project site.

The project site is served by AC Transit service. AC Transit provides bus service to the greater San Francisco East Bay Area, including Oakland and several other cities in Alameda and Contra Costa Counties, and Transbay service in downtown San Francisco.

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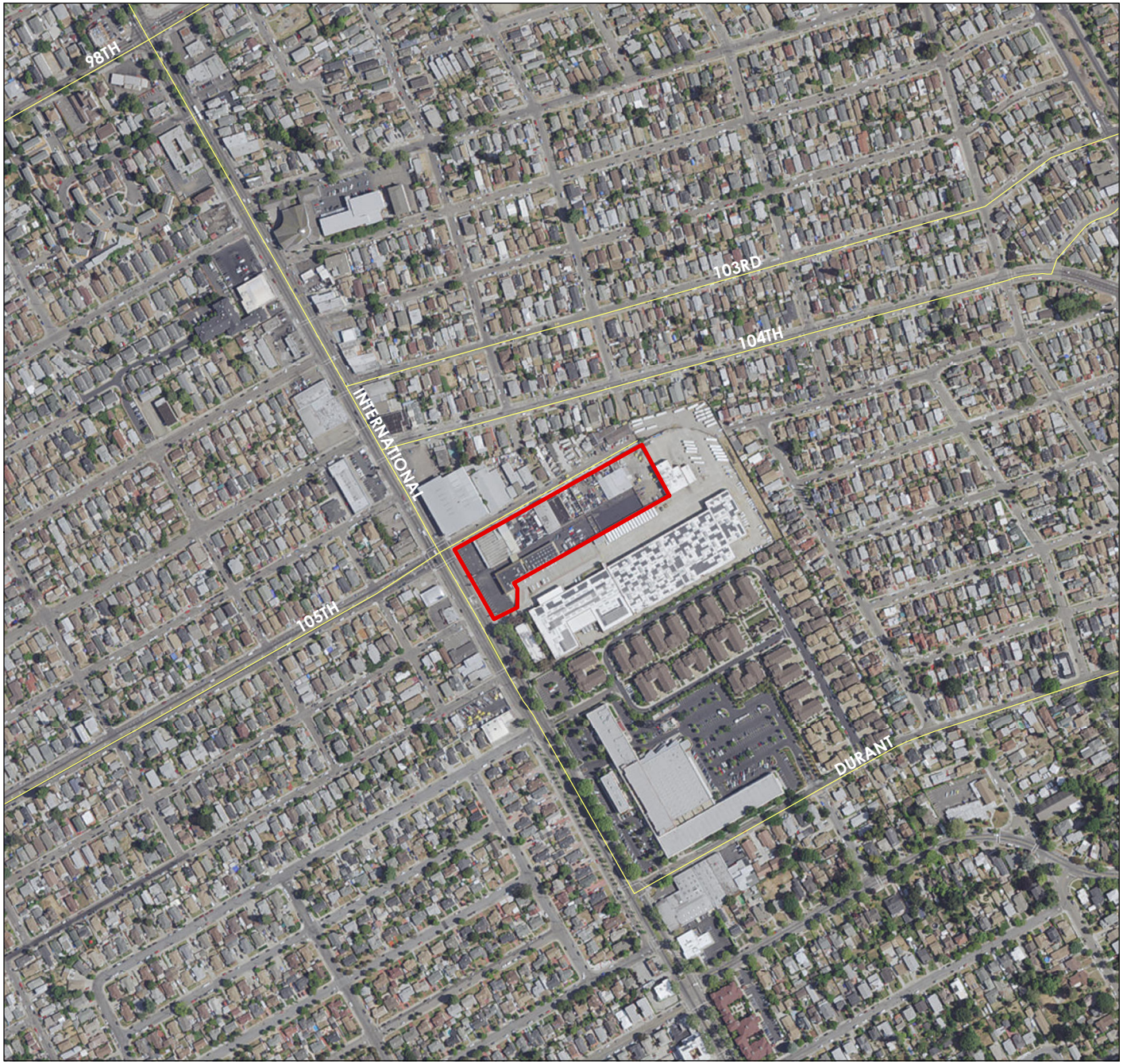


Figure No.
2.1-1

Title
Project Site Location

Client/Project
Riverside Charitable Corporation
International Boulevard Senior Housing Project
1857502986

Project Location
Oakland, California

Prepared by KLJ on 2016-10-17

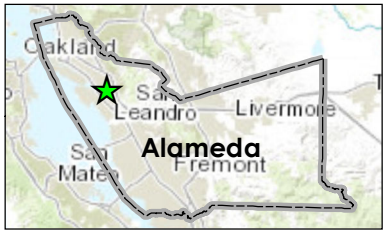
0 600 Feet

1:6,660 (At Original document size of 8.5x11)

N

Legend

Project Site



Notes
1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.
3. Orthoimagery © First Base Solutions, 20xx.

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2.2 PROPOSED PROJECT

The proposed project would develop 529 senior dwelling units on a 3.9-acre parcel. Thirty percent of the proposed dwelling units would be affordable housing units, and would provide housing for those earning up to 60 percent of the area's median income in Alameda County. The proposed project meets the necessary requirements of Chapter 17.107, Density Bonus, and Incentive Procedure, of the City's Planning Code, and the Applicant is requesting a concession to provide less than the required open space area for the proposed project.

The proposed project would be approximately 448,833 square feet that would include ground floor parking with five stories of residential units on top. Ten foot setbacks would be provided on all sides except the side adjacent to 105th Avenue, where the setback will be 33 feet. The number of dwelling units per floor and total square footage of the residential portion of the proposed project are shown in Table 2.2-1.

Table 2.2-1: Senior Unit Summary

Number of Units	Bedrooms	Unit Size (square feet)
160 units	1 bedroom-A1	622 square feet
251 units	1 bedroom- A2	599 square feet
90 units	2 bedroom-B1	845 square feet
23 units	2 bedroom- B2	861 square feet
5 units	2 bedroom-B3	1,000 square feet
Total Units: 529 dwelling units		**Total square footage: 350,722 square feet**

In addition, the existing commercial businesses (Dollar Green, Rockforth Pharmacy, and Borderline Automotive Service Center) fronting International Boulevard would be remodeled to ensure they are integrated with the proposed project's architecture. The proposed project would be designed in conformance with applicable life safety and fire codes, and supported by perimeter foundations with concrete slab flooring on top of the parking area (Figures 2.2-1 through 2.2-10).

The proposed project would be designed with neutral, subdued tones, and a contemporary architectural style that would integrate into the neighborhood and nearby Durant Marketplace. Architectural details such as the undulating roofline, assortment of colors, varying window placement and size, and façade articulation would add character and dimension to the building and neighborhood. Construction standards would be adhered to assure that a quality product is provided. Table 2.2-2 summarizes the proposed project's development characteristics.

Table 2.2-2: Proposed Project Development Summary

Description	Amount
Building Total	
Total Building Footprint Area	113,535 square feet
Site Area	3.9 acres (170,601 square feet)
Total Floor Area	448,833 square feet
Building Height	75.75 feet
Site Density	135.1 dwelling units per acre
Total Number of Dwelling Units	**529 senior dwelling units**
Common Open Space Provided	
Clubhouse	1,200 square feet
Leasing/Amenity	1,600 square feet
Fitness	1,000 square feet
Courtyard 1	5,700 square feet
Courtyard 2	4,300 square feet
Courtyard 3	5,700 square feet
Courtyard 4	3,700 square feet
Total Common Open Space	**23,200 square feet**
Residential Parking Summary	
Standard Garage Stalls	275 stalls
Compact Garage Stalls	51 stalls
Total	334 stalls
Resident Ratio	0.63
Commercial Parking Summary	

Description	Amount
Standard Stalls	46 stalls
Handicap Stalls	4 stalls
Total	**50 stalls**

2.2.1 Vehicular Access and Circulation

Access to the project site would be from 105th Avenue through three vehicular entries. An existing ramp on 105th Avenue provides vehicular access to the roof parking on top of the existing building with commercial businesses. The three driveways from 105th Avenue are proposed to be 21 feet wide each.

2.2.2 Bicycle and Pedestrian Circulation

Pedestrian access to the proposed project is from 105th Avenue, and pedestrians can also access the parking garage from International Boulevard. Pedestrian linkages within the parking garage would connect the proposed residential units to the rest of the project. Pedestrian circulation for residents is also provided in the courtyards atop the ground floor parking garage.

Bike route 26, a Class II bike route (on-street striped), is provided on both sides of 105th Avenue west of International Boulevard. The bike route is proposed to continue as a Class II bike route on International Boulevard, and then as a Class III bike route on 104th Street. Per the City's Bicycle Master Plan Recommended Network, International Boulevard is designated as a corridor for future Class II bicycle facilities within the vicinity of the project site. The proposed project would incorporate bicycle storage facilities along 105th Avenue.

Pedestrian sidewalks are provided on all streets within the vicinity of the project site. The sidewalk along 105th Avenue, fronting the project site, is 10 feet wide. Pedestrian push buttons are installed at all pedestrian crossings within the vicinity of the project site.

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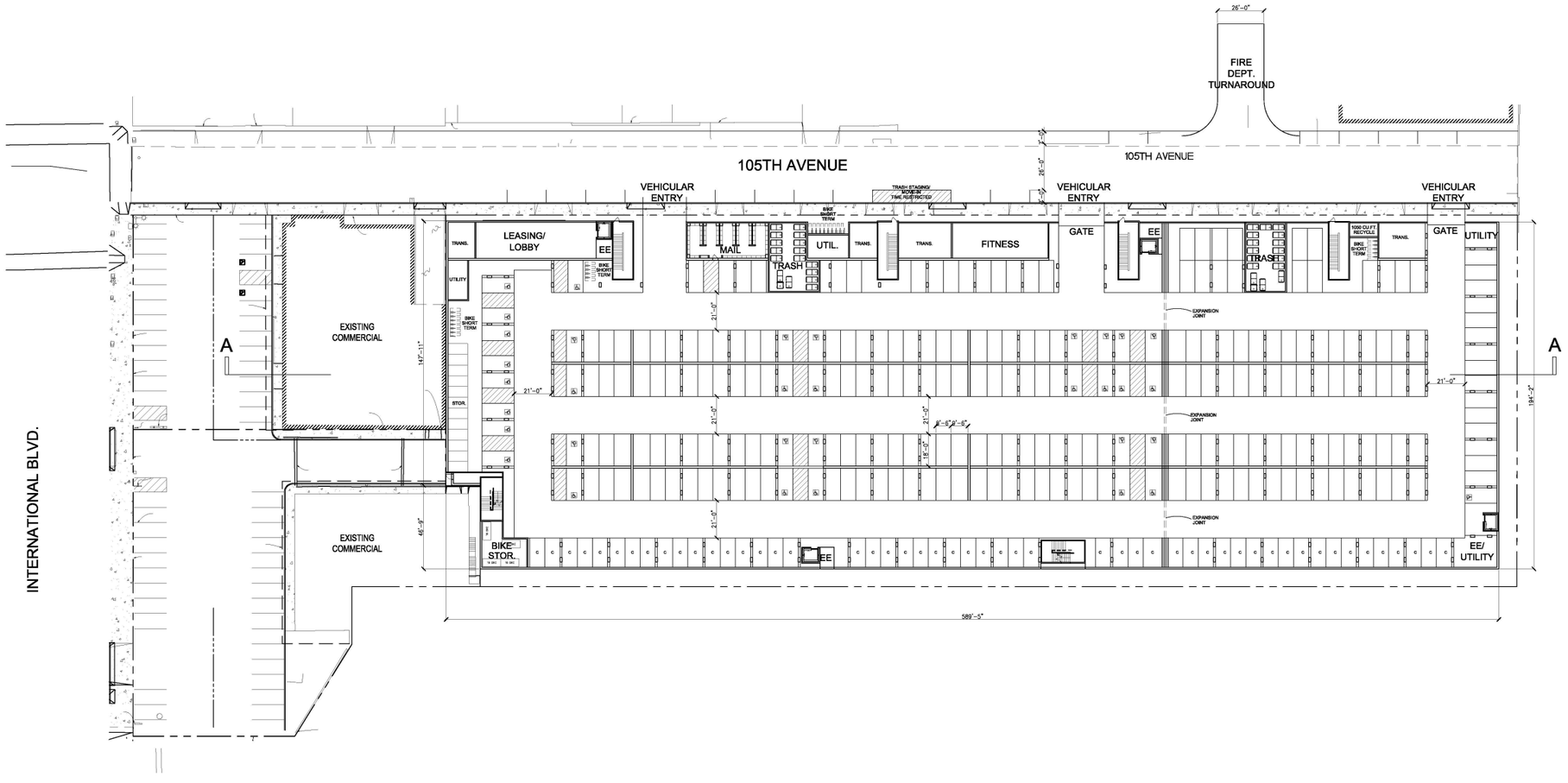

SITE PLAN / GROUND FLOOR

Figure No.
2.2-1

Title
Project Site Plan- Ground Floor

Client/Project
Riverside Charitable Corporation
International Boulevard Senior Housing Project
18572986

Project Location
Oakland, California

Prepared by KLJ on 2016-10-17

Notes
Not to Scale
Scale: 1"=30' at original document size of 36x24 inches
Source: Architects Orange
Updated: 10-14-2016

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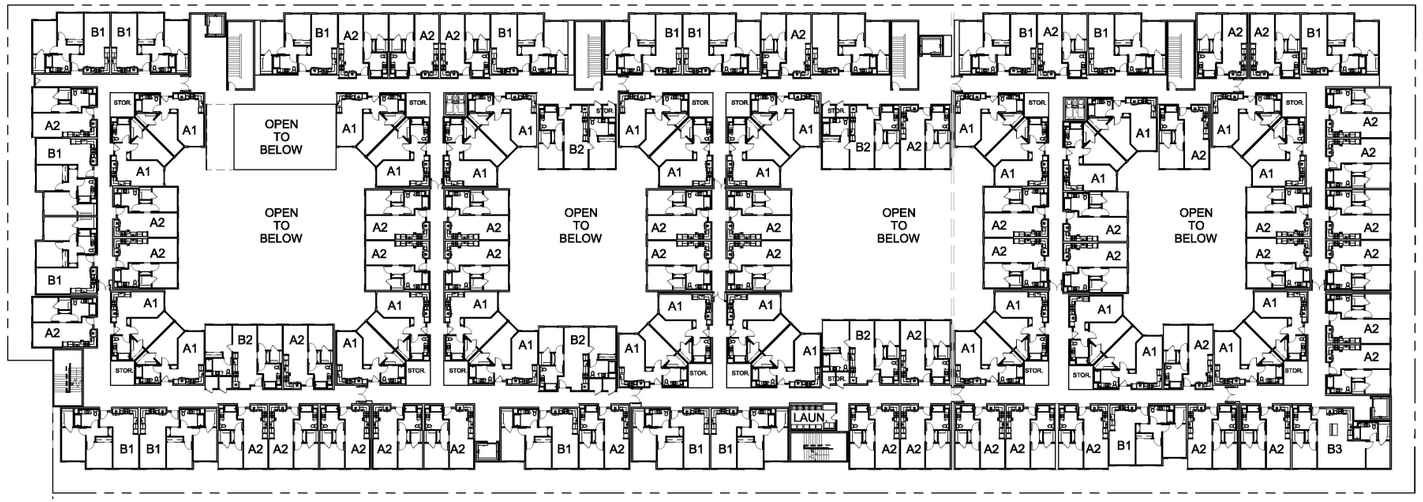
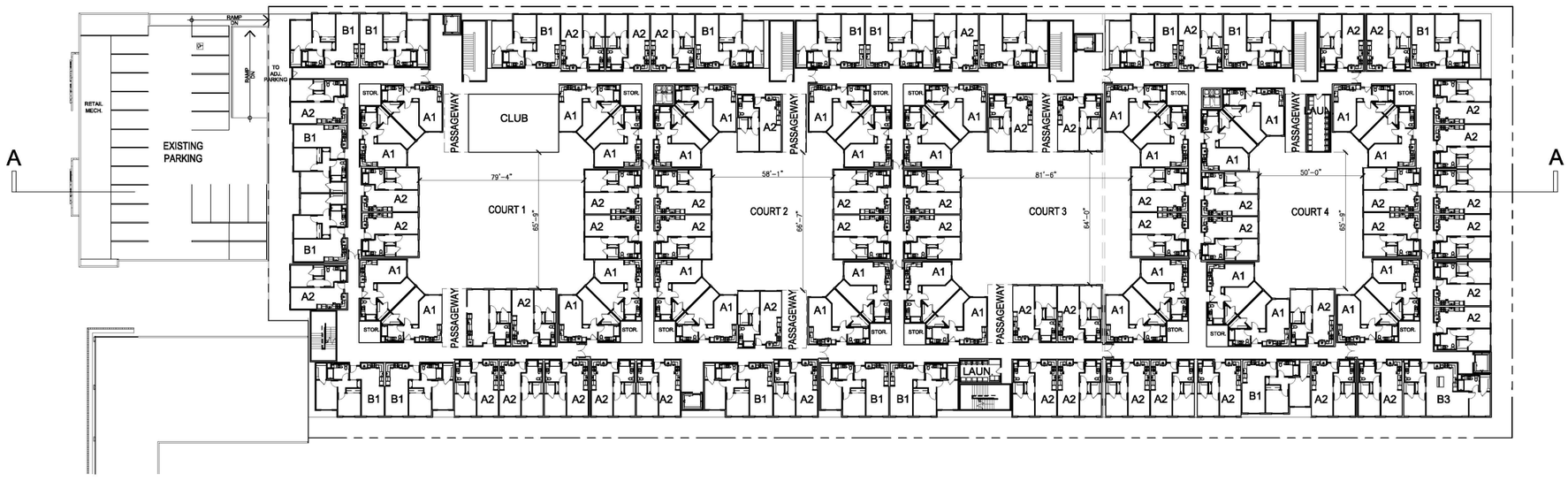


3RD FLOOR



2ND FLOOR

Figure No.
2.2-2

Title
Project Site Plan- Second and Third Floors

Client/Project
Riverside Charitable Corporation
International Boulevard Senior Housing Project
18572986

Project Location
Oakland, California

Prepared by KLJ on 2016-10-17

Notes

Not to Scale
Scale 1"= 30' at original document size of 36x24 inches
Source: Architects Orange
Updated: 10-14-2016

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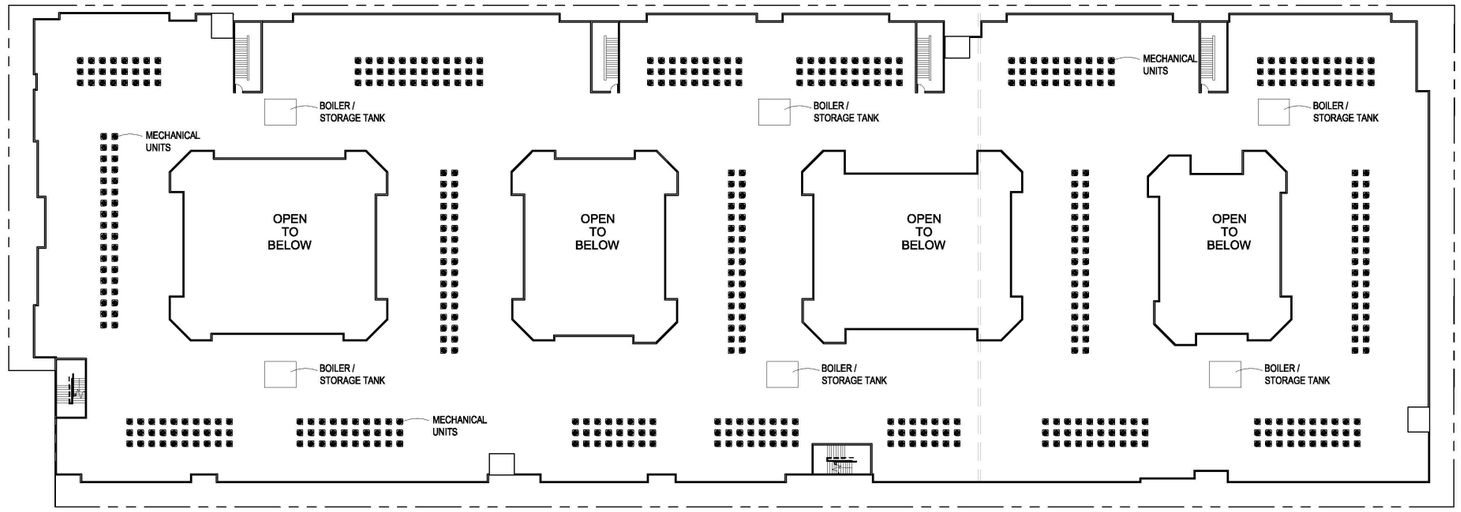
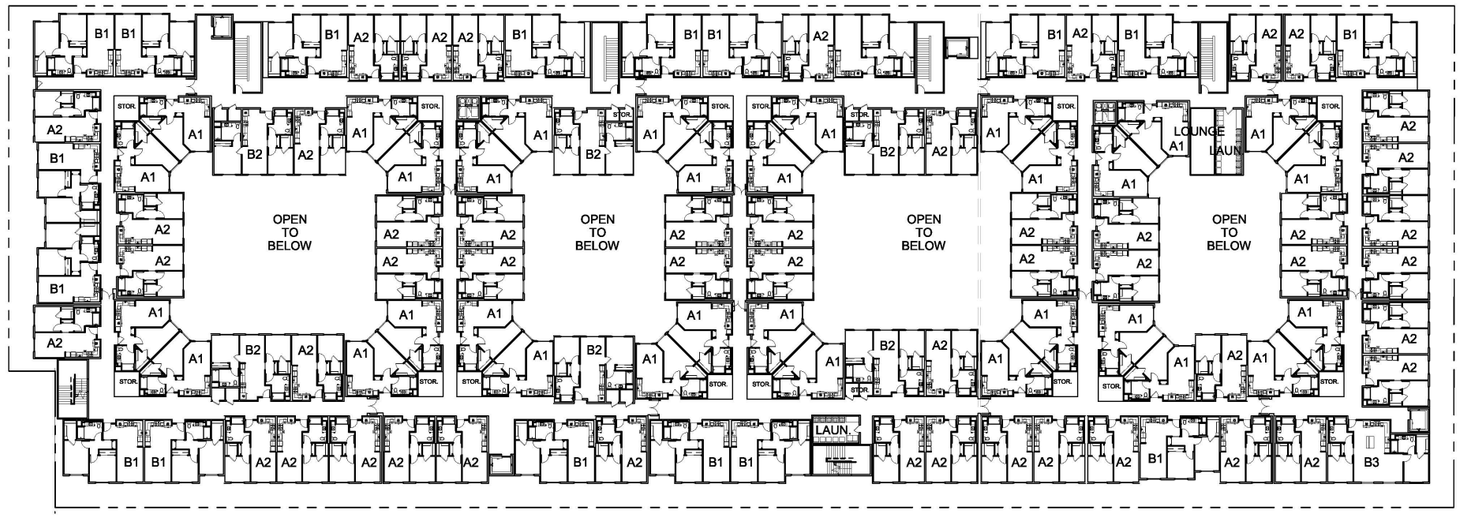


ROOF PLAN



4TH AND 5TH FLOOR

Figure No.
2.2-3

Title
Project Site Plan- Fourth and Fifth Floors

Client/Project
Riverside Charitable Corporation
International Boulevard Senior Housing Project
18572986

Project Location
Oakland, California

Prepared by KLJ on 2016-10-17

Notes

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Scale 1"= 30' at original document size of 36x24 inches
Source: Architects Orange
Updated: 10-14-2016

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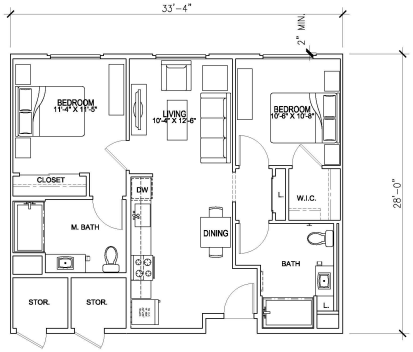
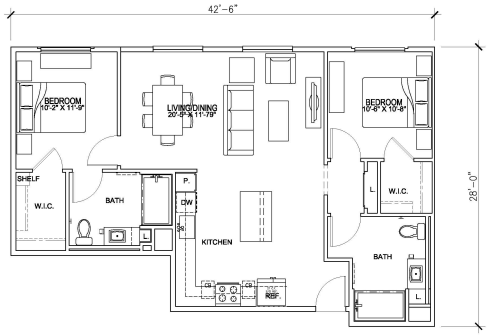
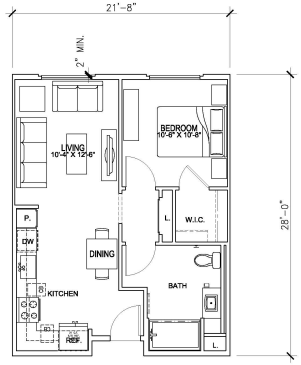


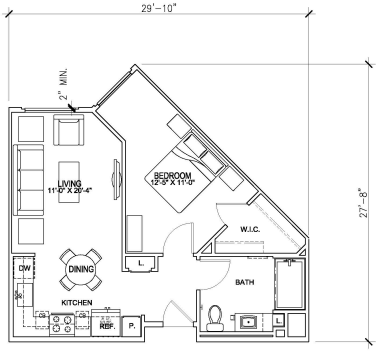
UNIT B2 (TCAC)
2 BEDROOM - 2 BATH
UNIT AREA: 861 SQ. FT.



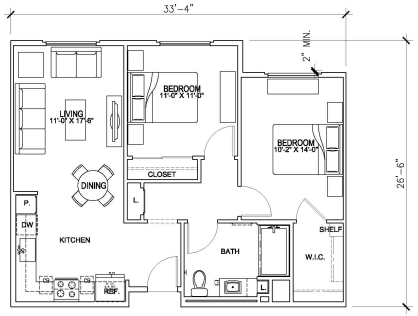
UNIT B3
2 BEDROOM - 2 BATH
UNIT AREA: 1,049 SQ. FT.



UNIT A2
1 BEDROOM - 1 BATH
UNIT AREA: 599 SQ. FT.



UNIT A1
1 BEDROOM - 1 BATH
UNIT AREA: 622 SQ. FT.



UNIT B1
2 BEDROOM - 2 BATH
UNIT AREA: 845 SQ. FT.

Figure No.
2.2-4

Title
Unit Plans

Client/Project
Riverside Charitable Corporation
International Boulevard Senior Housing Project
18572986

Project Location
Oakland, California

Prepared by KLJ on 2016-10-17

Notes

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Scale: 3/16"=1' at original document size of 36x24 inches
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1. WEST ELEVATION

2. NORTH ELEVATION - LEFT PORTION

2. (CONT.) NORTH ELEVATION - RIGHT PORTION

Figure No.
2.2-6

Title
Elevations- North and West

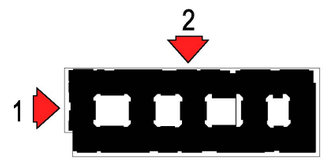
Client/Project
Riverside Chartiable Corporation
International Boulevard Senior Housing Project
18572986

Project Location
Oakland, California

Prepared by KLJ on 2016-10-17

MATERIALS LEGEND

1.	EXTERIOR PLASTER
2.	METAL AWNING
3.	TUBE STEEL RAILING
4.	ORNAMENTAL GRILLE
5.	FOAM TRIM
6.	ANODIZED STOREFRONT GLAZING SYSTEM
7.	SPLIT FACE CMU
8.	VINYL WINDOW FRAME
9.	PRE-FINISH METAL PANEL
10.	STANDING SEAM METAL ROOFING
11.	DECORATIVE METAL BRACKETS



KEY MAP
N.T.S.

Notes

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Updated: 10-14-2016

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Figure No.
2.2-7

Title
Material Board

Client/Project
Riverside Charitable Corporation
International Boulevard Senior Housing Project
18572986

Project Location
Oakland, California

Prepared by KLJ on 2016-10-17

Ⓐ
EXTERIOR PLASTER
VALSPAR
"ENLIGHTENMENT"
3003-2C

Ⓑ
EXTERIOR PLASTER
VALSPAR
"CAROLINA INN
LOBBY YELLOW"
3008-6B

Ⓒ
EXTERIOR PLASTER
VALSPAR
"IRISH TEA"
1004-9C

Ⓓ
DOOR, WINDOW TRIM & BELLY BANDS
VALSPAR
"MARK TWAIN
HOUSE OAK"
3004-9C

Ⓔ
STEEL RAILING
VALSPAR
"ANCIENT
BURGENDY"
1011-6

Ⓕ
SPLIT FACE C.M.U.
STANDARD BOND,
COLOR TO MATCH
BASELITE #690

Ⓖ
PRE-FINISHED METAL PANEL
PAC-CLAD
"CITYSCAPE"

Ⓗ
STANDING SEAM METAL ROOFING
PAC-CLAD
"STONE WHITE"

Notes

Not to Scale
Source: Architects Orange
Updated: 10-14-2016

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1. View from International Boulevard looking southeast

Figure No.
2.2-8

Title
Perspective Rendering- Southeast

Client/Project
Riverside Charitable Corporation
International Boulevard Senior Housing Project
18572986

Project Location
Oakland, California

Prepared by KLJ on 2016-10-17

KEY MAP
N.T.S.

Notes

Source: Architects Orange
Updated: 10-14-2016

Stantec

2. View from 105th Avenue looking southwest

Figure No.
2.2-9

Title
Perspective Rendering- Southwest

Client/Project
Riverside Charitable Corporation
International Boulevard Senior Housing Project
18572986

Project Location
Oakland, California

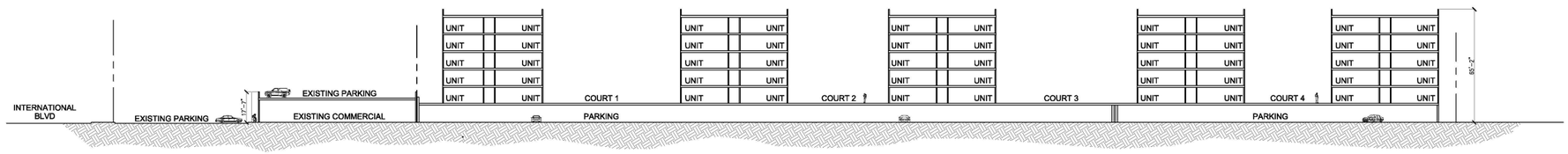
Prepared by KLJ on 2016-10-17

KEY MAP
N.T.S.

Notes

Source: Architects Orange
Updated: 10-14-2016

Stantec



SECTION AA

Figure No.
2.2-10

Title
Section AA

Client/Project
Riverside Charitable Corporation
International Boulevard Senior Housing Project
18572986

Project Location
Oakland, California

Prepared by KLJ on 2016-10-17

Notes
Not to Scale
Scale: 1"=30' at original document size of 36x24 inches
Source: Architects Orange
Updated: 10-14-2016

Stantec

2.2.3 Emergency Access

Fire Department connections are provided on 105th Avenue. The Fire Department connection on 105th Avenue is located near the entrance to the project site. The proposed project would include sprinklers in compliance with National Fire Protection Association standards, and a fire truck turnaround with a 26-foot turning radius, on the north side of 105th Avenue. Parallel parking would be provided on 105th Avenue in a chicane design to maintain a 26-foot-wide access path for fire trucks.

2.2.4 Parking and Loading

The proposed project would provide a total of 334 parking stalls in the ground floor parking garage for the residential portion of the proposed project, resulting in a ratio of 0.62 stalls per resident (Table 2.2-3). The residential parking can be accessed through three vehicular entries from 105th Avenue.

Pursuant to Government Code Section 65915(p)(3)(B) the parking ratio for a senior housing development shall not exceed 0.50 spaces per unit when located within 0.5 mile of a fixed bus route stop that makes at least eight stops per day. The nearest bus stop to the project site is approximately 0.08 miles away, located at the southeast corner of 104th Avenue and International Boulevard, and is served by buses 1, 1R, 45, and 801. Bus services are operated by the Alameda-Contra Costa Transit District. The combined bus service for these routes is more than eight times per day at this stop. In addition, per Section 17.116.110, Off-Street Parking and Loading Requirements, of the City's Planning Code, the number of required parking spaces for senior housing may be reduced by 75 percent (City of Oakland 2017).

Table 2.2-3: Proposed Project Parking Requirements and Supply

Land Use	Size	City Requirements		Proposed Project Supply
		Code	Requirements	
Senior Units	529 dwelling units	1 stall per unit	133[1]	334

Source: Stantec 2016
Notes:
1. After 75% reduction allowed under the City Code Section 17.116.110,

2.2.5 Landscape

The project site currently contains no street trees or landscape vegetation. The proposed project would include submittal of a Landscape Plan. The Landscape Plan would comply with the requirements of the City's water efficient landscape ordinance. The Landscape Documentation Package would include the following six elements: Project Information, Water Efficient Landscape Worksheet, Soil Management Plan, Landscape Design Plan, Irrigation Design Plan, and Grading Design Plan.

The landscape plan would incorporate a variety of shrubs, trees, palms, perennials, and vines into the project design. Landscaping would take place along 105th Avenue. The proposed project would also include a mixture of raised planters and landscaping above the ground floor parking garage and in the courtyards.

2.2.6 Population and Employment

Per the City of Oakland's 2015-2023 Housing Element there are 43,550 seniors and 28,796 households headed by seniors residing in the City of Oakland (City of Oakland 2014). Therefore, it is assumed there is approximately 1.5 persons per senior household in the City. Based on the average of 1.5 persons per senior household, the proposed project would add approximately 794 new residents.

2.2.7 Utilities

Onsite utilities include gas, energy, domestic water, wastewater, and storm drainage. All onsite utilities would be designed in accordance with applicable codes and current engineering practices (Figure 2.2-11). Will serve letters have been prepared for the proposed project and are included as Attachment A.

2.2.8 Project Construction

Prior to construction of the proposed project, the existing auto body shop and other auto storage building would be demolished in accordance with the City of Oakland SCAs, as discussed in Attachment B, and Section 4.0, CEQA Analysis Checklist. The proposed project would develop a six-story building consisting of 529 senior dwelling units.

2.2.9 Schedule

The proposed project is assumed to start construction in June 2017 in two 18-month phases with buildout completed by May 2020. The front portion of the building would be built in first phase with the rear portion to be completed in second phase. Table 2.2-4 presents the anticipated construction schedule.

Table 2.2-4: Proposed Project Construction Schedule

Phase	Anticipated Phase Start Date	Anticipated Phase End Date	Total Number of Days
Demolition	06/05/2017	06/30/2017	20
Site Preparation	07/01/2017	07/07/2017	5
Site Grading	07/08/2017	07/19/2017	8
Building Construction	07/20/2017	10/10/2018	320
Paving	10/11/2018	11/05/2018	18
Architectural Coating	11/06/2018	11/29/2018	18

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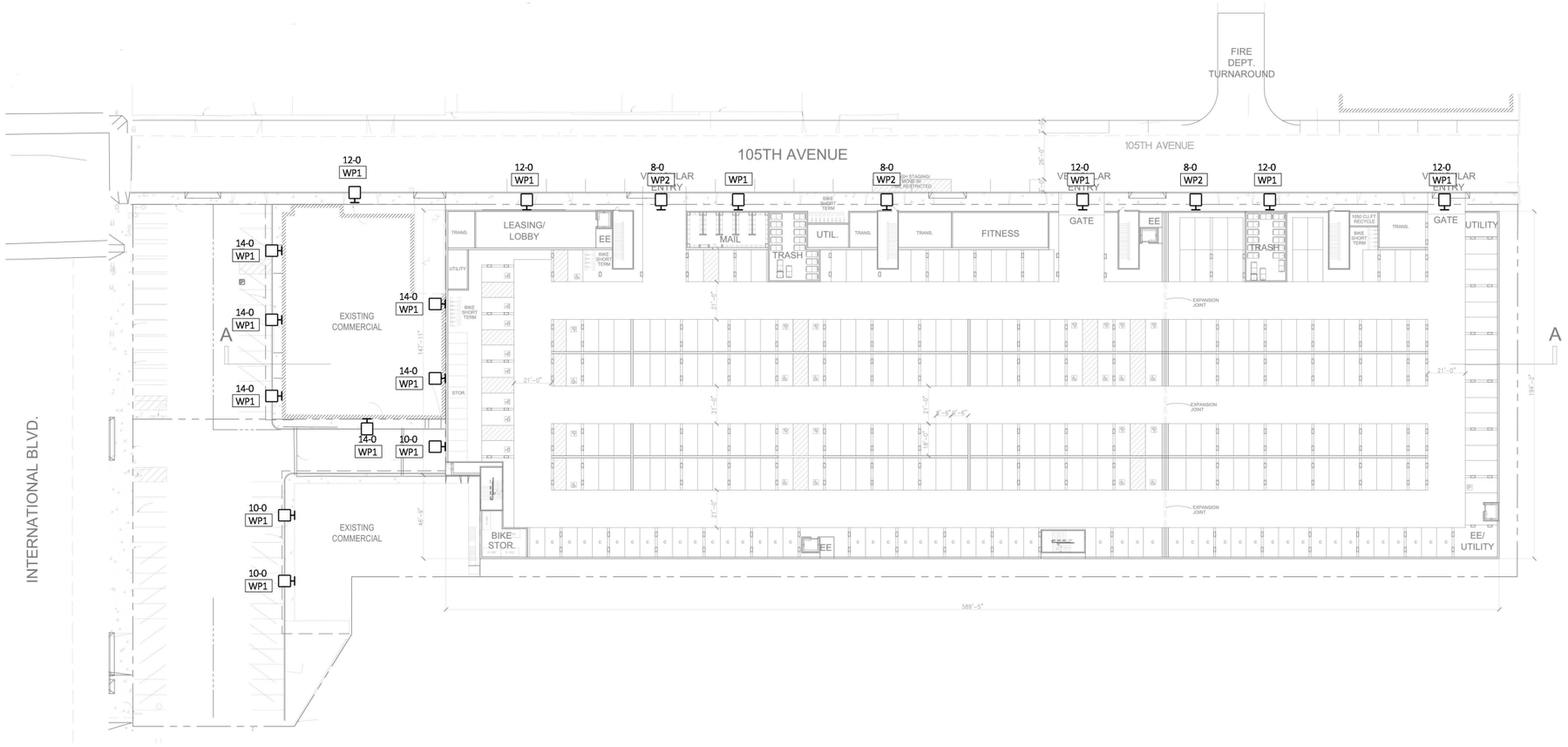

GENERAL NOTES:

1. VALUES SHOWN INDICATE ESTIMATED ILLUMINATION LEVEL AT GRADE IN FOOT-CANDLES.
2. LUMINAIRE SCHEDULE PROVIDED ON THIS SHEET IS FOR REFERENCE PURPOSES ONLY.

Luminaire Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	P1	1	Lithonia Lighting	DSX0 LED 40C 700 40K TFTM MVOLT	DSX0 LED WITH (2) 20 LED LIGHT ENGINE, TYPE TFTM OPTIC, 4000K, @ 700mA	LED	1	DSX0_LED_40C_700_40K_TFTM_MVOLT.ies	8925.158	1	91
	WP1	18	Lithonia Lighting	DSXW1 LED 20C 700 40K T3S MVOLT	DSXW1 LED WITH 2 LIGHT ENGINES, 20 LED's, 700mA DRIVER, 4000K LED, TYPE 3 SHORT OPTIC	LED	1	DSXW1_LED_20C_700_40K_T3S_MVOLT.ies	4319.761	1	47
	WP2	7	Lithonia Lighting	WST LED 1 10A700/40K SR4 MVOLT	WST LED WITH 1 MODULE, 10 LED's, 700mA DRIVER, 4000K COLOR TEMPERATURE, TYPE 4 LENS	LED	1	WST_LED_1_10A700_40K_SR4_MVOLT.ies	1926.783	1	24

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
2nd Level Parking	+	0.6 fc	6.3 fc	0.0 fc	N/A	N/A	0.1:1
Drive Aisle	+	1.7 fc	3.9 fc	0.5 fc	7.8:1	3.4:1	0.4:1
Front Parking	+	0.8 fc	6.2 fc	0.0 fc	N/A	N/A	0.1:1
Garage Entries	+	4.3 fc	5.0 fc	3.3 fc	1.5:1	1.3:1	0.9:1
Ramp	+	1.5 fc	2.4 fc	0.8 fc	3.0:1	1.9:1	0.6:1
Sidewalk	+	1.9 fc	4.5 fc	0.0 fc	N/A	N/A	0.4:1

GENERAL NOTES:

A. CONTRACTOR SHALL CONTACT UNDERGROUND UTILITY LOCATING SERVICE PRIOR TO EXCAVATION FOR ELECTRICAL WORK.

B. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL OTHER SITE DISCIPLINES INCLUDING BUT NOT LIMITED TO TRADES ASSOCIATED WITH WATER, SEWER, AND GAS INSTALLATIONS.

C. ELECTRICAL CONTRACTOR SHALL COORDINATE UTILITY WORK REQUIRED BY LOCAL UTILITY COMPANIES AND SHALL FORWARD WORK ORDER INVOICES TO OWNER FOR PAYMENT BY OWNER.

D. REFER TO SHEET E5.0 FOR LIGHTING CUT SHEETS

KEYED NOTES:

1. ALL WALL PACK FIXTURES SHALL BE MOUNTED AT 12'-0" UNLESS NOTED OTHERWISE.
2. REFER TO DETAIL 1, SHEET E0.0 FOR LIGHT POLE DETAIL

Figure No.
2.2-11

Title
Electrical Site Plan

Client/Project
Riverside Charitable Corporation
International Boulevard Senior Housing Project
18572986

Project Location
Oakland, California

Prepared by KLJ on 2016-10-17

Notes

Not to Scale
Scale 1"= 30' at original document size of 36x24 inches
Source: Architects Orange
Updated: 10-14-2016

Stantec

V:\1857\active\185709\8\0_exemption_packtage_revision1\updated figures\mxd\fig_2.1-2_project-site_plan.mxd Revised: 2016-10-17 By: KAEJOHNSON

2.2.10 Equipment and Staging

Equipment that would be used during construction would include an extendable forklift, generators, excavator, loader, dump trucks, tower crane, elevator man/material lift, and extendable lifts. All construction equipment used during project construction would be required to meet EPA-certified Tier 4 regulations. All construction equipment, employee vehicles, and import material would be staged on the project site or onsite.

2.2.11 Spoils, Debris, and Materials

Construction would require demolition and removal of the existing buildings and paved features on the project site, and all demolition material would be disposed offsite. Grading is expected to be limited to surface preparation, utility connections and limited excavations for the foundation, footings, and utility services, as no basement or sub-grade parking structure is proposed.

Construction activities have the potential for soil and groundwater contamination. There is one site, which shares the same address as the proposed project, with an underground storage tank release, and listed on the Cortese List. However, this site is the commercial building that would remain onsite and is not part of the proposed project. Therefore, neither the site listed on the Cortese List, or future residents would be impacted by the proposed project. Furthermore, appropriate SCAs described in Attachment B, would be implemented to prevent any soil and groundwater contamination.

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3.0 CATEGORICAL EXEMPTION CRITERIA

Article 19 of the California Environmental Quality Act (CEQA) (CEQA Guidelines Section15300 to Section15333), includes a list of classes of projects that have been determined to not have a significant effect on the environment and as a result, are exempt from review under CEQA.

3.1 CLASS 32 (INFILL DEVELOPMENT)

Among the classes of projects that are exempt from CEQA review are those projects that are specifically identified as urban infill development. CEQA Guidelines Section 15332 define infill development (or Class 32 exemptions) as being applicable to projects meeting the following conditions:

a. The project is consistent with the applicable General Plan designation and all applicable General Plan policies, as well as with applicable zoning designation and regulations.

b. The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.

c. The project site has no valued habitat for endangered, rare, or threatened species.

d. Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.

e. The site can be adequately served by all required utilities and public services.

The analysis presented in Section 4.0, provides substantial evidence that the proposed project properly qualifies for an exemption under CEQA Guidelines Section 15332 as a Class 32 urban infill development, and would not have a significant effect on the environment.

3.2 EXCEPTIONS TO CATEGORICAL EXEMPTIONS

Even if a project is ordinarily exempt under any of the potential categorical exemptions, CEQA Guidelines Section15300.2 provides specific instances where exceptions to otherwise applicable exemptions apply. Exceptions to a categorical exemption apply in the following circumstances, effectively nullifying a CEQA categorical exemption:

a. **Location.** Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located. A project that is ordinarily insignificant in its impact on the environment may be in a particularly sensitive environment, resulting in a significant effect. Therefore, these classes are considered to apply in all instances, except where the project may have an impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, State, or local agencies.

b. **Cumulative Impact.** All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.

c. **Significant Effect.** A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity would have a significant effect on the environment due to unusual circumstances.

d. **Scenic Highways.** A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a State scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified Environmental Impact Report (EIR).

e. **Hazardous Waste Sites.** A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.

f. **Historical Resources.** A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.

The analysis, discussed in Section 4.0, presents substantial evidence that there are no exceptions that apply to the proposed project or the project site, that the proposed project would not have a significant effect on the environment, and that the Class 32 exemption remains applicable.

3.3 CEQA STREAMLINING

3.3.1 Community Plan Exemption

CEQA Guidelines Section 15183, Projects Consistent with a Community Plan; General Plan; or Zoning, mandates that projects which are "consistent with the development density established by existing zoning, community plan or General Plan policies for which an EIR was certified, shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects, which are peculiar to the project or its site."

Section 15183(c) specifies, "If an impact is not peculiar to the parcel or to the project, has been addressed as a significant effect in the prior EIR, or can be substantially reduced by the imposition of uniformly applied development policies or standards, then an EIR need not be prepared for the project solely on the basis of that impact." Findings regarding the proposed project's consistency with the General Plan are included as Attachment C to this document.

Therefore, Section 15183 shall apply only to projects which are consistent with:

- A community plan adopted as part of a general plan.
- A zoning action, which zoned or designated the parcel on which the project would be located, to accommodate a particular density of development.

- A general plan of a local agency.

- A Lead Agency certified EIR for the zoning action, the community plan, or the general plan.

3.3.2 Qualified Infill Exemption

CEQA Guidelines Section15183.3 allows streamlining for certain qualified infill projects by limiting the topics subject to review at the project level, if the effects of infill development have been addressed in a planning level decision, or by uniformly applicable development policies. To be eligible for the streamlining procedures pursuant CEQA Guidelines Section15183.3, an infill project must:

- Be located in an urban area on a site that either has been previously developed or that adjoins existing qualified urban uses on at least 75 percent of the site's perimeter.

- Satisfy the performance standards provided in Appendix M.

- Be consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy.

Section 15183.3 provides a streamlined review process for infill projects that satisfy specific performance standards. The performance standards are outlined in Appendix M, Performance Standards for Infill Projects Eligible for Streamlined Review. To be eligible for streamlining pursuant to Section 15183.3, a project must implement all of the following performance standards related to project design:

- **Renewable Energy**. All non-residential projects shall include on-site renewable power generation, such as solar photovoltaic, solar thermal and wind power generation, or clean backup power supplies, where feasible. Residential projects are also encouraged to include such on-site renewable power generation.

- **Soil and Water Remediation**. If the project site is included on any list compiled pursuant to Section 65962.5 of the Government Code, the project shall document how it has remediated the site, if remediation is completed. Alternatively, the project shall implement the recommendations provided in a preliminary endangerment assessment or comparable document that identifies remediation appropriate for the site.

- **Residential Units Near High-Volume Roadways and Stationary Sources.** If a project includes residential units located within 500 feet, or other distance determined to be appropriate by the local agency or air district based on local conditions, of a high-volume roadway or other significant sources of air pollution, the project shall comply with any policies and standards identified in the local general plan, specific plan, zoning code, or community risk reduction plan for the protection of public health from such sources of air pollution. If the local government has not adopted such plans or policies, the project shall include measures, such as enhanced air filtration and project design, that the lead agency finds,

based on substantial evidence, will promote the protection of public health from sources of air pollution. These measures may include, but not be limited to, the recommendations of the California Air Resources Board, air districts, and the California Air Pollution Control Officers Association.

In addition, to be eligible for streamlining pursuant to Section 15183.3, residential projects must implement one of the following specific eligibility requirements:

- **Projects achieving below average regional per capita vehicle miles traveled (VMT).** A residential project is eligible if it is located in a "low vehicle travel area" within the region.

- **Projects located within 1/2 mile of an Existing Major Transit Stop or High Quality Transit Corridor.** A residential project is eligible if it is located within 1/2 mile of an existing major transit stop or an existing stop along a high-quality transit corridor.

- **Low-Income Housing.** A residential or mixed-use project consisting of 300 or fewer residential units all of which are affordable to low income households is eligible if the developer of the development project provides sufficient legal commitments to the lead agency to ensure the continued availability and use of the housing units for lower income households, as defined in Section 50079.5 of the Health and Safety Code, for a period of at least 30 years, at monthly housing costs, as determined pursuant to Section 50053 of the Health and Safety Code.

The analysis conducted and presented in this CEQA Analysis indicates that the proposed project is eligible for a qualified infill exemption, pursuant to State CEQA Guidelines Section 15183.3. The infill eligibility criteria are evaluated and project-specific findings are provided in Attachment D.

3.4 CITY OF OAKLAND STANDARD CONDITIONS OF APPROVAL

The City of Oakland's Uniformly Applied Development Standards adopted as SCAs were originally adopted by the City in 2008 (Ordinance No. 12899 C.M.S.) pursuant to Public Resources Code Section 21083.3) and have been incrementally updated over time. The SCAs incorporate development policies and standards from various adopted plans, policies, and ordinances (such as the Oakland Planning and Municipal Codes, Oakland Creek Protection, Stormwater Management and Discharge Control Ordinance, Oakland Tree Protection Ordinance, Oakland Grading Regulations, National Pollutant Discharge Elimination System (NPDES) permit requirements, Housing Element-related mitigation measures, Green Building Ordinance, historic/landmark status, California Building Code, and Uniform Fire Code, among others), which have been found to substantially reduce environmental impacts.

These SCAs are incorporated into projects as conditions of approval, regardless of the determination of a project's environmental impacts. As applicable, the SCAs are adopted as requirements of an individual project when it is approved by the City, and are designed to avoid or substantially reduce a project's environmental effects.

In reviewing project applications, the City determines which SCAs apply based upon the zoning district, community plan, and the type of permits/approvals required for the proposed project. Because these SCAs are mandatory City requirements imposed on a city-wide basis, environmental analyses assume that these SCAs would be imposed and implemented by the proposed project, and are not imposed as mitigation measures under CEQA. Note that the SCAs included in this document are referred to using an abbreviation for the environmental topic area and are numbered sequentially for each topic area—i.e., SCA AIR- 1, SCA AIR-2, etc. The SCA title is also provided—i.e., SCA AIR-1: Construction-Related Air Pollution (Dust and Equipment Emissions). See Attachment B for the full text of applicable SCAs included in this CEQA Analysis. (Note that this is not an exhaustive list of all SCAs that may be required by the City for the project).

3.4.1 Compliance with Conditions of Approval

a. The project applicant and property owner, including successors, (collectively referred to hereafter as the "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 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 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.

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4.0 CLASS 32 CATEGORICAL EXEMPTION ANALYSIS

The following analysis provides substantial evidence to support a conclusion that the proposed project qualifies for an exemption under CEQA Guidelines Section 15332 as a Class 32 urban infill development, and would not have a significant effect on the environment.

4.1 CRITERION §15332(A): GENERAL PLAN & ZONING CONSISTENCY

Yes	No	
☒	☐	The project is consistent with the applicable General Plan designation and all applicable General Plan policies as well as with applicable zoning designation and regulations?

4.1.1 General Plan

The project site's land use designation is Community Commercial, which allows up to 125 residential dwelling units per acre. Community commercial areas may include neighborhood center uses and larger scale retail and commercial uses, such as auto related businesses, business and personal services, health services and medical uses, educational facilities, and entertainment uses. Community commercial areas can be complemented by the addition of urban residential development and compatible mixed use development.

The proposed project would be a mixed-use development, consisting of 529 senior dwelling units at a density of 135 dwelling units per acre. The California Density Bonus Law (Government Code Sections 65915 – 65918) provides developers with powerful tools to encourage the development of affordable and senior housing, including up to a 35 percent increase in project densities, depending on the amount of affordable housing provided. The proposed project is for seniors and therefore, qualifies for a higher density. The proposed project is consistent with the General Plan and consistent with the intent of the Community Commercial land use designation.

4.1.2 Zoning

The project site is zoned CC-2. The intent of the CC-2 zone is to create, maintain, and enhance areas with a wide range of commercial businesses with direct frontage and access along the City's corridors and commercial areas.

The proposed project would involve the construction of a six-story residential development of approximately 113,535 square feet of building footprint, while renovating approximately 15,258 square feet of commercial on International Boulevard. The proposed project would consist of 529 senior dwelling units, 30 percent of which would be affordable housing units. The proposed project would meet the requirements of Chapter 17.107, Density Bonus, and Incentive Procedure, of the City's Planning Code, and would be granted concession for providing less than the required open space area for the proposed project.

The proposed project has been designed to comply with all design standards and regulations of the City of Oakland Planning Code. As such, the proposed project adheres to the criteria of CEQA Guidelines Section 15332(a) as being consistent with the City of Oakland's General Plan and applicable zoning regulations for the project site.

4.2 CRITERION §15332(B): PROJECT LOCATION, SIZE, AND CONTEXT

Yes	No	
☒	☐	The proposed development occurs within City limits on a project site of no more than five acres substantially surrounded by urban uses?

The proposed project is located within the incorporated limits of the City of Oakland. The project site is 3.9 acres, and is surrounded by urban land uses and/or paved public streets. Given these facts, the proposed project adheres to the criteria of CEQA Guidelines Section 15332(b) as a project site of no more than five acres, within the City limits, and substantially surrounded by urban uses.

4.3 CRITERION §15332(C): ENDANGERED, RARE, OR THREATENED SPECIES

Yes	No	
☒	☐	The project site has no value as habitat for endangered, rare or threatened species?

The project site is already developed, with an existing auto body shop and an auto storage building. No natural vegetation (e.g., grass, shrubs, or trees) exists. Consequently, the project site does not include habitat for endangered, rare, or threatened species. Given these facts, the proposed project adheres to the criteria of CEQA Guidelines Section 15332(c).

4.4 CRITERION §15332(D): TRAFFIC, NOISE, AIR QUALITY, OR WATER QUALITY

4.4.1 Traffic

Yes	No	
☒	☐	Approval of the project would not result in any significant effects relating to traffic?

A Traffic Impact Study has been prepared by Stantec to evaluate the transportation-related impacts of the proposed project (Attachment E). Based on the results of the traffic analysis, as summarized below, the proposed project would not result in any significant traffic or transportation-related impacts. Therefore, there is no exception to the Class 32 exemption relative to traffic or transportation criteria.

Significant Impact Criteria/Vehicle Miles Travelled Standards

According to the Bureau of Planning's *Update to CEQA Thresholds of Significance and Transportation Impact Study Guidelines*, on September 21, 2016, the City of Oakland's Planning Commission directed staff to update the City of Oakland's CEQA Thresholds of Significance Guidelines related to transportation impacts. This update was a result of Senate Bill 743 (Steinberg 2013), requesting to modify local environmental review processes by removing automobile delay, as described solely by level of service (LOS), or similar measures of vehicular capacity or traffic congestion, as a significant impact on the environment pursuant CEQA.

The updated thresholds replace LOS with vehicle miles traveled (VMT) criteria to determine whether a project causes a significant impact on the environment related to transportation. The project would have a significant effect on the environment if it would cause substantial additional VMT per capita, per service population, or other appropriate efficiency measure. The following are thresholds of significance related to substantial additional VMT:

- For residential projects, a project would cause substantial additional VMT if it exceeds existing regional household VMT per capita minus 15 percent.
- For office projects, a project would cause substantial additional VMT if it exceeds the existing regional VMT per employee minus 15 percent.
- For retail projects, a project would cause substantial additional VMT if it exceeds the existing regional VMT per capita minus 15 percent.

Vehicle Miles Travelled

A project would have a significant effect on the environment if it would cause substantial additional VMT. The Bureau of Planning's *Update to CEQA Thresholds of Significance and Transportation Impact Study Guidelines* recommends screening criteria to identify types, characteristics, or locations of projects that would not result in significant impacts to VMT. If a project meets one or more screening criteria, then it is presumed that VMT impacts would be less than significant for the project, and a detailed VMT analysis is not required.

The following analysis is based on the information provided in the Bureau of Planning – Strategic Planning Division's maps. For residential development, the regional average daily VMT per capita is 14.9. The project site is within TAZ 879. As shown in Table 4.4-1, the average daily VMT per capita for residential uses in TAZ 879 will be 11.9 miles in 2020. This is approximately 20 percent below the regional average daily VMT per capita of 14.9 in 2020. Given the project site is in an area where the VMT is more than 15 percent below the regional average, the proposed project would not result in substantial additional VMT, and impacts would be less than significant. Therefore, a detailed VMT analysis is not required.

Table 4.4-1: Year 2020 Daily Vehicle Miles Traveled

Land Use	Bay Area		TAZ 879
	Regional Average	Regional Average minus 15%	
Households (Residential)	14.9	12.7	11.9
Notes: The proposed project is a senior residential housing project; however, the closest category for VMT analysis for the City of Oakland is Household Residential.			

With the implementation of the required SCAs listed in Attachment B at the end of this CEQA Analysis (for reference, this is SCA-TRANS-1: Transportation and Parking Demand Management), the proposed project would not result in significant effects related to traffic and is consistent with Section 15332(d), traffic.

Transit Travel Time

AC Transit is constructing a BRT system along International Boulevard that would stretch 9.5 miles from the north end of San Leandro and connect to downtown Oakland. This would increase transit accessibility for the proposed project and would encourage residents to use public transit. The proposed project is well served by public transit, with four AC Transit lines operating within the project area, including one "night owl" line. The project site is served by four local AC Transit bus routes along International Boulevard. Traffic generated by the proposed project would not result in a noticeable increase in congestion along these corridors, and the proposed project would have a very minor effect on transit service within the area. The estimated increase in travel time would be within the variability in travel time already experienced by each bus on these corridors. This is a less than significant impact.

Pedestrian, Bicycle, and Vehicle Safety

Stantec reviewed the project site plan to evaluate on-site circulation and access. The project site plan shows access to all on-site parking from three garage entrances on 105th Avenue. These two-lane access driveways are proposed to be 21 feet wide, which would be adequate for cars and small trucks to access the project site. In addition, internal circulation is expected to be adequate for all the residential parking areas on the project site.

Stantec assessed existing bicycle conditions through field surveys and through review of the 2007 Bicycle Master Plan. Currently Bike Route 26 runs on 105th Avenue with one Class II bike lane on both sides of the street, and continues on International Boulevard and 104th Avenue as a Class III bike route. The shared lane marking is placed on 104th Street immediately east to the intersection with International Boulevard. According to the City's Bicycle Master Plan Recommended Network, International Boulevard is designated as a corridor for future Class II (on-street striped) bicycle facilities in the project vicinity. The proposed project would incorporate bicycle storage facilities along 105th Avenue.

Stantec also reviewed existing pedestrian conditions in the project study area during both a.m. and p.m. peak periods. Pedestrian sidewalks are provided on all streets within the vicinity of the

project site. There is currently a 10-foot-wide sidewalk along 105th Avenue fronting the project site. Pedestrian push buttons are installed at all the pedestrian crossing in the project vicinity. Therefore, the project site is well served by pedestrian facilities.

With the implementation of the required SCAs listed in Attachment B at the end of this CEQA Analysis (for reference, these are SCA-TRANS-2: Bicycle Parking), the proposed project would not result in permanent substantial decrease in vehicle, bicycle, and pedestrian safety. This is a less than significant impact.

Conflicts with Transportation Policy

The proposed project would not conflict with adopted policies, plans, or programs supporting public transit, bicycle, or pedestrian facilities. The City of Oakland General Plan Land Use and Transportation Element (LUTE), as well as the City's Public Transit and Alternative Mode and Complete Streets Policies, states a strong preference for encouraging the use of non-automobile transportation modes, such as transit, bicycling, and walking.

- The proposed project would encourage the use of non-automobile transportation modes by providing residential and commercial uses in a walkable urban environment, with adjacent bicycle and pedestrian facilities, and nearby transit service.

- The proposed project is consistent with both the City's Pedestrian Master Plan and Bicycle Master Plan by not making major modifications to existing pedestrian or bicycle facilities in the surrounding areas, and would not adversely affect development of future facilities.

The proposed project would not conflict with adopted City policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. This is a less than significant impact.

Construction-Period Impacts

During the construction period, temporary and intermittent transportation impacts may result from truck movements as well as construction worker vehicles to and from the project site. The construction-related traffic may temporarily reduce capacities of roadways in the project vicinity because of the slower movements and larger turning radii of construction trucks compared to passenger vehicles. Truck traffic that occurs during the weekday peak commute hours (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) may result in higher delays at project study intersections during the construction period. Also, if parking of construction workers' vehicles cannot be accommodated within the project site, it would temporarily increase parking occupancy levels in the area. Potential construction activity along the International Boulevard and 105th Avenue frontages, especially in the public right-of-way, could also result in temporary closure of sidewalks and prohibition of on-street parking.

With the implementation of the required SCAs listed in Attachment B at the end of this CEQA Analysis (for reference, these are SCA-TRANS-3: Construction Activity in the Public Right-of-Way), construction impacts would not be significant.

Changes in Air Traffic Patterns

The Oakland International Airport is located approximately 3.5 miles west of the project site. The proposed project would increase density and increase building heights at the project site. However, building heights are not expected to interfere with current flight patterns of Oakland International Airport or other nearby airports. Therefore, the proposed project would not result in changes of air traffic patterns. This is a less than significant impact.

4.4.2 Noise

Yes	No	
☒	☐	Approval of the project would not result in any significant effects relating to noise?

The analysis and conclusions described under this environmental topic is derived in part from an Acoustic Technical Report prepared by Stantec dated October 26, 2016 (see Attachment F). The Technical Report provides analyses of potential project-related impacts from exposure to excessive noise during project construction and operation. The technical report has been prepared to analyze the potential construction-related noise impacts generated from the proposed project and estimates the potential operational noise conditions located at the project site. Specifically, the purpose of the technical report is to assess the existing ambient noise conditions at the nearest sensitive receptors and within the project area.

Noise generation associated with housing development projects is typically attributed to the project construction activities. These include site grading, construction of the building and apparatuses, and the increased traffic related to material delivery. Operational noise can be attributed to the slight increase to traffic counts from residents, visitors, and workers of the housing development as well as typical residential associated noise, such as, landscape maintenance, waste collection, and people congregating and talking at community gathering areas.

Project Construction Noise

Project construction is expected to occur over a period of 36 months. Noise generated from construction activities would be temporary and would occur within the hours allowed by the City's Noise Ordinance. The noisiest activities (demolition, excavation, and foundation) would occur during the first phase. Project construction noise would be temporary and would occur within the hours allowed by the City's Noise Ordinance.

Project site noise data was used as an input to the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) and Traffic Noise Model (TNM) as the existing ambient noise levels. The following construction equipment was used for the RCNM:

a. Site Preparation

- One Rough Terrain Forklift operating at a 0.60 load factor for eight hours per day.

- Two Tractors/Loaders/Backhoes operating at a 0.55 load factor for seven hours per day.
- One Small 10,000 Watt Generator operating at 0.5 percent load for two hours per day.

b. Grading

- Grader operating at a 0.59 load factor for six hours per day.
- Two Tractors/Loaders/Backhoes operating at a 0.55 load factor for seven hours per day.
- Two Tractors/Loaders/Backhoes operating at a 0.55 load factor for seven hours per day.
- Building Construction.
- One Rough Terrain Forklift operating at a 0.60 load factor for eight hours per day.
- One Crane operating at a 0.43 load factor for seven hours per day.
- Two Tractors/Loaders/Backhoes operating at a 0.55 load factor for seven hours per day.
- Pneumatic Tools operating at a 0.50 load.
- Welder/Torch operating at a 0.50 load for seven hours per day.
- One Small 10,000 Watt Generator operating at 0.5 percent load for two hours per day.

A reasonable worst-case noise condition for general construction activity is that a grader, excavator, and generator would operate simultaneously. This represents a conservative scenario, as it assumes that all three pieces of equipment would be operating at the same time and same place. Construction would occur in sequential phases. However, it is unlikely that the three loudest pieces of equipment would be operating simultaneously at the exact location of the project site closest to the nearest residence. Nevertheless, the RCNM calculated that this scenario would result in a combined noise level of 79.0 dBA-Lmax and 77.6 dBA-Leq at 100 feet. These calculations represent the worst-case scenario at the nearest residences, located approximately 100 feet from the proposed project where general construction activity would occur.

The type of building construction implemented for the proposed project would allow the building to conform to the natural terrain with only minor amounts of grading, in effect reducing construction noise levels resulting from grading activities. Noise impacts associated with the project construction would result in temporary or periodic increases in ambient noise levels. However, construction activities would be temporary and would occur during daylight hours, all

construction equipment powered by internal combustion engines would be properly muffled and maintained, idling of internal combustion engines will be minimized, and all stationery noise-generating construction equipment, such as generators, would be located as far as practically possible from existing residences.

Construction-related traffic (i.e., materials delivery trucks and employee commute vehicles) would pass as close as about 100 feet of several residences located along the access roads. Construction-related deliveries and employee trips are expected to result in approximately truck trips per day over the duration of construction. The traffic noise level was calculated using the FHWA TNM. It is estimated that 455 truck trips per day over Phase 1 of the construction period, traveling approximately 30 mph would generate maximum noise levels of 73.4 dBA, at approximately 100 feet from the roadway centerline.

During Phase 2 of construction, approximately 168 construction-related delivery and worker commuter trucks would pass within 100 feet of several residences located along the access routes. Construction traffic noise for Phase 2 was calculated using the FHWA TNM. Based on the modeling results, it is estimated that 168 trucks per day during the 18-month construction period would generate maximum noise levels of 72.5.

Noise from project construction activity and truck and commute trips during Phase 1 would slightly exceed City daytime or Ldn noise standards at the nearest residence (Table 4.5-1). Maximum noise levels due to truck activity at 73.4 dBA, would exceed the daytime maximum exterior residential noise standard of 60 dBA. However, per the FHWA TNM, existing ambient noise levels currently exceed the daytime maximum exterior residential noise standard. Traffic noise increase due to construction traffic at a maximum would increase noise levels by 0.9 dBA at receptor 1, this increase in noise level is less than 1 dBA, which is typically inaudible to the human ear and would be considered an insignificant increase in noise levels and would be considered a less than significant impact.

Table 4.5-1 Short Term Construction Impacts Phase 1 (Hourly Equivalent)

Receptor	Existing Noise Level (dBA)	Construction Noise Level (dBA)
1 (off-site)	72.5	73.4
2 (off-site)	72.4	73.3
3 (off-site)	70.7	71.8
4 (off-site)	66.7	67.6
5 (off-site)	61.0	62.2
6 (on-site)	67.7	68.9
7 (off-site)	69.4	70.6
8 (off-site)	68.3	69.5
Source: Federal Highway Administration TNM (Stantec 2015)		

Similarly, during Phase 2 of construction, traffic noise levels would slightly increase from existing ambient noise levels (Table 4.5-2). Maximum noise levels due to the temporary increase in traffic

are estimated to be 72.5 dBA, which is the same as the existing ambient noise levels and therefore, would be considered insignificant.

Table 4.5-2 Short Term Construction Impacts Phase 2 (Hourly Equivalent)

Receptor	Existing Noise Level (dBA)	Construction Noise Level (dBA)
1 (off-site)	72.5	72.5
2 (off-site)	72.4	72.4
3 (off-site)	70.7	71.1
4 (off-site)	66.7	66.9
5 (off-site)	61.0	61.3
6 (on-site)	67.7	67.9
7 (off-site)	69.4	69.5
8 (off-site)	68.3	68.7
Source: Federal Highway Administration TNM (Stantec 2015)		

With the implementation of the required SCAs included in Attachment B at the end of this CEQA Analysis (for reference, these are SCA-NOI-1: Construction Days/Hours, SCA-NOI-2: Construction Noise, SCA-NOI-3: Extreme Construction Noise, and SCA-NOI-4: Construction Noise Complaints), the proposed project would not result in significant effects related to noise and vibration. Therefore, the proposed project is consistent with Section 15332(d), noise.

Groundborne Vibration

During construction of the proposed project, equipment such as cranes, excavators, graders, loaders, backhoes, and bulldozers may be used as close as 100 feet from the closest sensitive receptor. Construction equipment that would be used during project construction would generate vibration levels between 0.004 and 0.026 PPV as measured at a distance of 100 feet from the operating machinery. Per Table 4.5-3, the groundborne vibration levels are below the FTA vibration threshold at which human annoyance could occur of 0.1 PPV. Therefore, construction related to groundborne vibration impacts would be less than significant.

Table 4.5-3: Construction Equipment Related to Groundborne Vibration

Type of Equipment	Peak Particle Velocity at 25 feet	Peak Particle Velocity at 50 feet	Peak Particle Velocity at 100 feet	Threshold at which Human Annoyance Could Occur	Potential for Proposed Project to Exceed Threshold
Large Bulldozer	0.089	0.031	0.011	0.1	None

Type of Equipment	Peak Particle Velocity at 25 feet	Peak Particle Velocity at 50 feet	Peak Particle Velocity at 100 feet	Threshold at which Human Annoyance Could Occur	Potential for Proposed Project to Exceed Threshold
Loaded Trucks	0.076	0.027	0.010	0.1	None
Small Bulldozer	0.003	0.001	0.000	0.1	None
Jackhammer	0.035	0.012	0.004	0.1	None
Vibratory Hammer	0.070	0.025	0.009	0.1	None
Vibratory Compactor/roller	0.210	0.074	0.026	0.1	None
Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Guidelines 2006b					

Operational Noise

Long-term operation of the proposed project would generate an increase in traffic volumes on the local roadways within the project vicinity. As Shown in Table 4.5-4, the existing conditions currently exceed the applicable City of Oakland noise level thresholds of 60 and 65 dB Ldn. Therefore, potential noise impacts were assessed by comparing estimated increases in noise levels to ambient noise conditions. Existing traffic noise exposure levels indicate that sensitive receptors within and nearby the project area are currently exposed to noise levels ranging from 61.0 dBA to 72.5 dBA.

Table 4.5-4: Long Term Impacts (Hourly Equivalent)

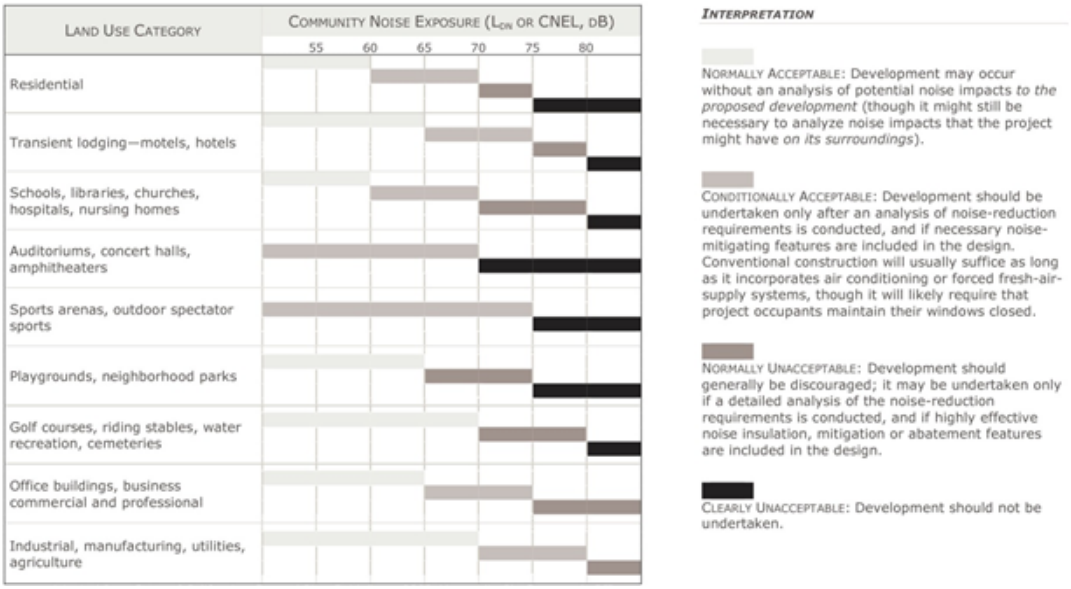
Receptor	Existing Noise Level (dBA)	Operational Noise Level (dBA)
1 (off-site)	72.5	73.0
2 (off-site)	72.4	72.9
3 (off-site)	70.7	71.1
4 (off-site)	66.7	67.3
5 (off-site)	61.0	61.4
6 (on-site)	**67.7**	**68.2**
7 (off-site)	69.4	70.0
8 (off-site)	68.3	68.8

Receptor	Existing Noise Level (dBA)	Operational Noise Level (dBA)
Source: Federal Highway Administration TNM (Stantec 2015)		

Estimated noise levels resulting from the development of the proposed project would change slightly from existing conditions. Traffic noise would increase at a maximum by 0.6 dBA at both receptor 4 and receptor 7, this increase in noise level is less than 1 dBA, which is typically inaudible to the human ear and would be considered an insignificant increase in noise levels and would not be considered a significant impact.

The modeled exterior noise levels at the project boundary (receptor 6) are estimated to be 68.2 dBA. Although these levels exceed the City of Oakland's established threshold for maximum exterior noise levels, according to the noise-land use compatibility matrix (Table 4.5-5), the modeled levels are considered conditionally acceptable, meaning that conventional construction would usually suffice as long as it incorporates air conditioning or forced fresh-air supply systems where windows can be kept closed (City of Oakland General Plan 2005). In order to ensure noise reductions and meet the City's noise threshold, the project design would include central air conditioning and forced fresh-air supply systems.

Table 4.5-5: Noise Land Use Compatibility Matrix



The City of Oakland has established a threshold of 45 dBA Ldn for indoor noise levels for designated residential land uses. Modern construction materials, consistent with the California Building Code, typically provide an exterior-to-interior noise level reduction of 25 to 30 dB with all exterior openings sealed (Caltrans 2013). Therefore, given the projected exterior volumes equaling 68.2 dBA on the site, the projected interior noise conditions for the proposed housing development are estimated at 43.2 dBA. Based on the construction design, it is not anticipated that interior noise levels would

exceed the City's threshold, resulting in a less than significant impact. In addition, the proposed project would be required to adhere to SCA NOI-5: Exposure to Community Noise, and SCA NOI-6: Operational Noise, as discussed in Attachment B. Therefore, impacts would be less than significant.

Noise Exposure

Given the commercial/industrial nature of the project area and the distance to the existing railroad, ambient noise levels are expected to be in the range of 65 to 70 Ldn. Based on the FHWA RCNM the proposed project can anticipate high levels of construction noise, which would not result in any long-term impacts. While the noise level impacts presented for each phase of construction are a "worst-case" scenario and may at times be audible over traffic-related noise level impacts surrounding the area, these high levels are not expected to be continuous. Moreover, these noise levels would occur only during the hours allowed by the City's Noise Ordinance, and would be reduced by the application of noise control techniques affecting and controlling the construction noise at the source. Noise control techniques would be implemented to ensure that noise generated from temporary construction activities would not exceed the City of Oakland's established maximum outdoor noise threshold at nearby sensitive receptors.

Furthermore, based on the FHWA TNM; which included, noise volumes from existing and projected roadway noise, project occupants can anticipate long-term exterior operational noise conditions below the City's thresholds of significance. Likewise, given the anticipated noise reduction offered by the proposed building structure, the project occupants can anticipate long-term interior noise levels below the City's interior thresholds of significance. The proposed project is not anticipated to exceed interior noise levels above the City's thresholds of significance. Conventional construction would usually suffice as long as it incorporates air-conditioning or forced fresh-air-supply systems, though it would likely require that residential occupants maintain their windows closed. Impacts would be less than significant.

4.4.3 Air Quality

Yes	No	
☒	☐	Approval of the project would not result in any significant effects relating to air quality?

It is possible that projects within the International Boulevard TOD area would be subject to air pollutant in excess of City of Oakland's thresholds. As such, an Air Quality and Greenhouse Gas Report was prepared by Stantec dated May 5, 2017 for the proposed project to evaluate potential air quality and GHG impacts (Attachment G).

Criteria Pollutant Construction Emissions

Air quality impacts from construction activities are generally associated with the combustion of fossil fuels from the operation of internal combustion engines (portable equipment, off-road equipment, and vehicles), fugitive dust generated from earth moving activities, and reactive organic gas (ROG) emissions from architectural coating. Air pollutant and GHG emissions

associated with the proposed project are typically attributed to the project construction activities. These include site grading, construction of the building and apparatuses, and the increased traffic related to facility use. Construction emissions would be temporary in nature and would not be to a scale that would have local or regional impact. Additionally, project construction activities would be phased to reduce direct impacts from air degradation to localized sensitive receptors.

Below, Table 4.6-1 summarizes the construction-generated emissions in annual tons. Tables 4.6-2 through 4.6-5 provide the average daily emissions rates per construction year for the proposed project.

Table 4.6-1: Construction Criteria Air Pollutant Emissions (Annual Tons)

	Air Pollutant Emissions (Annual Tons)			
	ROG	**NO_x**	**PM_{10}[1]**	**$PM_{2.5}$[1]**
2017 Construction	0.37	2.98	0.15	0.14
2018 Construction[2]	3.24	3.70	0.18	0.18
2019 Construction	0.37	2.53	0.12	0.12
2020 Construction	1.15	0.43	0.02	0.02
Maximum for Project	**5.13**	**9.64**	**0.47**	**0.46**

Notes:
1. Exhaust only
2. Includes Phase 1 and Phase 2 Construction Emissions
ROG = reactive organic gases NO_X = oxides of nitrogen PM_{10} = particulate matter 10 microns in diameter
$PM_{2.5}$ = particulate matter 2.5 microns in diameter

Table 4.6-2: 2017 Construction Criteria Air Pollutant Emissions (Average Daily Emissions)

	Air Pollutant Emissions			
	ROG	**NO_x**	**PM_{10}[1]**	**$PM_{2.5}$[1]**
Total Emissions (tons)	0.37	2.98	0.15	0.14
Total Emissions (lbs)	740	5,960	300	280
Average Daily Emissions (lbs/day)[2]	4.81	38.70	1.95	1.82
City of Oakland Significance Threshold (lbs/day)	54	54	82	54
Exceed Significance Threshold?	**No**	**No**	**No**	**No**

Notes:
1. Exhaust only
2. Based on 154 work days
ROG = reactive organic gases NO_X = oxides of nitrogen PM_{10} = particulate matter 10 microns in diameter
$PM_{2.5}$ = particulate matter 2.5 microns in diameter

Table 4.6-3: 2018 Construction Criteria Air Pollutant Emissions (Average Daily Emissions)

	Air Pollutant Emissions			
	ROG	**NO_x**	**PM_{10}[1]**	**$PM_{2.5}$[1]**
Total Emissions (tons)	3.24	3.70	0.18	0.18
Total Emissions (lbs)	6,480	7,400	360	360
Average Daily Emissions (lbs/day)[2]	24.55	28.03	1.36	1.36
City of Oakland Significance Threshold (lbs/day)	54	54	82	54
Exceed Significance Threshold?	**No**	**No**	**No**	**No**

Notes:
1. Exhaust only
2. Based on 264 work days

ROG = reactive organic gases NO_X = oxides of nitrogen PM_{10} = particulate matter 10 microns in diameter
$PM_{2.5}$ = particulate matter 2.5 microns in diameter

Table 4.6-4: 2019 Construction Criteria Air Pollutant Emissions (Average Daily Emissions)

	Air Pollutant Emissions			
	ROG	**NO_x**	**PM_{10}[1]**	**$PM_{2.5}$[1]**
Total Emissions (tons)	0.37	2.53	0.12	0.12
Total Emissions (lbs)	740	5,060	240	240
Average Daily Emissions (lbs/day)[2]	2.80	19.17	0.91	0.91
City of Oakland Significance Threshold (lbs/day)	54	54	82	54
Exceed Significance Threshold?	**No**	**No**	**No**	**No**

Notes:
1. Exhaust only
2. Based on 264 work days

ROG = reactive organic gases NO_X = oxides of nitrogen PM_{10} = particulate matter 10 microns in diameter
$PM_{2.5}$ = particulate matter 2.5 microns in diameter

Table 4.6-5: 2020 Construction Criteria Air Pollutant Emissions (Average Daily Emissions)

	Air Pollutant Emissions			
	ROG	**NO_x**	**PM_{10}[1]**	**$PM_{2.5}$[1]**
Total Emissions (tons)	1.15	0.43	0.02	0.02
Total Emissions (lbs)	2,300	860	40	40
Average Daily Emissions (lbs/day)[2]	26.14	9.77	0.45	0.45
City of Oakland Significance Threshold (lbs/day)	54	54	82	54
Exceed Significance Threshold?	**No**	**No**	**No**	**No**

Notes:
1. Exhaust only
2. Based on 88 work days

	Air Pollutant Emissions			
	ROG	NO_x	PM_{10}[1]	$PM_{2.5}$[1]

ROG = reactive organic gases NO_X = oxides of nitrogen PM_{10} = particulate matter 10 microns in diameter
$PM_{2.5}$ = particulate matter 2.5 microns in diameter

With the implementation of the required SCAs listed in Attachment B (for reference, these are SCA AQ-1: Construction-Related Air Pollution [Dust and Equipment Emissions] and SCA AQ-2: Asbestos in Structures), the proposed project would not result in significant effects related to air quality. Therefore, the proposed project is consistent with Section 15332(d), air quality.

Criteria Pollutant Operational Emissions

Long-term operation of the proposed project would generate an increase in traffic volumes on the local roadways within the project vicinity and as such would increase localized emissions.

The proposed project would be built out in 2020 to the full 529 residential units. The annual operational emissions for full buildout of the project are shown in Table 4.6-6. Table 4.6-7 and Table 4.6-8 show the daily operational emissions for summer and winter respectively. As shown in the tables, the project's operational emissions would not exceed the City of Oakland's annual or daily significance thresholds. The impact would be less than significant.

Table 4.6-6: Buildout Annual Operational Emissions (2020)

	Annual Emissions (tons)			
	ROG	NO_x	PM_{10}	$PM_{2.5}$
Project Operations	2.65	2.45	0.80	0.26
City of Oakland Significance Threshold	10	10	15	10
Exceed Significance Threshold?	**No**	**No**	**No**	**No**

Table 4.6-7: Buildout Daily Operational Emissions (2020) (Summer)

	Overall Operational lbs./day (Maximum Daily Emissions – Criteria Pollutants)			
	ROG	NO_x	PM_{10}	$PM_{2.5}$
Project Operations	15.49	14.40	4.84	1.73
City of Oakland Significance Threshold	54	54	82	54
Exceed Significance Threshold?	**No**	**No**	**No**	**No**

Table 4.6-8: Buildout Daily Operational Emissions (2020) (Winter)

	Overall Operational lbs./day (Maximum Daily Emissions – Criteria Pollutants)			
	ROG	NO_x	PM_{10}	$PM_{2.5}$
Project Operations	15.20	14.66	4.84	1.73
City of Oakland Significance Threshold	54	54	82	54
Exceed Significance Threshold?	**No**	**No**	**No**	**No**

Carbon Monoxide

Localized levels of CO (CO hotspots) are associated with traffic congestion and idling or slow moving vehicles. The City of Oakland has established the following threshold for CO:

Contribute to carbon monoxide (CO) concentrations exceeding the CAAQS of nine parts per million (ppm) averaged over eight hours and 20 ppm for one hour.

Pursuant to BAAQMD CEQA Guidelines, localized CO concentrations should be estimated for projects in which (a) project-generated traffic would conflict with an applicable congestion management program established by the county congestion management agency or (b) project-generated traffic would increase traffic volumes at affected intersections to more than 44,000 vehicles per hour (or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited, such as tunnels, parking garages, bridge underpasses, natural or urban street canyons, and below-grade roadways). These two screening scenarios are provided as those would situations have the potential to result in a CO exceedance of the CAAQS.

The proposed project would increase daily traffic trips along the local roadways by 1,254 trips per day. Although traffic would increase along the local road network, it is not anticipated that the additional trips would significantly add to roadway congestion. In Oakland, only the MacArthur Maze portion of Interstate 580 exceeds the 44,000 vehicles per hour screening criteria established by the BAAQMD. The Project is located within 250 feet of public transportation and would be within the Transit-Oriented Development Plan. This would likely reduce localized congestion from the Project. Additionally, the Project is designed as a mixed-use development and therefore would promote on-site living, shopping, and educational opportunities, thus reducing the need for commuting.

As detailed in the traffic study conducted by Stantec, all study intersections are expected to continue to operate at the same level of service as under the existing conditions. Potential Project operational emissions are not expected to violate an air quality standard or significantly contribute to an existing air quality violation; therefore, the Project's operational impacts would be considered less than significant.

Exposure to Toxic Air Contaminants

The proposed project would introduce new sensitive receptors (residents) to the project site. A preliminary screening level analysis was completed to assess the impacts of nearby sources of

toxic air contaminants (TACs) on the proposed project's new residential sensitive receptors (Attachment G).

Construction of the proposed project could result in the generation of TACs, specifically diesel particulate matter (DPM), during on-road hauling and grading activities. Project construction activities would be temporary, approximately over two 18-month phases, and would not result in long-term emissions of DPM. Additionally, the CalEEMod results indicate that emissions estimates for diesel exhaust (PM_{10} and $PM_{2.5}$) would be below the City of Oakland significance thresholds. Furthermore, construction equipment fleet operators are subject to ARB's *In Use of Off Road Equipment Fleet Regulation*, which requires the use of increasing amounts of lower-emitting equipment that would help to ensure that risks are minimized.

Construction phase risks would be considered acute health risks as opposed to cancer risks, which are long-term. The Office of Environmental Health Hazard Assessment has yet to define acute risk factors for diesel particulates that would allow the calculation of a hazards risk index; thus, evaluation of this impact would be speculative and no further discussion is necessary.

The proposed project is locating new sensitive receptors (residents) in an area where they could be subject to existing sources of TACs. Because the proposed project is a residential development, and residential development is not considered a source of TACs, the analysis focused on the cumulative impact of nearby sources of TACs to the project site. The City of Oakland recommended procedure involves first consulting with screening tools to identify whether there are any substantial TAC sources within 1,000 feet of the proposed project. The results of the screening tools were as follows:

Table 4.6-9: Screening Health Risk Assessment Cumulative Results

Source	Lifetime Cancer Risk (in a million)	Chronic Hazard Index	Acute Hazard Index	$PM_{2.5}$ Concentration ($\mu g/m^2$)
International Boulevard	6.51	0.009	0.025	0.04
Monument Gas & Mart	0.23	<0.001	<0.001	N/A
AC Transit District	0.79	0.004	<0.001	0.15
Total	6.74	0.013	0.025	0.19
City of Oakland Project Level Threshold	10	1.0	1.0	0.3
City of Oakland Cumulative Threshold	100	10	10	0.80
Exceed Either Project-Level or Cumulative Threshold?	No	No	No	No

The analysis showed the proposed project would not exceed the lifetime excess cancer risk nor would it exceed the PM2.5 concentration level. As such, it can be assumed future residents would not be subject to levels of TACs above screening levels. Therefore, impacts from TAC sources would be less than significant.

Greenhouse Gas Emissions

The City of Oakland has determined that a project would have a significant impact on the environment if it would generate GHG emissions, either directly or indirectly that may have a significant impact on the environment. Specifically, the City of Oakland has determined the significance level for a project which involves land use development is the following:

> *The project produces total emissions of 1,100 metric tons of CO2equivalent (MTCO$_2$e)* ***AND*** *more than 4.6 MTCO$_2$e per service population. The service population includes both residents and the employees of the project.*

The project's expected greenhouse gas emissions during construction should be annualized over a period of 40 years and then added to the expected emissions during operation for comparison to the threshold. A 40-year period is used because 40 years is considered the average life expectancy of a building before it is remodeled with considerations for increased energy efficiency. The thresholds are based on the City of Oakland thresholds. Therefore, combining both the construction emissions and operation emissions for comparison to the threshold represents a conservative analysis of potential greenhouse gas impacts.

Construction Greenhouse Gas Emissions

The proposed project would emit GHG emissions during construction from the off-road equipment, worker vehicles, and any hauling that may occur. Table 4.6-10 provides the construction GHG emissions estimate.

Table 4.6-10: Construction Greenhouse Gas Emissions

Year	Emissions (MTCO$_2$e)
2017	455
2018	713
2019	446
2020	79
Total	**1,693**
Annualized over 40 years	**42**

Operational Greenhouse Gas Emissions

Long-term, operational GHG emissions would result from project generated vehicular traffic, onsite combustion of natural gas, operation of any landscaping equipment, offsite generation of electrical power over the life of the Project, the energy required to convey water to and wastewater from the project site, the emissions associated with the hauling and disposal of solid

waste from the project site. The project will be built out in the year 2020. The project is eligible for a qualified infill exemption, pursuant to both State CEQA Guidelines Section 15183 and 15183.3.

Under CEQA Guidelines Section 15183, all type of emission sources need to be accounted for to make a consistency determination under the previously certified EIR. However, consistent with CEQA Guidelines Section 15183.3 under SB 226, the project is not required to discuss project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network. The California Emissions Estimator Model (CalEEMod) includes default vehicle fleet mixes established by the Bay Area Air Quality Management District (BAAQMD) based on emissions inventories. The fleet mix in CalEEMod includes vehicles such as cars, light-duty trucks, medium and heavy duty trucks, and other vehicle types such as, buses and motorcycles. These vehicle types are used in calculating mobile source GHG emissions. The emissions estimate results presented in Table 4.6-11 removes the mobile source emissions from the cars and light-duty truck trips, but it includes the mobile source emissions from the other vehicle types that comprise the remaining fleet.

Operational emissions for the proposed project are shown in Table 4.6-11.

Table 4.6-11: Operational Greenhouse Gas Emissions (Buildout 2020)

Emission Source	Emissions ($MTCO_2e$)
Area Sources	7
Energy	1,286
Mobile (Motor Vehicles)	320[1]
Waste	131
Water	105
Total Operational Emissions[2]	1,849
Annualized Construction Emissions[3]	42,
Total Project Emissions	1,891
Service Population[4]	1,513
City of Oakland Significance Threshold 1	**1,100**
Exceed City of Oakland Significance Threshold 1	**Yes**
City of Oakland Significance Threshold 2	**4.6 $MTCO_2e$/SP/yr**
Project Emission Generation	**1.25**
Exceed City of Oakland Significance Threshold 2	**No**
Significant Impact?	**No**

Notes:
SP = Service Population
Yr = year
1. Pursuant to SB226, the project-specific and cumulative impacts from cars and light-duty truck trips generated by the project are not included in the emissions estimate. However, the CalEEMod fleet mix includes approximately 7 percent comprised of medium-heavy duty trucks, heavy-duty trucks, and other bus vehicle types. Those vehicle emissions are shown above.
2. Includes CalEEMod "mitigation" for locational features, compliance with regulatory measure
3. Construction emissions annualized over an anticipated 40-year project lifespan.

Emission Source	Emissions ($MTCO_2e$)
4. Based on CalEEMod default estimate based on Alameda County specific data for individuals per household	

The proposed project would exceed the first screening criteria of 1,100 $MTCO_2e$, however, the City of Oakland has established that in order to have a significant impact, a project would also have to exceed the GHG efficiency threshold of 4.6 $MTCO_2e$/SP/yr to result in a significant impact. The proposed project has a GHG efficiency of 1.25, well below the GHG efficiency screening threshold. Because the proposed project would not exceed **both** screening thresholds, the project impacts to GHGs would be less than significant. However, based on the City of Oakland's Standard Conditions of Approval 38, the project is considered a very large project (exceeds 500 dwelling units) and also exceeds one of the screening criteria (1,100 $MTCO_2e$), therefore the proposed project will be required to prepare a GHG Reduction Plan. The GHG Reduction Plan shall be submitted prior to issuance of a construction-related permit and will document the project's reduction of GHG emissions by 36 percent below the adjusted baseline.

4.4.4 Water Quality

Yes	No	
☒	☐	Approval of the project would not result in any significant effects relating to water quality?

National Pollutant Discharge Elimination System Program

The proposed project is located within an urbanized environment and there are no lakes, creeks, or other surface waters in the immediate proximity. The proposed project does not have the potential to directly affect the water quality of any surface water bodies. Construction of the proposed project would involve demolition, grading, and construction, all of which could result in erosion and/or sedimentation of downstream receiving waters.

Water quality is regulated by the State Water Resources Control Board through the NPDES Program, which was established by the Clean Water Act. The goal of the program is to control and reduce pollutants to water bodies from point and non-point discharges for both long term project activities and construction activities. The San Francisco Bay Regional Water Quality Control Board (RWQCB) issues and enforces NPDES permits for discharges to water bodies in the portion of Alameda County that drains to the San Francisco Bay.

The proposed project would be disturbing more than one acre of land during construction and thus would be required to file a notice of intent to be covered under the NPDES General Permit for Storm Water Discharges Associated With Construction Activity for discharges of stormwater associated with construction activities.

The State NPDES General Construction Permit requires development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) that uses stormwater "Best Management Practices" to control runoff, erosion, and sedimentation from the project site both during and after

construction. The SWPPP has two major objectives: (1) to help identify the sources of sediments and other pollutants that affect the quality of stormwater discharges; and (2) to describe and ensure the implementation of practices to reduce sediment and other pollutants in stormwater discharges.

With implementation of the required SCAs listed in Attachment B at the end of the CEQA Analysis (SCA WQ-1: Erosion and Sedimentation Control Measures, SCA WQ -2: State Construction General Permit, and SCA WQ -3: NPDES C.3 Stormwater Requirements for Regulated Projects), the proposed project would comply with NPDES Permit requirements and substantially reduce the potential water quality impacts. Therefore, as described above, the proposed project would not result in significant effects related to water quality and is consistent with Section 15332(d), water quality.

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5.0 EXCEPTIONS TO CATEGORICAL EXEMPTIONS

Under the Class 32 Categorical Exemption Overview, even if a project is ordinarily exempt under any of the potential categorical exemptions, CEQA Guidelines Section 15300.2 provides specific instances where exceptions to otherwise applicable exemptions apply. The following section addresses whether any of the exceptions to the CEQA exemption apply to the project, consistent with CEQA Guidelines Section 15300.2.

5.1 CRITERION §15300.2 (A): LOCATION

Yes	No	
☐	☒	Is there an exception to the Class 32 exemption for the project due to its location in a particularly sensitive environment, such that the project may impact an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, State, or local agencies?

This possible exception applies only to CEQA exemptions under Classes 3, 4, 5, 6, or 11. Since the proposed project qualifies as a Class 32 Urban Infill exemption, this criterion is not applicable. However, there are no environmental resources of hazardous or critical concern that are designated, precisely mapped or officially adopted in the vicinity of the project site, or that could be adversely affected by the proposed project.

5.2 CRITERION §15300.2 (B): CUMULATIVE IMPACT

Yes	No	
☐	☒	Is there an exception to the Class 32 exemption for the project due to significant cumulative impacts of successive projects of the same type and in the same place, over time?

As demonstrated under Criterion Section 15332(a), General Plan and Zoning Consistency, the proposed project is consistent with the development density allowed under the General Plan and zoning for the site. There are no peculiar aspects, other than those evaluated herein, that would increase the severity of any of the previously identified significant cumulative effects in the Program EIRs. One site located at 10500 International Boulevard was identified on the Cortese List, due to an underground storage tank release. However, this site is the commercial building that would remain onsite and is not part of the proposed residential development, or the CEQA project. Therefore, this site would not be disturbed during the development of the proposed project, and would not result in a peculiar environmental concern.

Pursuant to the streamlining provisions of CEQA Guidelines Sections 15183 and 15183.3, the cumulative effect of successive projects of the same type in the same place, over time would not be significant. Community Plan Exemption findings are discussed in Attachment C, and Qualified

Infill Exemption findings are provided in Attachment D of CEQA Analysis. These additional exemption analyses present findings that an exception under CEQA Guidelines Section 15300.2(b) regarding cumulative effects does not apply to the proposed project.

5.3 CRITERION §15300.2 (C): SIGNIFICANT EFFECT

Yes	No	
☐	☒	Is there an exception to the Class 32 exemption for the project because there is a reasonable possibility that the project would have a significant effect on the environment due to unusual circumstances?

There are no known unusual circumstances applicable to the proposed project or the project site which may result in a significant effect on the environment (see also the further discussion under Criterion 2[e] regarding Hazardous Materials, below). Therefore, the exception under CEQA Guidelines Sec. 15300.2(c) does not apply to the proposed project.

5.4 CRITERION §15300.2 (D): SCENIC HIGHWAY

Yes	No	
☐	☒	Is there an exception to the Class 32 exemption for the project because the project may result in damage to scenic resources including but not limited to, trees, historic buildings, rock outcroppings or similar resources, within a highway officially designated as a state scenic highway?

The project site has no trees, rock outcroppings or similar visual resources, and is not visible from a State designated scenic highway. The nearest designated scenic highway, the Macarthur Freeway (I-580) is located approximately 1.5 miles east, and the project site is not visible from the freeway. Given these facts, the exception under CEQA Guidelines Section 15300.2(d) does not apply to the proposed project.

5.5 CRITERION §15300.2 (E): HAZARDOUS MATERIALS

Yes	No	
☐	☒	Is there an exception to the Class 32 exemption for the project because the project is located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code?

5.5.1 Cortese List

The following condition applies to all projects involving (a) redevelopment or change of use of a historically industrial or commercial site; (b) a contaminated site as identified in City records; or (c) a site listed on the State Cortese List; and site remediation activities are required based on an environmental site assessment.

California Government Code, Section 65962.5 requires the CalEPA to compile, maintain, and update specified lists of hazardous material release sites. CEQA (California Public Resources Code, Section 21092.6) requires the Lead Agency to consult the lists compiled pursuant to California Government Code, Section 65962.5 to determine whether the proposed project and any alternatives are identified on a federal or State listing database. The required lists of hazardous material release sites are commonly referred to as the "Cortese List" after the legislator who authorized the legislation. Since the statute was enacted more than 30 years ago, some of the provisions refer to agency activities that were conducted many years ago and are no longer being implemented and, in some cases, the information required in the Cortese List does not exist. Those requesting a copy of the Cortese List are now referred directly to the appropriate information resources contained on internet websites hosted by the boards or departments referenced in the statute, including the online EnviroStor database from the Department of Toxic Substances Control (DTSC) and the online GeoTracker database offered by the State Water Resources Control Board (SWRCB). These two databases include hazardous material release sites, along with other categories of sites or facilities specific to each agency's jurisdiction.

The letter received from CalEPA regarding whether if the properties identified as 1424, 1500, 1510, 1520, 1528, 1536, 1538, 1548, 1550, 1560, 1570 105th Avenue, and 10550, and 10500 International Boulevard, are listed on the Cortese List was initially incorrect prior to the letter dated February 10, 2016. The letter was revised and received on February 10, 2016 (Attachment H). The letter identifies one site listed on the Cortese List, located at 10500 International Boulevard, due to an underground storage tank release. This site is the commercial building that would remain onsite and is not part of the proposed residential development, or the CEQA project. Therefore, this site would not be disturbed during the development of the proposed project, and would not significantly impact the proposed project, or have a significant effect on the environment due to unusual circumstances. Per the February 10, 2016 CalEPA letter, none of the other sites reviewed are listed on the Cortese List.

During construction, the Applicant would be required to adhere to SCA HAZ-1: Hazardous Materials Related to Construction, and SCA HAZ-2: Site Contamination as discussed in Attachment B, to ensure that BMPs are implemented by the contractor during construction to minimize potential effects on groundwater, soils, and human health. As such, the exception under CEQA Guidelines Section 15300.2(e) does not apply to the proposed project.

5.6 CRITERION §15300.2 (F): HISTORICAL RESOURCES

Yes	No	
☐	☒	Is there an exception to the Class 32 exemption for the project because the project may cause a substantial adverse change in the significance of a historical resource?

5.6.1 Historical Resources

The existing buildings located on the project site are not identified as a Designated Historic (local landmark or Heritage Property). The existing buildings are less than 45 years old and not located

in a historic district. Therefore, because the existing buildings do not meet the criteria for listing in the California Register of Historical Resources, nor is a resource previously identified in Oakland's Local Register of Historic Resources. Therefore, there would not be any impacts to historic resources if the building were demolished to accommodate the proposed project.

Implementation of SCA-CUL-1: Archaeological and Paleontological Resources –Discovery During Construction and SCA-CUL-2: Human Remains – Discovery during Construction would ensure that appropriate procedures would be followed in the event of accidental discovery of archaeological resources or human remains to minimize potential risks of impact during project construction. With required implementation of these SCAs, potential adverse effect on as-yet undiscovered archaeological and/or historic resources would not be significant. As such, the exception under CEQA Guidelines Section 15300.2(f) regarding impacts to a historic building does not apply to the proposed project.

5.7 OTHER STANDARD CONDITIONS OF APPROVAL

In addition to the SCAs identified above for each resource category, other SCAs were identified for aesthetics, regulatory permits, geology, and utilities which apply to all construction projects, and would be imposed and implemented by the proposed project. These SCAs are discussed in Attachment B.

6.0 REFERENCES

Air Resources Board. 2014. 2014 Edition California Greenhouse Gas Emission Inventory 2000-2012. Website: http://www.arb.ca.gov/cc/inventory/pubs/reports/ghg_inventory_00-12_report.pdf. Accessed February 19, 2015.

California Department of Transportation. 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. Website: http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013B.pdf. Accessed February 10, 2015.

California Department of Transportation. 2004. Transportation-and Construction-Induced Vibration Guidance Manual. 2004. Website: http://www.dot.ca.gov/hq/env/noise/pub/vibrationmanFINAL.pdf. Accessed February 9, 2015.

CARB 2015. California State Implementation Plans. Website: http://www.arb.ca.gov/planning/sip/sip.htm. Accessed February 19, 2015.

CARB. 2009. Review of the Ambient Air Quality Standard for Ozone. Website: http://www.arb.ca.gov/research/aaqs/ozone-rs/ozone-rs.htm. Accessed February 19, 2015.

CARB. 2013. California and National Ambient Air Quality Standards. Website: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed February 19, 2015.

CARB. 2013. Almanac Emissions Projection Data. Website: http://www.arb.ca.gov/app/emsinv/2013/emseic1 query.php?F DIV=-4&F YR=2ir 012&F SEASON=A&SP=2013&F AREA=AB&F AB=SF&F DD=Y. Accessed February 19, 2015.

City of Oakland. 2017. Planning Code. Website: https://www.municode.com/library/ca/oakland/codes/planning_code?nodeId=TIT17PL_CH17.116OREPALORE_ARTIIOREPARE. Accessed: May 4, 2017.

City of Oakland. 2012. Energy and Climate Action Plan. Website: http://www2.oaklandnet.com/oakca1/groups/pwa/documents/report/oak039056.pdf. Accessed March 4, 2016.

City of Oakland. 2011. International Boulevard Transit-Oriented Development Plan. Website: http://www.raimiassociates.com/db files/projects-specific 2 33981791.pdf. Accessed: March 2, 2015.

City of Oakland. City of Oakland General Plan. 2005. Website: http://www2.oaklandnet.com/Government/o/PBN/OurServices/GeneralPlan/DOWD008821. Accessed February 10, 2015.

City of Oakland. Adopted December 9, 2014. City of Oakland Housing Element 2015-2023. Website: http://www.hcd.ca.gov/housing-policy-development/housing-resource-

center/plan/he/housing-element-documents/oakland_5th_adopted013015.pdf. Accessed: March 2, 2015.

Egan, David M. Architectural Acoustics. J. Ross Pub., Pub 2007

EPA. 2014. Carbon Monoxide. Website: http://www.epa.gov/airquality/carbonmonoxide/. Accessed February 2, 2015.

EPA. 2014. Climate Change Regulatory Initiatives. Website: http://www.epa.gov/climatechange/EPAactivities/regulatory-initiatives.html. Accessed February 2, 2015.

EPA. 2014b. Climate Change Overview of Greenhouse Gases. Website: http://www.epa.gov/climatechange/ghgemissions/gases.html. Accessed February 19, 2015.

Federal Highway Administration. 2011. Highway Traffic Noise. Website: http://www.fhwa.dot.gov/environment/noise/noise_barriers/design_construction/keepdown.cfm. Accessed February 10, 2015.

Federal Highway Administration. 2006. Construction Noise Handbook. Website: http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/. Accessed February 11, 2015

Federal Transit Administration. 2006. Transit Noise and Vibration Impact Assessment. Website: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf. Accessed February 10, 2015.

Hoover & Keith Inc. 2000. Noise Control for Buildings, Manufacturing Plants, Equipment and Products. Lecture Notes, first published in 1981. Houston, TX.

Stantec City of Oakland International Boulevard Senior Housing Project Acoustic Technical Report. March 4, 2016.

Stantec City of Oakland International Boulevard Senior Housing Project Air Quality and Greenhouse Gas Technical Report. March 8, 2016.

Stantec Traffic Impact Study for 10500 International Boulevard in the City of Oakland. March 8, 2016.

State of California. Governor's Office of Planning and Research. 2003. General Plan Guidelines. Website: http://opr.ca.gov/docs/General_Plan_Guidelines_2003.pdf. Accessed February 12, 2015.

7.0 LIST OF PREPARERS

Principal / Project Manager ..... Trevor Macenski

Environmental Noise Analyst..... Kate Gross Gray

Senior Air Quality Scientist..... Elena Nuno

Senior Transportation Engineer..... Joanna Liu

Environmental Planner..... Anna Radonich

Environmental Planner..... Kaela Johnson

ATTACHMENT A

EAST BAY
MUNICIPAL UTILITY DISTRICT

October 18, 2016

Amanda Locke
AMG & Associates, LLC
16633 Ventura Blvd, Suite 1014
Encino, CA 91436

Re:	10550 International Blvd, Oakland	APN:	47-5519-5-2
	1560 105th Ave, Oakland	APN:	47-5509-1-1
	1548 105th Ave, Oakland	APN:	47-5509-3
	1544 105th Ave, Oakland	APN:	47-5509-4
	1536 105th Ave, Oakland	APN:	47-5509-5
	1528 105th Ave, Oakland	APN:	47-5509-6
	1520 105th Ave, Oakland	APN:	47-5509-7
	1500 105th Ave, Oakland	APN:	47-5509-9-1
	1424 105th Ave, Oakland	APN:	47-5509-10
	10500 International Blvd, Oakland	APN:	47-5509-41

Dear Ms. Locke:

Water service to the subject properties will be available contingent upon compliance with the District's Regulations governing water service and Schedule of Rates and Charges.

If you have any questions, please call our office at (510) 287-1008.

Sincerely,

Wendy Mach

WENDY MACH
Senior Administrative Clerk
New Business Office

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA, SUITE 4314 • OAKLAND, CALIFORNIA 94612-2032

Department of Public Works
Bureau of Engineering and Construction

(510) 238-3171
FAX (510) 238-6412
TDD (510) 238-3254

March 3, 2015

Ms. Amanda Locke
AMG & Associates, LLC
16633 Ventura Blvd, Suite 1014
Encino, CA 91436

Re: Sewer Service for: 1424, 1500, 1520, 1528, 1536, 1544 & 1548 - 105th Avenue and 10550 &10500 International Boulevard

Dear Ms. Locke:

The purpose of this letter is to inform you that the City of Oakland provides wastewater collection service for the project location above. This letter does not represent any approval by the City for the project and does not guarantee that there is sufficient capacity in the City's wastewater system to accommodate this project. The applicant will be responsible for the extension of the City's wastewater facilities in the area in accordance with the City of Oakland standards. The applicant will also be responsible for other mitigation measures that will be necessary to provide system capacity for this project.

If you have any questions, please contact me at (510) 238-3303.

Sincerely,

Jimmy Mach, P.E.
Department of Public Works
Engineering Design & Right-of-Way Management

File

ATTACHMENT B

ATTACHMENT B:

Standard Conditions of Approval Monitoring and Reporting Program

The purpose of the Standard Conditions of Approval (SCA) is to briefly describe the roles and responsibilities of government agencies in implementing and enforcing the adopted SCAs identified in the Class 32 California Environmental Quality Act (CEQA) Exemption prepared for the International Boulevard Senior Housing Project (proposed project).

The SCAs incorporate development policies and standards from various adopted plans, policies, and ordinances (such as the Oakland Planning and Municipal Codes, Oakland Creek Protection, Stormwater Management and Discharge Control Ordinance, Oakland Tree Protection Ordinance, Oakland Grading Regulations, National Pollutant Discharge Elimination System (NPDES) permit requirements, Housing Element-related mitigation measures, Green Building Ordinance, historic/landmark status, California Building Code, and Uniform Fire Code, among others), which have been found to substantially mitigate environmental impacts. These SCAs are incorporated into projects as conditions of approval, regardless of the determination of a project's environmental impacts. As applicable, the SCAs are adopted as requirements of an individual project when it is approved by the City, and are designed to, and would, avoid or substantially reduce a project's environmental effects.

The City and its contractors will be required to comply with the SCAs in all respects. In any instance where non-compliance occurs, the City-designated environmental monitors will issue a warning to the party responsible for implementation and the City's Project Manager. Any decisions to halt work due to non-compliance will be made by the City. The City's designated environmental monitors will keep records of any incidents that are non-compliant with the SCAs. Copies of these documents will be supplied to the City.

The SCAs Matrix is presented in the following table and includes the SCAs identified in the Class 32 CEQA Exemption prepared for the proposed project. The purpose of the matrix is to provide the City with a comprehensive list of the SCAs. The SCAs will be implemented through the verification of required approvals by City staff. The matrix consists of the following components:

- The first column identifies the SCA applicable to that topic in the CEQA Analysis.
- The second column identifies the monitoring schedule or timing applicable to the proposed project.
- The third column names the party responsible for monitoring the required action for the proposed project.

The City will be responsible for ensuring compliance with the SCAs applicable to the proposed project. Staff will prepare, or require preparation of reports which identify compliance with the SCAs. Once construction has begun and is underway, the City will carry out monitoring of the SCAs associated with construction. The SCA matrix will be maintained in the City's files for use in construction and operation of the proposed project.

Note that the SCAs included in this document are referred to using an abbreviation for the environmental topic area and are numbered sequentially for each topic area—i.e., SCA AQ-1, SCA AQ-2, etc. The SCA title and the SCA number that corresponds to the City's master SCA list is also provided—i.e., SCA AQ-1: Construction-Related Air Pollution (Dust and Equipment Emissions) (#19).

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Standard Conditions of Approval

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
Transportation /Traffic			
SCA TRANS-1: Transportation and Parking Demand Management (#71). **a. Transportation and Parking Demand Management (TDM) Plan Required** Requirement: The project applicant shall submit a Transportation and Parking Demand Management (TDM) Plan for review and approval by the City. i. The goals of the TDM Plan shall be the following: • Reduce vehicle traffic and parking demand generated by the project to the maximum extent practicable, consistent with the potential traffic and parking impacts of the project. • Achieve the following project vehicle trip reductions (VTR): o Projects generating 50-99 net new a.m. or p.m. peak hour vehicle trips: 10 percent VTR o Projects generating 100 or more net new a.m. or p.m. peak hour vehicle trips: 20 percent VTR • Increase pedestrian, bicycle, transit, and carpool/vanpool modes of travel. All four modes of travel shall be considered, as appropriate. • Enhance the City's transportation system, consistent with City policies and programs. ii. TDM strategies to consider include, but are not limited to, the following:	Prior to approval of construction-related permits	Bureau of Planning	N/A

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
• Inclusion of additional long-term and short-term bicycle parking that meets the design standards set forth in chapter five of the Bicycle Master Plan and the Bicycle Parking Ordinance (chapter 17.117 of the Oakland Planning Code), and shower and locker facilities in commercial developments that exceed the requirement. • Construction of and/or access to bikeways per the Bicycle Master Plan; construction of priority bikeways, on-site signage and bike lane striping. • Installation of safety elements per the Pedestrian Master Plan (such as crosswalk striping, curb ramps, count down signals, bulb outs, etc.) to encourage convenient and safe crossing at arterials, in addition to safety elements required to address safety impacts of the project. • Installation of amenities such as lighting, street trees, and trash receptacles per the Pedestrian Master Plan and any applicable streetscape plan. • Construction and development of transit stops/shelters, pedestrian access, way finding signage, and lighting around transit stops per transit agency plans or negotiated improvements.			

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
• Direct on-site sales of transit passes purchased and sold at a bulk group rate (through programs such as AC Transit Easy Pass or a similar program through another transit agency). • Provision of a transit subsidy to employees or residents, determined by the project applicant and subject to review by the City, if employees or residents use transit or commute by other alternative modes. • Provision of an ongoing contribution to transit service to the area between the project and nearest mass transit station prioritized as follows: 1) Contribution to AC Transit bus service; 2) Contribution to an existing area shuttle service; and 3) Establishment of new shuttle service. The amount of contribution (for any of the above scenarios) would be based upon the cost of establishing new shuttle service (Scenario 3). • Guaranteed ride home program for employees, either through 511.org or through separate program. • Pre-tax commuter benefits (commuter checks) for employees. • Free designated parking spaces for on-site car-sharing program (such as City Car Share, Zip Car, etc.) and/or car-share membership for employees or tenants.			

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
• On-site carpooling and/or vanpool program that includes preferential (discounted or free) parking for carpools and vanpools. • Distribution of information concerning alternative transportation options. • Parking spaces sold/leased separately for residential units. Charge employees for parking, or provide a cash incentive or transit pass alternative to a free parking space in commercial properties. • Parking management strategies including attendant/valet parking and shared parking spaces. • Requiring tenants to provide opportunities and the ability to work off-site. • Allow employees or residents to adjust their work schedule in order to complete the basic work requirement of five eight-hour workdays by adjusting their schedule to reduce vehicle trips to the worksite (e.g., working four, ten-hour days; allowing employees to work from home two days per week). • Provide or require tenants to provide employees with staggered work hours involving a shift in the set work hours of all employees at the workplace or flexible work hours involving			

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
individually determined work hours. The TDM Plan shall indicate the estimated VTR for each strategy, based on published research or guidelines where feasible. For TDM Plans containing ongoing operational VTR strategies, the Plan shall include an ongoing monitoring and enforcement program to ensure the Plan is implemented on an ongoing basis during project operation. If an annual compliance report is required, as explained below, the TDM Plan shall also specify the topics to be addressed in the annual report.			
b. TDM Implementation – Physical Improvements Requirement: For VTR strategies involving physical improvements, the project applicant shall obtain the necessary permits/approvals from the City and install the improvements prior to the completion of the project.	Prior to Building Permit Final	Bureau of Building	Bureau of Building
c. TDM Implementation - Operational Strategies Requirement: For projects that generate 100 or more net new a.m. or p.m. peak hour vehicle trips and contain ongoing operational VTR strategies, the project applicant shall submit an annual compliance report for the first five years following completion of the project (or completion of each phase for phased projects) for review and approval by the City. The annual report shall document the status and effectiveness of the TDM program, including the actual VTR achieved by the project during operation. If deemed necessary, the City may elect to have a peer review consultant, paid for by the project applicant, review the annual report. If timely reports are not submitted and/or the annual reports indicate that the project applicant has failed to implement the TDM Plan, the project will be considered in violation of the Conditions of Approval and the City may initiate enforcement action as provided for in these Conditions of Approval. The project shall not be considered in violation of this Condition if the TDM Plan is implemented but the VTR goal is not achieved.	Ongoing	Bureau of Planning	Bureau of Planning

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
SCA TRANS-2: Bicycle Parking (#69) Requirement: The project applicant shall comply with the City of Oakland Bicycle Parking Requirements (chapter 17.118 of the Oakland Planning Code). The project drawings submitted for construction-related permits shall demonstrate compliance with the requirements.	Prior to approval of construction-related permits.	Bureau of Planning	Bureau of Building
SCA TRANS-3: Construction Activity in the Public Right-of-Way (#68) **a. Obstruction Permit Required** Requirement: 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 and sidewalks.	Prior to approval of construction-related permits and final building permits.	Bureau of Building	Bureau of Building
b. Traffic Control Plan Required Requirement: In the event of obstructions to vehicle or bicycle travel lanes, 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 detours, including detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes. The project applicant shall implement the approved Plan during construction.	Prior to approval of construction-related permits and final building permits.	Public Works Department, Transportation Services Division	Bureau of Building
a. Repair of City Streets Requirement: 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	Prior to Building Permit Final	N/A	Bureau of Building

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
the final inspection of the construction-related permit. All damage that is a threat to public health or safety shall be repaired immediately.			
Noise			
SCA NOI-1: Construction Days/Hours (#58) Requirement: 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 on-site 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	During construction.	N/A	Bureau of Building

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
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.			
SCA NOI-2: Construction Noise (#59) Requirement: 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, if such jackets are commercially available, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures. c. Applicant shall use temporary power poles instead of generators where feasible.	During construction.	N/A	Bureau of Building

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
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 use other measures as determined by the City to provide equivalent noise reduction. e. The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.			
SCA NOI-3: Extreme Construction Noise (#60) **a. Construction Noise Management Plan Required** Requirement: 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	Prior to approval of construction-related permit and during construction.	Bureau of Building	Bureau of Building

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
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 and implement such measure if such measures are feasible and would noticeably reduce noise impacts; and v. Monitor the effectiveness of noise attenuation measures by taking noise measurements. **b. Public Notification Required** Requirement: 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.			
SCA NOI-4: Construction Noise Complaints (#62) Requirement: The project applicant shall submit to the City for review and approval a set of procedures for responding to and tracking complaints received pertaining to construction noise, and shall implement the procedures during construction. At a minimum, the procedures shall include: a. Designation of an on-site construction complaint and enforcement manager for the project; b. A large on-site sign near the public right-of-way containing permitted construction days/hours, complaint	Prior to approval of construction-related permits.	Bureau of Building	Bureau of Building

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
procedures, and phone numbers for the project complaint manager and City Code Enforcement unit; c. Protocols for receiving, responding to, and tracking received complaints; and d. Maintenance of a complaint log that records received complaints and how complaints were addressed, which shall be submitted to the City for review upon the City's request.			
SCA NOI-5: Exposure to Community Noise (#63) Requirement: The project applicant shall submit a Noise Reduction Plan prepared by a qualified acoustical engineer for City review and approval that contains noise reduction measures (e.g., sound-rated window, wall, and door assemblies) to achieve an acceptable interior noise level in accordance with the land use compatibility guidelines of the Noise Element of the Oakland General Plan. The applicant shall implement the approved Plan during construction. To the maximum extent practicable, interior noise levels shall not exceed the following: a. 45 dBA: Residential activities, civic activities, hotels b. 50 dBA: Administrative offices; group assembly activities c. 55 dBA: Commercial activities d. 65 dBA: Industrial activities	Prior to approval of construction-related permits.	Bureau of Planning	Bureau of Building
SCA NOI-6: Operational Noise (#64) Requirement: 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.	Ongoing.	N/A	Bureau of Building
Air Quality			
SCA AQ-1: Construction Related Air Pollution Controls (Dust and Equipment Emissions) (#19)	During construction.	N/A	Bureau of Planning

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Requirement: The project applicant shall implement all of the following applicable air pollution 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. Pave all roadways, driveways, sidewalks, etc. within one month of site grading or as soon as feasible. In addition, building pads should be laid within one month of grading or as soon as feasible unless seeding or soil binders are used. e. Enclose, cover, water twice daily, or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.). f. Limit vehicle speeds on unpaved roads to 15 miles per hour. g. 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 five 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. h. Idling times on all diesel-fueled off-road vehicles over 25 horsepower			

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shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five 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"). i. 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. j. Portable equipment shall be powered by electricity if available. If electricity is not available, propane or natural gas shall be used if feasible. Diesel engines shall only be used if electricity is not available and it is not feasible to use propane or natural gas. k. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe. l. All excavation, grading, and demolition activities shall be suspended when average wind speeds exceed 20 mph. m. Install sandbags or other erosion control measures to prevent silt runoff to public roadways. n. Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for one month or more). o. Designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. p. Install appropriate wind breaks (e.g., trees, fences) on the windward			

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side(s) of actively disturbed areas of the construction site to minimize wind blown dust. Wind breaks must have a maximum 50 percent air porosity. q. 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. r. Activities such as excavation, grading, and other ground-disturbing construction activities shall be phased to minimize the amount of disturbed surface area at any one time. s. All trucks and equipment, including tires, shall be washed off prior to leaving the site. t. 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. u. All equipment to be used on the construction site and subject to the requirements of Title 13, Section 2449, of the California Code of Regulations ("California Air Resources Board Off-Road Diesel Regulations") must meet emissions and performance requirements one year in advance of any fleet deadlines. Upon request by the City, the project applicant shall provide written documentation that fleet requirements have been met. v. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., BAAQMD Regulation 8, Rule 3: Architectural Coatings). w. All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM. x. Off-road heavy diesel engines shall meet the California Air Resources Board's most recent certification standard.			

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y. Post a publicly-visible large on-site sign that includes the contact name and phone number for the project complaint manager responsible for responding to dust complaints and the telephone numbers of the City's Code Enforcement unit and the Bay Area Air Quality Management District. When contacted, the project complaint manager shall respond and take corrective action within 48 hours.			
SCA AQ-2: Asbestos in Structures (#23) Requirement: 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.	Prior to approval of construction-related permits.	N/A	Bay Area Air Quality Management District.
Note: Screening analysis demonstrated that the proposed project would be below the applicable threshold. No further action is required under this SCA. **SCA AQ-3: Exposure to Air Pollution (Toxic Air Contaminants)** Requirement: 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 one 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 exceeds acceptable levels, health risk reduction	Prior to approval of construction-related permit	Bureau of Planning	Bureau of Building

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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. - 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 construction-related 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-13 [insert MERV-16 for projects located in the West Oakland Specific Plan area] 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			

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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 popular (*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,			

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and delivery restrictions, shall be implemented.			
Water Quality			
SCA WQ-1: Erosion and Sedimentation Control Measures for Construction (#45) a. Erosion and Sedimentation Control Plan Required Requirement: The project applicant shall submit an Erosion and Sedimentation Control Plan to the City for review and approval. The Erosion and Sedimentation Control Plan shall include all necessary measures to be taken to prevent excessive stormwater runoff or carrying by stormwater runoff of solid materials on to lands of adjacent property owners, public streets, or to creeks as a result of conditions created by grading and/or construction operations. The Plan shall include, but not be limited to, such measures as short-term erosion control planting, waterproof slope covering, check dams, interceptor ditches, benches, storm drains, dissipation structures, diversion dikes, retarding berms and barriers, devices to trap, store and filter out sediment, and stormwater retention basins. Off-site work by the project applicant may be necessary. The project applicant shall obtain permission or easements necessary for off-site work. There shall be a clear notation that the plan is subject to changes as changing conditions occur. Calculations of anticipated stormwater runoff and sediment volumes shall be included, if required by the City. The Plan shall specify that, after construction is complete, the project applicant shall ensure that the storm drain system shall be inspected and that the project	Prior to Approval of Construction-Related Permit	Bureau of Building	N/A

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applicant shall clear the system of any debris or sediment. b. Erosion and Sedimentation Control During Construction Requirement: The project applicant shall implement the approved Erosion and Sedimentation Control Plan. No grading shall occur during the wet weather season (October 15 through April 15) unless specifically authorized in writing by the Bureau of Building.			
SCA WQ-2: State Construction General Permit (#46) Requirement: 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.	Prior to approval of construction-related permits.	State Water Resources Control Board evidence of compliance submitted to Bureau of Building	State Water Resources Control Board
SCA WQ-3: NPDES C.3 Stormwater Requirements for Regulated Projects (#50) **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 shall 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;	Prior to approval of construction-related permits and during construction.	Bureau of Building Bureau of Planning	Bureau of Building

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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. **b. Maintenance Agreement Required** Requirement: 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			

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the County Recorder's Office at the applicant's expense.			
Hazards and Hazardous Materials			
SCA HAZ-1: Hazardous Materials Related to Construction (#39) Requirement: 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 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	Prior to approval of construction-related permits and during construction.	N/A	Bureau of Building

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resume in the area(s) affected until the measures			
SCA HAZ-2: 40. Hazardous Building Materials and Site Contamination (#40) ***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.	Prior to approval of demolition, grading, or building permits	Bureau of Building	Bureau of Building
b.* Environmental *Site Assessment Required Requirement: 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.	Prior to Approval of Construction-Related Permits	Applicable Regulatory Agency with Jurisdiction	Applicable Regulatory Agency with Jurisdiction
***c.* Health and Safety *Plan* Required** Requirement: The project applicant shall submit a Health and Safety Plan for the review and approval by the City in order to	Prior to Approval of Construction-Related Permits	Bureau of Building	Bureau of Building

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
protect project construction workers from risks associated with hazardous materials. The project applicant shall implement the approved Plan.			
d. Best Management Practices (BMPs) Required for Contaminated Sites Requirement: 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.	During Construction	Bureau of Building	N/A
Cultural Resources			
SCA CUL-1: Archaeological and Paleontological Resources-Discovery During Construction. Requirement: 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	Prior to approval of construction-related permits.	N/A	Bureau of Building

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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 consideration of factors such as the nature of the find, project design, costs, and other 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			

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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.			
SCA CUL-2: Human Remains- Discovery During Construction Requirement: 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.	Prior to approval of construction-related permits.	N/A	Bureau of Building
Aesthetics			
SCA AES-1: Graffiti Control (#16) 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	Ongoing	N/A	Bureau of Building

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
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).			
SCA AES-2: Landscape Plan (#17) **a. Landscape Plan Required** Requirement: 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. **b. Landscape Installation** Requirement: The project applicant shall implement the approved Landscape Plan unless a bond, cash	Prior to approval of construction-related permits, final building permits.	Bureau of Planning	N/A

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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. **c. Landscape Maintenance** Requirement: 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, repaired or replaced.			
SCA AES-3: Lighting (#18) Requirement: 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.	Prior to final building permit.	N/A	Bureau of Building
Geology and Soils			
SCA GEO-1: Construction-Related Permits (#33) Requirement: 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.	Prior to approval of construction-related permits.	Bureau of Building	Bureau of Building
SCA GEO-2: Soils Report (#34) Requirement: The project applicant shall submit a soils report prepared by a registered geotechnical engineer for City review and approval. The soils report shall contain, at a minimum, field test results and observations regarding the nature, distribution and strength of existing soils, and	Prior to approval of construction-related permits.	Bureau of Building	Bureau of Building

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recommendations for appropriate grading practices and project design. The project applicant shall implement the recommendations contained in the approved report during project design and construction.			
Greenhouse Gas Emissions/Global Climate Change			
Greenhouse Gas Emissions/Global Climate Change SCA 38a: Greenhouse Gas (GHG) Reduction Plan Requirement: The project applicant shall retain a qualified air quality consultant to develop a Greenhouse Gas (GHG) Reduction Plan for City review and approval and shall implement the approved GHG Reduction Plan. The goal of the GHG Reduction Plan shall be to increase energy efficiency and reduce GHG emissions to below at least one of the Bay Area Quality Management District's (BAAQMD's) CEQA Thresholds of Significance (1,100 metric tons of CO2e per year or 4.6 metric tons of CO2e per year per service population) AND to reduce GHG emissions by 36 percent below the project's "adjusted" baseline GHG emissions (as explained below) to help achieve the City's goal of reducing GHG emissions. The GHG Reduction Plan shall include, at a minimum, (a) a detailed GHG emissions inventory for the project under a "business-as-usual" scenario with no consideration of project design features, or other energy efficiencies, (b) an "adjusted" baseline GHG emissions inventory for the project, taking into consideration energy efficiencies included as part of the project (including the City's Standard Conditions of Approval, proposed mitigation measures, project design features, and other City requirements), (c) a comprehensive set of quantified additional GHG reduction measures available to further reduce GHG emissions beyond the adjusted GHG emissions, and (d) requirements for ongoing monitoring and reporting to demonstrate that the additional GHG reduction measures are being implemented. If the project is to be constructed in phases, the GHG Reduction	Prior to approval of construction-related permit	Bureau of Planning	N/A

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Plan shall provide GHG emission scenarios by phase. Potential GHG reduction measures to be considered include, but are not be limited to, measures recommended in BAAQMD's latest CEQA Air Quality Guidelines, the California Air Resources Board Scoping Plan (December 2008, as may be revised), the California Air Pollution Control Officers Association (CAPCOA) Quantifying Greenhouse Gas Mitigation Measures (August 2010, as may be revised), the California Attorney General's website, and Reference Guides on Leadership in Energy and Environmental Design (LEED) published by the U.S. Green Building Council. The types of allowable GHG reduction measures include the following (listed in order of City preference): (1) physical design features; (2) operational features; and (3) the payment of fees to fund GHG-reducing programs (i.e., the purchase of "carbon credits") as explained below. The allowable locations of the GHG reduction measures include the following (listed in order of City preference): (1) the project site; (2) off-site within the City of Oakland; (3) off-site within the San Francisco Bay Area Air Basin; (4) off-site within the State of California; then (5) elsewhere in the United States. As with preferred locations for the implementation of all GHG reductions measures, the preference for carbon credit purchases include those that can be achieved as follows (listed in order of City preference): (1) within the City of Oakland; (2) within the San Francisco Bay Area Air Basin; (3) within the State of California; then (4) elsewhere in the United States. The cost of carbon credit purchases shall be based on current market value at the time purchased and shall be based on the project's operational emissions estimated in the GHG Reduction Plan or subsequent approved emissions inventory, which may result in emissions that are higher or lower than those estimated in the GHG Reduction Plan. For physical GHG reduction measures to be incorporated into the design of the project, the measures shall be included on the			

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drawings submitted for construction-related permits.			
SCA 38b: GHG Reduction Plan Implementation During Construction Requirement: The project applicant shall implement the GHG Reduction Plan during construction of the project. For physical GHG reduction measures to be incorporated into the design of the project, the measures shall be implemented during construction. For physical GHG reduction measures to be incorporated into off-site projects, the project applicant shall obtain all necessary permits/approvals and the measures shall be included on drawings and submitted to the City Planning Director or his/her designee for review and approval. These off-site improvements shall be installed prior to completion of the subject project (or prior to completion of the project phase for phased projects). For GHG reduction measures involving the purchase of carbon credits, evidence of the payment/purchase shall be submitted to the City for review and approval prior to completion of the project (or prior to completion of the project phase, for phased projects).	During construction	Bureau of Planning	Bureau of Building
SCA38c.: GHG Reduction Plan Implementation After Construction Requirement: The project applicant shall implement the GHG Reduction Plan after construction of the project (or at the completion of the project phase for phased projects). For operational GHG reduction measures to be incorporated into the project or off-site projects, the measures shall be implemented on an indefinite and ongoing basis. The project applicant shall satisfy the following requirements for ongoing monitoring and reporting to demonstrate that the additional GHG reduction measures are being implemented. The GHG Reduction Plan requires regular periodic evaluation over the life of the project (generally estimated to be at least 40 years) to determine how the Plan is achieving required GHG emissions reductions over time, as well as the efficacy of the specific additional GHG reduction measures identified in the Plan.	Ongoing	Bureau of Planning	Bureau of Planning

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
Annual Report. Implementation of the GHG reduction measures and related requirements shall be ensured through compliance with Conditions of Approval adopted for the project. Generally, starting two years after the City issues the first Certificate of Occupancy for the project, the project applicant shall prepare each year of the useful life of the project an Annual GHG Emissions Reduction Report ("Annual Report"), for review and approval by the City Planning Director or his/her designee. The Annual Report shall be submitted to an independent reviewer of the City's choosing, to be paid for by the project applicant. The Annual Report shall summarize the project's implementation of GHG reduction measures over the preceding year, intended upcoming changes, compliance with the conditions of the Plan, and include a brief summary of the previous year's Annual Report results (starting the second year). The Annual Report shall include a comparison of annual project emissions to the baseline emissions reported in the GHG Plan. The GHG Reduction Plan shall be considered fully attained when project emissions are less than either applicable numeric BAAQMD CEQA Thresholds AND GHG emissions are 36 percent below the project's "adjusted" baseline GHG emissions, as confirmed by the City through an established monitoring program. Monitoring and reporting activities will continue at the City's discretion, as discussed below. Corrective Procedure. If the third Annual Report, or any report thereafter, indicates that, in spite of the implementation of the GHG Reduction Plan, the project is not achieving the GHG reduction goal, the project applicant shall prepare a report for City review and approval, which proposes additional or revised GHG measures to better achieve the GHG emissions reduction goals, including without limitation, a discussion on the feasibility and effectiveness of the menu of other additional measures ("Corrective GHG Action Plan"). The project applicant shall then implement the approved Corrective GHG Action Plan.			

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
If, one year after the Corrective GHG Action Plan is implemented, the required GHG emissions reduction target is still not being achieved, or if the project applicant fails to submit a report at the times described above, or if the reports do not meet City requirements outlined above, the City may, in addition to its other remedies, (a) assess the project applicant a financial penalty based upon actual percentage reduction in GHG emissions as compared to the percent reduction in GHG emissions established in the GHG Reduction Plan; or (b) refer the matter to the City Planning Commission for scheduling of a compliance hearing to determine whether the project's approvals should be revoked, altered or additional conditions of approval imposed. The penalty as described in (a) above shall be determined by the City Planning Director or his/her designee and be commensurate with the percentage GHG emissions reduction not achieved (compared to the applicable numeric significance thresholds) or required percentage reduction from the "adjusted" baseline. In determining whether a financial penalty or other remedy is appropriate, the City shall not impose a penalty if the project applicant has made a good faith effort to comply with the GHG Reduction Plan. The City would only have the ability to impose a monetary penalty after a reasonable cure period and in accordance with the enforcement process outlined in Planning Code Chapter 17.152. If a financial penalty is imposed, such penalty sums shall be used by the City solely toward the implementation of the GHG Reduction Plan. Timeline Discretion and Summary. The City shall have the discretion to reasonably modify the timing of reporting, with reasonable notice and opportunity to comment by the applicant, to coincide with other related monitoring and reporting required for the project.			
Utilities and Service Systems			
SCA USS-1: Construction and Demolition Waste Reduction and Recycling (#74) Requirement: The project applicant shall	Prior to approval of construction-related permits.	Public Works Department,	Public Works Department,

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
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 City requirements. The WRRP may be submitted electronically 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.		Environmental Services Division	Environmental Services Division
SCA USS-2: Underground Utilities (#75) 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.	During Construction	N/A	Bureau of Building
SCA USS-3: Recycling Collection and Storage Space (#76) Requirement: The project applicant shall comply with the City of Oakland Recycling Space Allocation Ordinance (chapter 17.118 of the Oakland Planning Code). The project drawings submitted for construction-related permits shall contain recycling collection and storage areas in compliance with the Ordinance. For residential projects, at least two cubic feet of storage and collection space per residential unit is required, with a	Prior to approval of construction-related permits.	Bureau of Planning	Bureau of Building

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
minimum of ten cubic feet. For nonresidential projects, at least two cubic feet of storage and collection space per 1,000 square feet of building floor area is required, with a minimum of ten cubic feet.			
SCA USS-4: Green Building Requirement (#77) **a. Compliance with Green Building Requirements During Plan-Check** Requirement: 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). i. The following information shall be submitted to the City for review and approval with the 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 final green building checklist approved during the review of the Planning and Zoning permit. • Copy of the Unreasonable Hardship Exemption, if granted, during the review of the 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 (ii) below. • Copy of the signed statement by the Green Building Certifier approved during the review of the Planning	Prior to approval of construction-related permits.	Bureau of Building	N/A

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
and Zoning permit that the project complied with the requirements of the Green Building Ordinance. • Signed statement by the Green Building Certifier that the project still complies with the requirements of the Green Building Ordinance, unless an Unreasonable Hardship Exemption was granted during the review of the Planning and Zoning permit. • Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance. ii. The set of plans in subsection (i) shall demonstrate compliance with the following: • CALGreen mandatory measures. • **23 Points** per the appropriate checklist approved during the Planning entitlement process. • All green building points identified on the checklist approved during review of the Planning and Zoning permit, unless a Request for Revision Plan-check application is submitted and approved by the Bureau of Planning that shows the previously approved points that will be eliminated or substituted. • The required green building point minimums in the appropriate credit categories.			

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
b. Compliance with Green Building Requirements During Construction Requirement: The project applicant shall comply with the applicable requirements of CALGreen and the Oakland Green Building Ordinance during construction of the project. The following information shall be submitted to the City for review and approval: i. Completed copies of the green building checklists approved during the review of the Planning and Zoning permit and during the review of the building permit. ii. Signed statement(s) by the Green Building Certifier during all relevant phases of construction that the project complies with the requirements of the Green Building Ordinance. iii. Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance.	During Construction	N/A	Bureau of Building
c. Compliance with Green Building Requirements After Construction Requirement: Prior to finalizing the Building Permit, the Green Building Certifier shall submit the appropriate documentation to City staff and attain the minimum required point level.	After Project Completion as Specified	Bureau of Planning	Bureau of Building
SCA USS-5: Sanitary Sewer System (#79) Requirement: The project applicant shall prepare and submit a Sanitary Sewer Impact Analysis to the City for review and approval in accordance with the City of Oakland Sanitary Sewer Design Guidelines. The Impact Analysis shall include an estimate of pre-project and post-project wastewater flow from the project site. In the event that the Impact Analysis indicates that the net increase in project wastewater flow exceeds City-projected increases in wastewater flow	Prior to approval of construction-related permits.	Public Works Department, Department of Engineering and Construction	N/A

Standard Conditions of Approval	When Required	Initial Approval	Monitoring/ Inspection
in the sanitary sewer system, the project applicant shall pay the Sanitary Sewer Impact Fee in accordance with the City's Master Fee Schedule for funding improvements to the sanitary sewer system.			
SCA USS-6: Storm Drain System (#80) Requirement: The project storm drainage system shall be designed in accordance with the City of Oakland's Storm Drainage Design Guidelines. To the maximum extent practicable, peak stormwater runoff from the project site shall be reduced by at least 25 percent compared to the pre-project condition.	Prior to approval of construction-related permits.	Bureau of Building	Bureau of Building

ATTACHMENT C

ATTACHMENT C:

COMMUNITY PLAN EXEMPTION FINDINGS

The analysis in the Program Environmental Impact Reports (EIRs)—the 1998 Land Use and Transportation Element (LUTE) EIR and, the 2010 Housing Element Update EIR and its 2014 Addendum—are applicable to and provide the basis for use of the Community Plan Exemption.

City of Oakland Land Use and Transportation Element

The City adopted the Land Use and Transportation Element of the Oakland General Plan in 1998. This element outlines the vision for Oakland, establishing an agenda to encourage sustainable economic development, ensure and build on the transportation network, increase residential and commercial development in downtown, reclaim the waterfront for open space and mixed uses, and protect existing neighborhoods while concentrating new development in key areas. The Policy Framework and Strategy Diagram contained in this document shows areas that will be maintained and enhanced and those that are targeted for growth and change. In particular, higher density development is encouraged in the Downtown, along major corridors, at the waterfront, and near BART stations. The proposed project is consistent with the vision and character contemplated under the City's General Plan.

The proposed project is located in the International Boulevard Transit-Oriented District (TOD). TODs are designated to take advantage of the opportunities presented by Oakland's eight region-serving BART stations and one location – Eastmont Town Center – served by multiple AC Transit lines. Many of these station locations, and the areas surrounding them, offer significant opportunities for compact mixed use types of development that could include housing, business, and other services. This strategy supports city and regional goals to foster substantial development linking transit with higher density housing types. The Elmhurst South node of the International Boulevard TOD Plan benefits from its location on a popular thoroughfare, International Boulevard, and may also benefit from public transportation upgrades. The General Plan indicates that desirable land uses within the International Boulevard TOD include urban residential and compatible mixed uses such as those envisioned as part of the proposed project.

City of Oakland General Plan Housing Element

California law requires that jurisdictions identify existing and projected housing needs and create a housing program that states the City's housing policy goals, objectives, and summary of financial resources for preserving, improving, and developing new housing units (City of Oakland 2014). On December 9, 2014, the City adopted their updated City of Oakland Housing Element 2015-2023.

The Housing Element identifies the City's current and projected housing needs, and sets goals, policies, and programs to address those needs, as specified by the State's Regional Housing Needs Allocation (RHNA) process. The proposed project is not specified as a "Housing Opportunity Site" in the 2015-2023 Housing Element; however, the proposed project would contribute to the total number of housing units needed in the City of Oakland to meet its RHNA target. Applicable mitigation measures and Standard Conditions of Approval (SCAs) identified in the 2014 Addendum to the 2010 EIR (for the 2015-2023 Housing Element) are considered in the analysis of the proposed project in this document. The 2010 Housing Element Update EIR was designated a "Program EIR" under California Environmental Quality Act (CEQA) Guidelines Sections 15183 and 15183.3.

As such, the analysis disclosed in the previous CEQA documents, presents substantial evidence that, other than project-specific effects which may be peculiar to the proposed project or its project site; and/or the proposed project's potential contribution to cumulatively significant effects, has already been addressed in the previous CEQA documents, or would be substantially reduced by the implementation of the City's SCAs, as further described in Section 3.4; City of Oakland Standard Conditions of Approval, and Section 4.0; CEQA Analysis Checklist, of the exemption document.

Although not specifically identified as an individual Housing Opportunity Site under the Housing Element, the project site does meet the Housing Elements criteria of sites suitable for new housing development, including:

- It is an underutilized site with outmoded facilities and/or marginal existing use; and

- It is located along one of the City's major commercial corridors (International Boulevard), and utilizes ground floor commercial space with housing above, as encouraged by zoning and development guidelines to maximize residents' access to services including retail opportunities, transportation alternatives and civic activities, while reducing the need for automobiles, thus increasing the sustainability of such development.

Since the proposed project is consistent with the development assumptions for the project site as provided under the LUTE EIR, and within the overall range of development within the downtown as assumed in the Housing Element EIR, the proposed project's potential contribution to cumulatively significant effects has already been addressed in these prior EIRs. Therefore, the proposed project is consistent with CEQA Guidelines §15183 which allows for streamlined environmental review. This document needs only to consider whether there are project-specific effects peculiar to the proposed project or its project site, and relies on the streamlining provisions of CEQA Guidelines §15183 to not re-consider cumulative effects.

ATTACHMENT D

ATTACHMENT D:

Qualified Infill Exemption Findings

The following information demonstrates that the project is eligible for permit streamlining pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15183.3 as a qualified infill project.

Eligibility

The following analysis demonstrates that the project is located in an urban area on a site that has been previously developed; satisfies the performance standards provided in CEQA Guidelines Appendix M; and is consistent with the General Plan land use designation, density, building intensity and applicable policies. As such, this environmental review is limited to an assessment of whether the project may cause any project-specific effects, and relies on uniformly applicable development policies or standards to substantially reduce cumulative effects.

Project Infill Eligibility

CEQA Eligibility Criteria		Eligible/Notes for Proposed Project
1.	Be located in an urban area on a site that either has been previously developed or that adjoins existing qualified urban uses on at least 75 percent of the site's perimeter. For the purpose of this subdivision, "adjoin" means the infill project is immediately adjacent to qualified urban uses, or is only separated from such uses by an improved right-of-way. (CEQA Guidelines Section 15183.3[b][1])	**Yes.** The project site has been previously developed with an auto body shop, other auto storage building, and surface parking lots. The proposed project is adjacent to other urban uses including a Dollar Green, Rockforth Pharmacy, and Borderline Automotive Service Center, as described above in Section 2.0, Project Description.
2.	Satisfy the performance Standards provided in Appendix M (CEQA Guidelines Section 15183.3[b][2]) as presented in 2a and 2b below:	--
2a.	**Performance Standards Related to Project Design.** All projects must implement all of the following:	--
	Renewable Energy. *Non-Residential Projects.* All nonresidential projects shall include onsite renewable power generation, such as solar photovoltaic, solar thermal, and wind power generation, or clean back-up power supplies, where feasible. *Residential Projects.* Residential projects are also encouraged to include such onsite renewable power generation.	**Not Applicable.** According to Section IV (G) of CEQA Appendix M, for mixed-use projects "…the performance standards in this section that apply to the predominant use shall govern the entire project." Because the predominant use of the proposed project is residential, the proposed project is not required to include onsite renewable power generation.
	Soil and Water Remediation. If the project site is included on any list compiled pursuant to Section 65962.5 of the	**Not Applicable.** The letter received from CalEPA

	CEQA Eligibility Criteria	Eligible/Notes for Proposed Project
	Government Code, the project shall document how it has remediated the site, if remediation is completed. Alternatively, the project shall implement the recommendations provided in a preliminary endangerment assessment or comparable document that identifies remediation appropriate for the site.	regarding whether the properties identified as 1424, 1500, 1510, 1520, 1528, 1536, 1538, 1548, 1550, 1560, 1570 105th Avenue, and 10550, and 10500 International Boulevard, are listed on the Cortese List was initially incorrect prior to the letter dated February 10, 2016. The letter was revised and received on February 10, 2016 (Attachment E). The letter identifies one site listed on the Cortese List, located at 10500 International Boulevard, due to an underground storage tank release. This site is the commercial building that would remain onsite and is not part of the proposed residential development, or the CEQA project. See Section 4.12, Criterion Section 15300.2 Hazardous Materials, included in the CEQA Analysis for a more detailed discussion of Cortese List status and site remediation efforts.
	Residential Units Near High-Volume Roadways and Stationary Sources. If a project includes residential units located within 500 feet, or other distance determined to be appropriate by the local agency or air district based on local conditions, of a high volume roadway or other significant sources of air pollution, the project shall comply with any policies and standards identified in the local general plan, specific plan, zoning code, or community risk reduction plan for the protection of public health from such sources of air pollution. If the local government has not adopted such plans or policies, the project shall include measures, such as enhanced air filtration and project design, that the lead agency finds, based on substantial evidence, will promote the protection of public health from sources of air pollution. Those measures may include, among others, the recommendations of the California Air Resources Board, air districts, and the California Air Pollution Control Officers Association.	**Yes.** For projects that include residential units, the Bay Area Air Quality Management District (BAAQMD) recommends evaluating the cumulative health risks to the residents from mobile and stationary sources of TAC emissions within 1,000 feet of the proposed project. Based on a screening-level analysis, future residents would not be subject to levels of TACs above screening levels, and no further action is required under SCA AQ-3. See the discussion under Criterion Section 15332(d), Air Quality, included in this CEQA Analysis.
2b.	**Additional Performance Standards by Project Type.** In addition to implementing all the features described in criterion 2a	--

CEQA Eligibility Criteria		Eligible/Notes for Proposed Project
	above, the project must meet eligibility requirements provided below by project type.	
	Residential. A residential project must meet one of the following: a. Projects achieving below average regional per capita vehicle miles traveled. A residential project is eligible if it is located in a "low vehicle travel area" within the region; b. Projects located within ½ mile of an Existing Major Transit Stop or High Quality Transit Corridor. A residential project is eligible if it is located within ½ mile of an existing major transit stop or an existing stop along a high quality transit corridor; or c. Low – Income Housing. A residential or mixed-use project consisting of 300 or fewer residential units all of which are affordable to low income households is eligible if the developer of the development project provides sufficient legal commitments to the lead agency to ensure the continued availability and use of the housing units for lower income households, as defined in Section 50079.5 of the Health and Safety Code, for a period of at least 30 years, at monthly housing costs, as determined pursuant to Section 50053 of the Health and Safety Code.	**Yes, satisfies B.** The project site is well-served by multiple transit providers, including Alameda-Contra Costa County Transit District (AC Transit) bus routes 45, 1, 1R, and 801, which are all within 0.25-mile of the project site. While the proposed project is farther than 1.0 mile from a BART station, it is expected that the proposed Bus Rapid Transit (BRT) route along International Boulevard would provide quality service between the project site, BART, and local AC Transit services. In addition, Bike Route 26 runs along 105th Avenue with one Class II bike lane on both sides of the street. According to the Bicycle Master Plan Recommended Network, International Boulevard is designated as a corridor for future Class II bicycle facilities in the project vicinity. International qualifies as a "High Quality Transit Corridor," as defined by Section II of CEQA, with fixed route bus service at intervals no longer than 15 minutes during peak commute hours. The AC Transit Line 45, 1, 1R, and 801 all have stops on International Boulevard, and has service intervals no longer than 15 minutes during peak commute hours. Other bus routes in the project vicinity further satisfy this criterion.
	Commercial/Retail. A commercial/retail project must meet one of the following: a. Regional Location. A commercial project with no single-building floor-plate greater than 50,000 square feet is eligible if it locates in a "low vehicle travel area"; or	**Not Applicable**.

CEQA Eligibility Criteria		Eligible/Notes for Proposed Project
	b. Proximity to Households. A project with no single-building floor-plate greater than 50,000 square feet located within ½ mile of 1,800 households is eligible.	
	Office Building. An office building project must meet one of the following: A. Regional Location. Office buildings, both commercial and public, are eligible if they locate in a low vehicle travel area; or B. Proximity to a Major Transit Stop. Office buildings, both commercial and public, within 0.50 mile of an existing major transit stop, or 0.24 mile of an existing stop along a high quality transit corridor, are eligible.	**Not Applicable.**
	Schools. Elementary schools within 1 mile of 50 percent of the projected student population are eligible. Middle schools and high schools within 2 miles of 50 percent of the projected student population are eligible. Alternatively, any school within ½ mile of an existing major transit stop or an existing stop along a high quality transit corridor is eligible. Additionally, to be eligible, all schools shall provide parking and storage for bicycles and scooters, and shall comply with the requirements of Sections 17213, 17213.1, and 17213.2 of the California Education Code	**Not Applicable.**
	Transit. Transit stations, as defined in Section 15183.3(e)(1), are eligible.	**Not Applicable.**
	Small Walkable Community Projects. Small walkable community projects, as defined in Section 15183.3, subdivision (e)(6), that implement the project features in 2a above are eligible.	**Not Applicable.**
3.	Be consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy, except as provided in CEQA Guidelines Sections 15183.3(b)(3)(A) or (b)(3)(B) below: (b)(3)(A). Only where an infill project is proposed within the boundaries of a metropolitan planning organization for which a sustainable communities strategy or an alternative planning strategy will be, but is not yet in effect, a residential infill project must have a density of at least 20 units per acre, and a retail or commercial infill project must have a floor area ratio of at least 0.75; or (b)(3)(B). Where an infill project is proposed outside of the boundaries of a metropolitan planning organization, the infill project must meet the definition of a "small walkable community project" in CEQA Guidelines Section 15183.3(f)(5). (CEQA Guidelines Section 15183.3[b][3])	**Yes. (See explanation below).**

Explanation for Eligibility Criteria 3

The adopted Plan Bay Area (2013) serves as the Sustainable Communities Strategy for the Bay Area, per Senate Bill 375. As defined by the Plan, Priority Development Areas (PDAs) are areas where new development will support the needs of residents and workers in a pedestrian-friendly environment served by transit. The proposed project is consistent with the general land use

designation, density, building intensity, and applicable policies specified in the General Plan as described in further detail in the CEQA Analysis under Criterion 15332(a) and summarized below.

The General Plan land use designation for the site is Community Commercial; this classification is intended to create, maintain, and enhance areas with a wide range of commercial businesses with direct frontage and access along the City's corridors and commercial areas. Community Commercial areas can be complemented by the addition of urban residential development and compatible mixed use development. The proposed project would be consistent with this designation.

Consistent with CEQA Guidelines Section 15183.3(b) which allows streamlining for qualified infill projects, this environmental document is limiting to topics applicable to project-level review only. Cumulative level effects of infill development have been addressed in other planning level decisions of the General Plan Land Use and Transportation Element (LUTE) and LUTE Environmental Impact Report (EIR) (1998), the General Plan 2007-2014 Housing Element and EIR (2010) and the 2015-2023 Housing Element and Addendum (2014), or by uniformly applicable development policies (SCAs) which reduce such impacts.

Based on the streamlining provisions of CEQA Guidelines Sections 15183 and 15183.3, the project's cumulative effect would be less than significant, and an exception under CEQA Guidelines Section 15300.2(c) regarding cumulative effects does not apply to the proposed project.

ATTACHMENT E

International Boulevard Senior Housing Project

Traffic Study

City of Oakland, California

Prepared for:
City of Oakland
Bureau of Planning
250 Frank H. Ogawa Plaza, Suite 2114 Oakland, CA 94612

Prepared by:
Stantec Consulting Services
1340 Treat Boulevard, Suite 300
Walnut Creek, California 94596

March 3, 2017

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1.0 INTRODUCTION AND SUMMARY

1.1 INTRODUCTION

This report presents the results of a traffic impact analysis for the proposed 5-story residential development located at 10500 International Boulevard in the City of Oakland. The proposed project will develop 529 senior units. A car body shop and an existing building that stores the used cars currently occupy the proposed project site, which will be demolished. The existing commercial businesses (Dollar Green, Rockforth Pharmacy, and Borderline Automotive Service Center) fronting International Boulevard will remain and their existing structures will be remodeled to ensure they match and integrate with the proposed architecture of the proposed project. Access to the Project site will be from 105th Avenue through three proposed two-lane private gated driveways. An existing ramp on 105th Avenue provides vehicle access to the roof parking on top of the existing building with the commercial businesses.

The purpose of this traffic study is to evaluate the effect of the proposed development on the existing roadway network. The report includes the results of a traffic operations analysis, as well as an evaluation of internal circulation; external site access and driveway operations; on-street parking conditions; Project-provided parking; and transit, bicycle, and pedestrian access.

1.2 SUMMARY

The proposed project is expected to generate approximately 83 net new trips during the a.m. peak hour and 101 net new trips during the p.m. peak hour.

The proposed project would NOT cause substantial additional VMT; and therefore, would NOT potentially bring any significant VMT impacts and a detailed VMT analysis is NOT required.

Stantec reviewed the Project site plan to evaluate on-site circulation and access. The three private gated two-lane access driveways from 105th Avenue are proposed to be 21-feet wide each, which would be adequate for cars and small trucks access to the site. Internal circulation is expected to be adequate for the residential parking areas on the site.

The Project would include 334 on-site parking spaces in addition to the 50 existing parking stalls in front of the commercial properties (Dollar Green, Rockforth Pharmacy, etc). The proposed parking supply will be less than City requirements by 195 spaces and will exceed Government Code §65915(p)(3)(B) requirements by 69 stalls.

2.0 STUDY SCOPE AND APPROACH

2.1 STUDY SCOPE

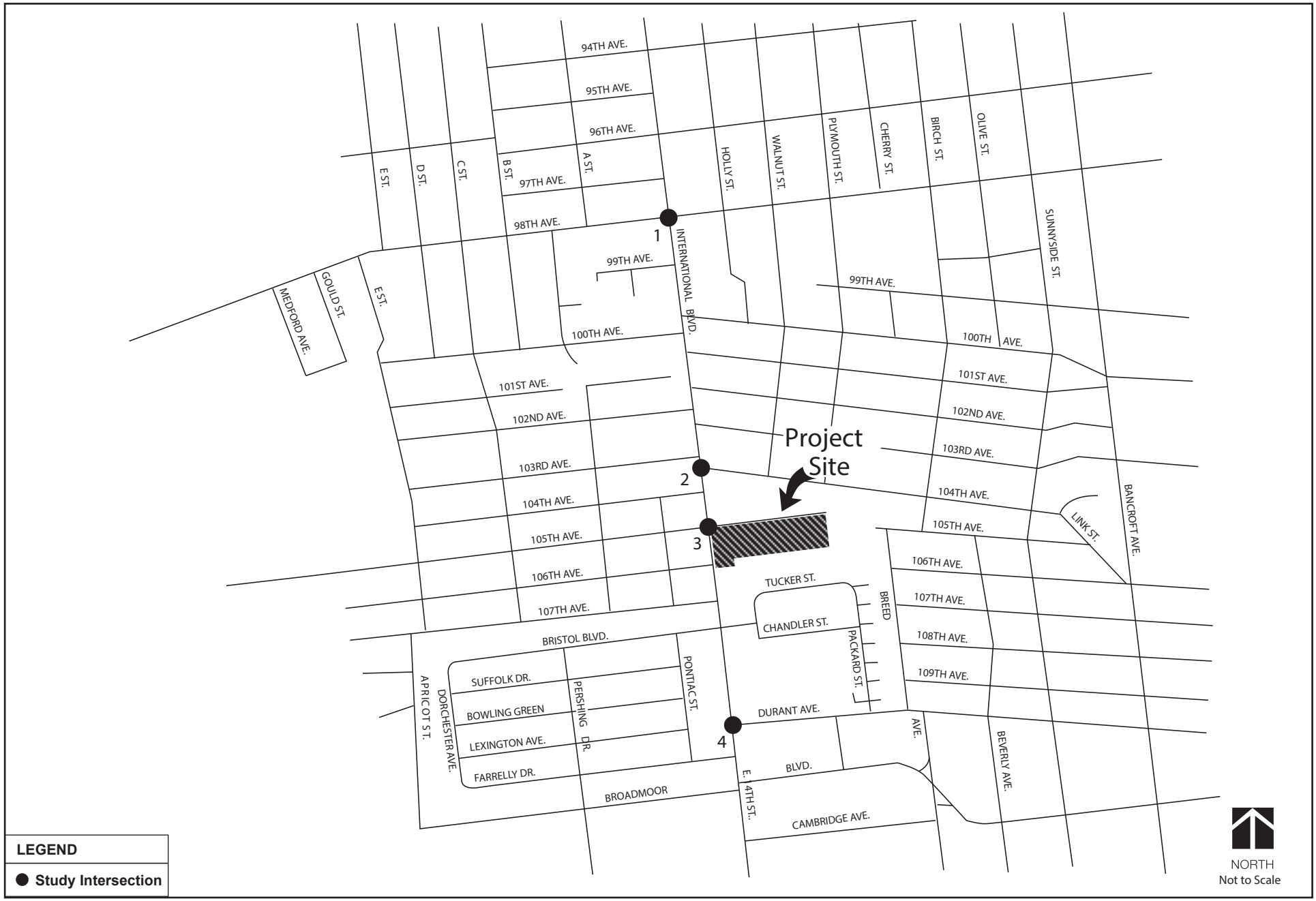
Stantec evaluated traffic conditions at four study intersections during a.m. and p.m. peak hours for a typical weekday. The peak periods observed were between 7:00-9:00 a.m. and 4:00-6:00 p.m. The study intersections and their associated traffic controls are as follows:

1. International Boulevard (SR 185) / 98th Avenue (Signal)
2. International Boulevard (SR 185) / 104th Avenue (E) / 103rd Avenue (W) (Signal)
3. International Boulevard (SR 185) / 105th Avenue (Signal)
4. International Boulevard (SR 185) / Durant Avenue (Signal)

Figure 1 illustrates the study intersections and proposed project vicinity. **Figure 2** shows the Project site plan. **Figure 3** illustrates the existing lane geometry and traffic controls for the study intersections.

This study addresses the following four (4) traffic scenarios:

- *Existing Conditions* – This scenario evaluates current intersection conditions based on field surveys and existing vehicle, bicycle, and pedestrian counts.
- *Existing Plus Project Conditions* – This scenario is identical to Existing Conditions, but with the addition of proposed project traffic.
- *2035 No Project Conditions* – This scenario is based on projections from the latest Alameda County Transportation Commissions (ACTC) travel demand model. Twenty-one year incremental traffic growth was added to existing volumes to estimate 2035 traffic conditions. It was assumed that this scenario does not include the proposed project traffic.
- *2035 Plus Project Conditions* – This scenario is identical to 2035 No Project Conditions, but with the addition of proposed project traffic.

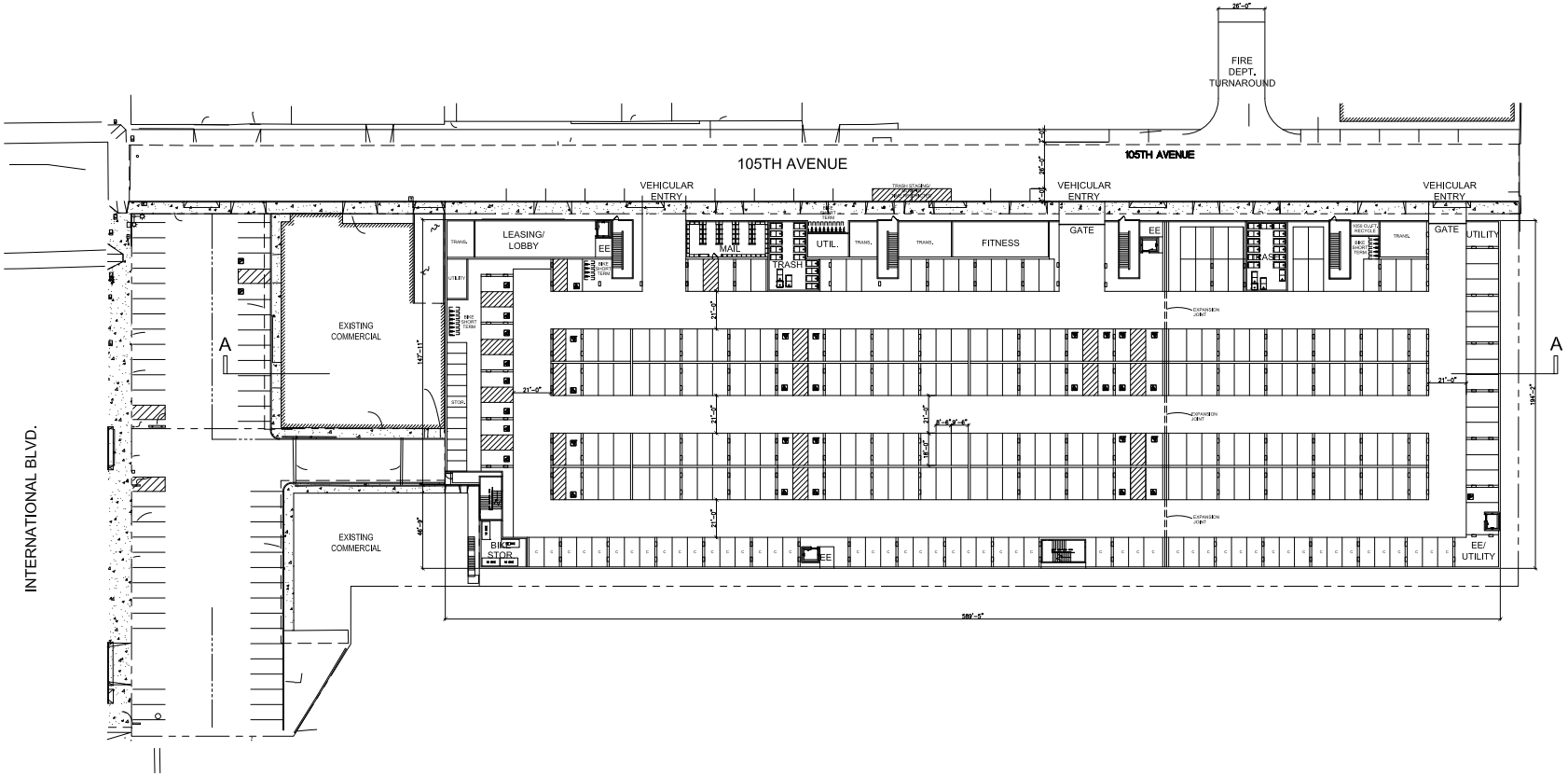


City of Oakland
Traffic Impact Study for 10500 International Boulevard

Vicinity Map

Figure 1

Stantec



SITE PLAN / GROUND FLOOR

N

0' 15' 30' 60' 90'

SCALE: 1" = 30'

A-1.1

2016-330 10.14.2016

FLOOR PLANS

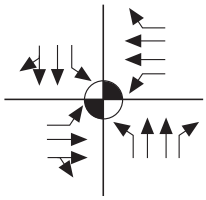
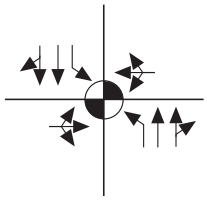
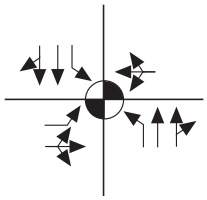
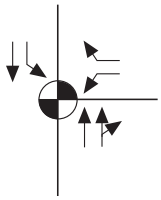
ARCHITECTS ORANGE
144 NORTH ORANGE ST. ORANGE, CA 92866 714.639.9860
WWW.ARCHITECTSORANGE.COM

City of Oakland
Traffic Impact Study for 10500 International Boulevard

Proposed Site Plan

Figure 2

Stantec

Intersection #1 98th/International	Intersection #2 103rd/104th/International	Intersection #3 105th/International	Intersection #4 Durant/International
			

City of Oakland

Traffic Impact Study for 10500 International Boulevard

Existing Lane Geometry and Traffic Controls

Figure 3

Stantec

2.2 SIGNIFICANT IMPACT CRITERIA / VEHICLE MILES TRAVELED (VMT) STANDARDS

According to Bureau of Planning's *Update to CEQA Thresholds of significance and Transportation Impact Study guidelines*[1], on September 21, 2016, the City of Oakland's Planning Commission directed staff to update the City of Oakland's California Environmental Quality Act (CEQA) Thresholds of Significance Guidelines related to transportation impacts in order to implement the directive from Senate Bill 743 (Steinberg 2013) to modify local environmental review processes by removing automobile delay, as described solely by level of service (LOS) or similar measures of vehicular capacity or traffic congestion, as a significant impact on the environment pursuant to CEQA. The new Thresholds replace level of service (LOS) with vehicle miles traveled (VMT) criteria to determine whether a project causes a significant impact on the environment related to transportation. The project would have a significant effect on the environment if it would cause substantial additional VMT per capita, per service population, or other appropriate efficiency measure. The following are thresholds of significance related to substantial additional VMT:

- For residential projects, a project would cause substantial additional VMT if it exceeds existing regional household VMT per capita minus 15 percent.
- For office projects, a project would cause substantial additional VMT if it exceeds the existing regional VMT per employee minus 15 percent.
- For retail projects, a project would cause substantial additional VMT if it exceeds the existing regional VMT per capita minus 15 percent.

There are three key screening criteria for land use development projects: small size, project location in a low-VMT area, and project location near transit stations.

- Presumption of Less Than Significant Impact for Small Projects – Absence of substantial evidence indicating that a project would generate a potentially significant level of VMT, projects that generate fewer than 100 vehicle trips per day generally may be assumed to cause a less-than-significant transportation impact.

- Presumption of Less Than Significant Impact for Residential, Retail, and/or Office Projects in Low-VMT Areas – Residential, retail, and office projects that are located in areas with low VMT, and that incorporate similar features (i.e., density, mix of uses, transit accessibility) will tend to exhibit similarly low VMT.

- Presumption of Less Than Significant Impact Near Transit Stations – Presume that residential, retail, and office projects, as well as mixed use projects, proposed within 0.5 mile of an existing major transit stop or an existing stop along a high-quality transit corridor will have a less than significant impact on VMT.

[1] Update to CEQA Thresholds of Significance and Transportation Impact Study Guidelines, Darin Fanelletti, Interim Director of Planning and Building Department Environmental Review Officer, October 17, 2016.

3.0 SETTING

This section describes the existing transportation conditions in the vicinity of the proposed project, including descriptions of the existing roadway network, intersection operating conditions, transit network, pedestrian conditions and bicycle conditions near the Project Site.

3.1 ROADWAY NETWORK

International Boulevard/ SR 185 is a four-lane urban arterial roadway that runs approximately north-south parallel to Interstate 880 (I-880), beginning at the Lake Merritt area, passing through east Oakland and City of San Leandro, and ending in the City of Hayward where it becomes Mission Street.

98th Avenue is a four-lane urban arterial roadway that runs approximately east-west between Doolittle Drive and Interstate 580 (I-580). 98th Avenue has interchanges with both the I-880 and I-580 freeways.

104th Avenue is a two-lane collector street that runs east-west between E Street to the west and Bancroft Avenue to the east.

105th Avenue is a two-lane collector street that runs discontinuously between I-880 and Bancroft Avenue in the City of Oakland.

Durant Avenue is a two-lane local street running between International Boulevard to the west and Foothill Boulevard to the east in the City of San Leandro.

3.2 TRANSIT SERVICE

The proposed project site is served by AC Transit service. AC Transit provides bus transit service to the greater San Francisco East Bay Area, including Oakland and several other cities in Alameda and Contra Costa Counties, and also Transbay service to downtown San Francisco. The proposed project is well served by transit, with four AC Transit lines operating within the study area, including one "night owl" line. The lines listed below have stops on International Boulevard in the study area:

- *Line 45 (Sobrante Park)* provides local service in Oakland between the Coliseum BART station and Foothill Boulevard near the Oakland Zoo, via Hillmont Avenue, Seminary Avenue, Coliseum BART station, Edes Avenue, Sobrante Park, 105th Avenue and 104th Avenue. This line provides daily service between 5:25 a.m. and 11:00 p.m. at 20 to 30 minute headways on weekdays and 40 to 50 minute headways on weekends.
- *Line 1*provides service between Berkeley BART station, San Leandro BART station and Bay Fair BART station via Telegraph Avenue, International Boulevard and E. 14th Street. This line operates daily at 15 to 20 minute headways between 5:00 a.m. and 1:10 a.m..
- *Line 1R (International Rapid)* provides service between U.C. Berkley campus and Bay Fair BART station via Berkeley BART station, Telegraph Avenue, International Boulevard and E.

14th Street. This line operates daily at 15 to 20 minute headways between 5:40 a.m. and 8:20 p.m. on weekdays and between 7:30 a.m. and 7:10 p.m. on weekends.

- *Line 801 (International-Mission All Nighter)* provides service between the 12th Street BART station and the Fremont BART station via International Boulevard, E. 14th Street, Mission Boulevard, Union City BART station, Decoto Road and Fremont Boulevard. This line provides hourly service on weekdays and half-hourly service on weekends, between 11:40 a.m. and 7:50 a.m.

3.3 BICYCLE FACILITIES

Stantec assessed existing bicycle conditions through field surveys on January 13, 2015 and review of the *2007 Bicycle Master Plan*[2].

Currently, Bike Route 26 runs on 105th Avenue with one Class II bike lane on both sides of the street, and continues on International Boulevard and 104th Avenue as Class III bike route. The shared lane marking is placed on 104th Street immediately east to the intersection with International Boulevard.

According to the Bicycle Master Plan Recommended Network for the City of Oakland, International Boulevard is designated as a corridor for future Class II (on-street striped) bicycle facilities in the Project vicinity.

3.4 PEDESTRIAN FACILITIES

Stantec also reviewed existing pedestrian conditions in the Project study vicinity area during the field visit on January 13, 2015. Pedestrian activity was low during both a.m. and p.m. peak periods. Pedestrian sidewalks are provided on all streets in the Project vicinity area. A 10-foot wide sidewalk is installed on 105th Avenue fronting the proposed project site. Pedestrian push buttons are installed at all the pedestrian crossings in the Project vicinity area. Therefore, the Project site is well served by pedestrian facilities.

3.5 EXISTING TRAFFIC VOLUMES

Stantec collected existing weekday vehicle, pedestrian, and bicycle counts at all the study intersections during a.m. (7:00 a.m. – 9:00 a.m.) and p.m. (4:00 p.m. – 6:00 p.m.) peak periods on December 4, 2014. The detailed traffic counts are included in Appendix A. **Figure 4** shows the existing turning movement volumes at the study intersections.

[2] City of Oakland Bicycle Master Plan, part of the Land Use & Transportation Element of the Oakland General Plan, City of Oakland, December 2007

Intersection #1 98th/International	Intersection #2 103rd/104th/International	Intersection #3 105th/International	Intersection #4 Durant/International
136 (120) 379 (578) 141 (121) 206 (152) 577 (391) 110 (162) 113 (141) 414 (509) 70 (137) 129 (143) 475 (575) 156 (146)	43 (23) 428 (685) 34 (53) 66 (56) 40 (16) 208 (154) 40 (24) 10 (10) 8 (8) 3 (4) 593 (723) 149 (175)	269 (206) 385 (583) 3 (16) 4 (17) 4 (3) 4 (12) 294 (346) 2 (10) 135 (201) 117 (105) 396 (590) 4 (10)	418 (619) 83 (127) 110 (104) 106 (118) 441 (527) 61 (118)

NORTH
Not to Scale

LEGEND

- ● **Study Intersection**
- **XX AM Peak Hour Volume**
- **(XX) PM Peak Hour Volume**

City of Oakland
Traffic Impact Study for 10500 International Boulevard

Existing Turning Movement Volumes

Figure 4

Stantec

4.0 EXISTING PLUS PROJECT CONDITIONS

This scenario is identical to Existing Conditions, but with the addition of traffic from the proposed 5-story residential development at 10500 International Boulevard in the City of Oakland.

4.1 PROPOSED PROJECT LOCATION AND DESCRIPTION

The proposed project is located at the southeast corner of the International Boulevard (State Route 185) / 105th Avenue intersection in the City of Oakland. The proposed project will develop 529 senior condominiums units. A car body shop and an existing building that stores the used cars currently occupy the proposed project site, which will be demolished. The existing commercial businesses (Dollar Green, Rockforth Pharmacy, and Borderline Automotive Service Center) fronting International Boulevard will remain and their existing structures will be remodeled to ensure they match and integrate with the proposed architecture of the proposed project.

Access to the Project site will be from 105th Avenue through three proposed two-lane private gated driveways. An existing ramp on 105th Avenue provides vehicle access to the roof parking on top of the existing building with commercial businesses.

4.2 TRIP GENERATION

The Institute of Transportation Engineers (ITE) has compiled the results of trip generation research from over 4,250 individual land use studies throughout the United States and Canada. Trip generation rates for the proposed project are based on data published in this manual.

Table 1: Project Trip Generation

Land Use (ITE Code)	Size		Daily		A.M. Peak Hour				P.M. Peak Hour			
			Rate/ Equ	Total	Rate/ Equ	In	Out	Total	Rate/ Equ	In	Out	Total
Senior Adult Housing - Attached (252)	529	units	Equ A	1,598	Equ B	36	70	106	Equ C	70	59	129
Residential Sub-Total			**-**	**1,598**	**-**	**36**	**70**	**106**	**-**	**70**	**59**	**129**
Transit/Bike/Walk Trips				342		8	15	23		15	13	28
Net Vehicle Trips			**-**	**1,256**	**-**	**28**	**55**	**83**	**-**	**55**	**46**	**101**

Source: ITE Trip Generation, 9th Edition, 2012; Stantec, 2016
Notes: Equ A: Ln (T) = 0.87 Ln (X) + 2.46
Equ B: Ln (T) = 0.80 Ln (X) + 0.26
Equ C: Ln (T) = 0.82 Ln (X) + 0.32

AC Transit is constructing a Bus Rapid Transit (BRT) system along International Boulevard that would stretch 9.5 miles from the north end of San Leandro and connect to downtown Oakland. This would increase transit accessibility for the proposed project and would encourage residents to

use transit. According to City of Oakland standards[3], it is suggested to use 21.4% reduction to reflect the transit/bike/walk trips for a development located between 0.5 and 1.0 miles from BART. While the proposed project site is farther than 1.0 mile from BART, it is expected that the proposed Bus Rapid Transit (BRT) route along International Boulevard would provide a service with quality between the Project site and BART and local AC Transit services. Therefore, in consultation with City staff, a 21.4% of trip reduction was applied in the trip generation estimation for the proposed project.

The proposed Project's estimated net new trips are shown in **Table 1**. It is expected that the Project would generate approximately 1,256 daily trips, 83 trips (28 inbound and 55 outbound) during the a.m. peak hour and 101 trips (55 inbound and 46 outbound) during the p.m. peak hour.

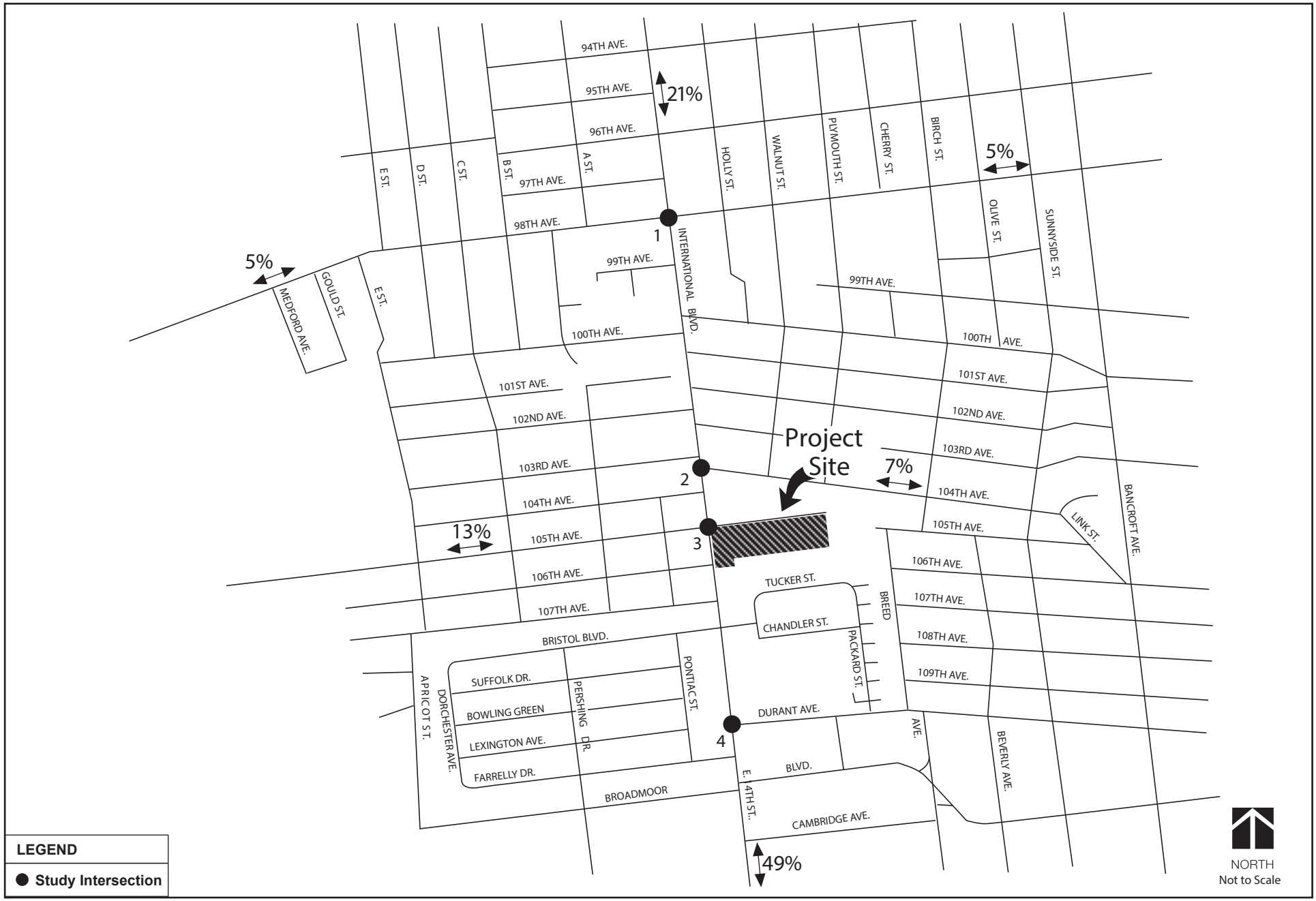
4.3 TRIP DISTRIBUTION AND ASSIGNMENT

Stantec developed the proposed project's trip distribution based on knowledge of the study area and input from City staff. The trip distribution is assumed to be as follows:

- 21 percent to/from International Boulevard North
- 49 percent to/from International Boulevard South
- 5 percent to/from 98th Avenue West
- 5 percent to/from 98th Avenue East
- 7 percent to/from 104th Avenue East
- 13 percent to /from 105th Avenue West

Figure 5 shows the Project trips distributed to the area roadway network. **Figure 6** shows the turning movement volumes under the Existing Plus Project Conditions resulting from Project trip assignment.

[3] City of Oakland Transportation Impact Study Guidelines, City of Oakland Transportation Planning and Funding Division, November 26, 2013



City of Oakland
Traffic Impact Study for 10500 International Boulevard

Proposed Project Trip Distribution

Figure **5**

Stantec

Intersection #1 98th/International	Intersection #2 103rd/104th/International	Intersection #3 105th/International	Intersection #4 Durant/International
136 (120) 385 (590) 141 (121) 206 (152) 577 (391) 111 (165) 113 (141) 414 (509) 71 (140) 132 (145) 487 (585) 159 (148)	43 (23) 436 (703) 34 (53) 66 (56) 40 (16) 210 (158) 40 (24) 10 (10) 8 (8) 3 (4) 611 (737) 153 (178)	269 (206) 385 (583) 13 (38) 26 (34) 9 (9) 30 (35) 346 (294) 6 (17) 135 (201) 117 (105) 396 (590) 18 (36)	444 (642) 83 (127) 110 (104) 106 (118) 455 (553) 61 (118)

NORTH
Not to Scale

LEGEND

- ● **Study Intersection**
- **XX AM Peak Hour Volume**
- **(XX) PM Peak Hour Volume**

City of Oakland
Traffic Impact Study for 10500 International Boulevard

Existing Plus Project Turning Movement Volumes

Figure 6

Stantec

4.4 PROJECT SITE CIRCULATION AND ACCESS

Stantec reviewed the Project site plan to evaluate on-site circulation and access. The site plan shows access to all on-site parking from three private gated driveways on 105th Avenue. These two-lane access driveways are proposed to be 21-feet wide, which would be adequate for cars and small trucks access to the site. In addition, internal circulation is expected to be adequate for all the residential parking areas on the site.

The curb line along the Project frontages on 105th Avenue will be constructed to align with existing curb on this street to provide for parallel on-street parking. The existing curb-cuts will be upgraded along with the proposed project to align with the proposed driveways.

4.5 PROJECT ON-SITE PARKING REQUIREMENTS

Stantec examined the City municipal code to determine whether the Project meets City parking requirements given the proposed land uses and current City zoning. According to the City of Oakland's online geographic information system (GIS) database, the Project site is currently zoned CC-2. According to the City municipal code[4], one-family dwellings in this zone require one (1) off-street parking space per dwelling.

According to the latest Project site plan, in addition to the existing 50 parking stalls in front of the commercial properties (Dollar Green, Rockforth Pharmacy, etc.), the Project would provide an additional 334 parking stalls consisting of 240 regular stalls, 51 compact stalls, 8 tandem stalls, and 35 ADA stalls. **Table 2** illustrates the Project off-street parking requirements and proposed on-site parking supply. As shown in the table, the Project will provide 195 parking spaces less than the City's requirement.

In addition, per Government Code §65915(p)(3)(B), the parking ratio for a senior housing development shall not exceed 0.5 spaces per unit when located within one-half mile of a fixed bus route stop that makes at least eight stops per day. The nearest bus stop to the project is 0.08 miles away at the southeast corner of 104th Avenue and International Boulevard and serves buses 1, 1R, 45, 801 of the Alameda-Contra Costa Transit District. These routes combined operate well over eight times per day at this stop. Therefore, the Project should provide no more than 265 parking stalls per requirement, which will be exceeded by 69 stalls.

Table 2: Project Parking Requirements and Supply

Land Use	Size		City Requirements		Proposed Project Supply	Differential
			Code	Requirements		
Senior	529	du	1 space per unit	529	334	-195
Total				**529**	**334**	**-195**

Source: Stantec, 2016
Notes: du = dwelling unit
Ksf = 1,000 square feet

[4] Oakland Municipal Code, Section 17.116.060 – Off-Street Parking – Residential Activities

4.6 VEHICLE MILES TRAVELED (VMT)

This section summarizes vehicle miles traveled (VMT) analysis for the Existing plus Project conditions. The analysis is based on the information provided in the Bureau of Planning – Strategic Planning Division's maps.[5]

For residential development, the regional average daily VMT per capita is 14.9.[6] Refer to **Table 3**, the traffic analysis zone (TAZ) in which the project site is located is TAZ 879.

Table 3: Year 2020 Daily Vehicle Miles Traveled

Land Use	Bay Area		TAZ 879
	Regional Average	Regional Average minus 15%	
Households (Residential)	14.9	12.7	11.9

A project would have a significant effect on the environment if it would cause substantial additional VMT. The Bureau of Planning's *Update to CEQA Thresholds of Significance and Transportation Impact Study Guidelines* recommends screening criteria to identify types, characteristics, or locations of projects that would not result in significant impacts to VMT. If a project meets screening criteria, then it is presumed that VMT impacts would be less than significant for the project and a detailed VMT analysis is not required.

Presumption of Less Than Significant Impact for Small Projects
The proposed project would generate more than 100 vehicle trips per day, and therefore, does not meet this screening criteria.

Presumption of Less Than Significant Impact or Residential, Retail, and/or Office Projects in Low-VMT Areas

As shown in **Table 5** above, in 2020, the average daily VMT per capita for residential uses (closest use to the proposed senior housing) in TAZ 879 is 11.9 miles. This is 20.1 percent below the regional average daily VMT per capita of 14.9 in 2020. Given the project site is located in an area where the VMT is more than 15 percent below the regional average, the proposed project meets this screening criteria.

Presumption of Less Than Significant Impact Near Transit Stations
The proposed project site is not located within 0.5 mile of an existing stop along a high-quality transit corridor, and therefore, does not meet this screening criteria.

Since the proposed Project is located in areas with low VMT, and incorporates similar features (i.e., density, mix of uses, transit accessibility), therefore, the proposed project would not result in substantial additional VMT and impacts would be less-than-significant. A detailed VMT analysis is not required.

[5] Data for these maps can be obtained via the Bureau of Planning – Strategic Planning Division's Dropbox using this link: https://dl.dropbox.usercontent.com/u/56973806/VMT_Layers.gdb.zip.
[6] Includes the VMT generated by the households in the development.

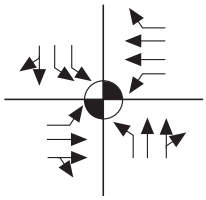
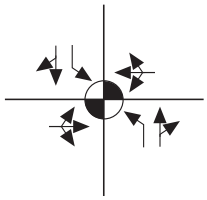
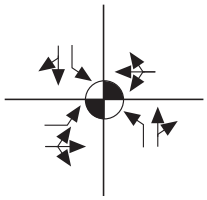
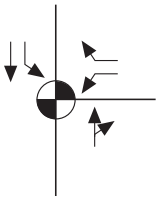
5.0 2035 NO PROJECT CONDITIONS

5.1 2035 TRAFFIC FORECASTS

Stantec conducted the 2035 traffic forecasts by utilizing the latest Alameda County Transportation Commissions (ACTC) traffic and land use projections for the City of Oakland[7]. Stantec calculated the difference between 2010 and 2040 model link volumes to estimate a thirty-year growth increment. This increment was interpolated to estimate a twenty-one year growth between 2014 and 2035. The growth was then added to the existing turning movement volumes proportionately based on the existing turning movement distribution pattern at each study intersection to calculate 2035 turning movements. **Figure 8** shows the resulting 2035 No Project turning movement volumes.

In addition, it is assumed that the proposed BRT route would be implemented by 2035, which would generally reduce travel lanes for regular vehicles along International Boulevard to one lane within the Project vicinity for both northbound and southbound directions, while adding a center bus-only lane for both directions. **Figure 7** illustrates the 2035 lane geometry and traffic controls for the study intersections.

[7] http://www.alamedactc.org/app_pages/view/8079, January 15, 2015

Intersection #1 98th/International	Intersection #2 103rd/104th/International	Intersection #3 105th/International	Intersection #4 Durant/International
			

City of Oakland
Traffic Impact Study for 10500 International Boulevard

2035 Lane Geometry and Traffic Controls

Figure 7

Stantec

6.0 2035 PLUS PROJECT CONDITIONS

This scenario is identical to the 2035 No Project Conditions, but with the addition of traffic from the proposed project. **Figure 9** shows the resulting intersection volumes under the 2035 Plus Project Conditions.

Intersection #1 98th/International	Intersection #2 103rd/104th/International	Intersection #3 105th/International	Intersection #4 Durant/International
152 (182) 429 (890) 157 (184) 253 (165) 709 (425) 136 (179) 113 (150) 414 (540) 71 (148) 171 (162) 630 (654) 206 (166)	43 (23) 504 (941) 39 (71) 69 (58) 40 (16) 221 (166) 40 (24) 10 (10) 8 (8) 3 (4) 776 (810) 194 (196)	296 (267) 423 (755) 13 (43) 26 (34) 9 (9) 30 (35) 353 (294) 6 (17) 138 (201) 165 (124) 560 (695) 20 (38)	513 (845) 97 (169) 120 (105) 115 (119) 643 (674) 87 (145)

NORTH
Not to Scale

LEGEND

- ● **Study Intersection**
- **XX AM Peak Hour Volume**
- **(XX) PM Peak Hour Volume**

City of Oakland
Traffic Impact Study for 10500 International Boulevard

2035 Plus Project Turning Movement Volumes

Figure 9

Stantec

7.0 CONCLUSIONS AND RECOMMENDATIONS

Stantec has reached the following conclusions regarding the proposed project at 10500 International Boulevard in Oakland, CA:

- The proposed project is expected to generate approximately 83 net new trips during the a.m. peak hour and 101 net new trips during the p.m. peak hour.
- The proposed project would NOT cause substantial additional VMT; and therefore, would NOT potentially bring any significant VMT impacts and a detailed VMT analysis is NOT required.
- Stantec reviewed the project site plan to evaluate on-site circulation and access. The three private gated two-lane access driveways from 105th Avenue are proposed to be 21-feet wide each, which would be adequate for cars and small trucks access to the site. Internal circulation is expected to be adequate for the residential parking areas on the site.
- The project will include 334 on-site parking spaces in addition to the 50 existing parking stalls in front of the commercial properties (Dollar Green, Rockforth Pharmacy, etc). The proposed parking supply will be less than City requirements by 195 spaces and will exceed Government Code §65915(p)(3)(B) requirements by 69 stalls.

Appendix A INTERSECTION TURNING MOVEMENT COUNTS

ALL TRAFFIC DATA

City of Oakland
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 14-7807-001 International Boulevard (SR 185)-98th Avenue
Date : 12/4/2014

Unshifted Count = All Vehicles

	International Boulevard (SR 185) Southbound					98th Avenue Westbound					International Boulevard (SR 185) Northbound					98th Avenue Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
07:00	21	60	23	2	106	13	64	14	0	91	38	56	11	0	105	18	46	14	0	78	380	2
07:15	18	44	26	1	89	19	91	24	0	134	32	75	33	0	140	22	61	15	0	98	461	1
07:30	50	66	25	1	142	20	126	36	0	182	25	82	33	0	140	14	91	14	0	119	583	1
07:45	47	101	33	1	182	26	140	57	0	223	32	93	35	1	161	17	108	22	0	147	713	2
Total	136	271	107	5	519	78	421	131	0	630	127	306	112	1	546	71	306	65	0	442	2137	6
08:00	37	114	33	2	186	31	157	55	0	243	38	105	36	0	179	32	121	18	0	171	779	2
08:15	29	80	38	0	147	28	142	48	0	218	32	141	46	2	221	30	87	13	0	130	716	2
08:30	24	84	32	1	141	25	138	46	0	209	24	136	39	0	199	34	98	17	0	149	698	1
08:45	23	79	34	1	137	23	133	39	0	195	36	115	30	0	181	30	80	24	0	134	647	1
Total	113	357	137	4	611	107	570	188	0	865	130	497	151	2	780	126	386	72	0	584	2840	6
16:00	29	126	28	3	186	38	96	31	0	165	15	132	46	2	195	39	132	36	0	207	753	5
16:15	30	134	25	0	189	42	101	51	1	195	44	136	36	3	219	38	113	45	0	196	799	4
16:30	24	164	42	0	230	29	87	28	0	144	35	153	42	2	232	38	121	30	0	189	795	2
16:45	37	137	33	1	208	43	113	28	0	184	23	144	27	4	198	34	152	23	0	209	799	5
Total	120	561	128	4	813	152	397	138	1	688	117	565	151	11	844	149	518	134	0	801	3146	16
17:00	29	143	20	0	192	47	90	45	0	182	25	142	41	7	215	31	123	39	0	193	782	7
17:15	33	146	45	0	224	38	101	45	0	184	30	152	40	1	223	30	105	29	0	164	795	1
17:30	32	136	33	2	203	48	103	31	0	182	24	137	50	3	214	40	99	35	1	175	774	6
17:45	35	122	39	0	196	33	105	34	0	172	33	118	41	3	195	36	110	43	1	190	753	4
Total	129	547	137	2	815	166	399	155	0	720	112	549	172	14	847	137	437	146	2	722	3104	18
Grand Total	498	1736	509	15	2758	503	1787	612	1	2903	486	1917	586	28	3017	483	1647	417	2	2549	11227	46
Apprch %	18.1%	62.9%	18.5%	0.5%		17.3%	61.6%	21.1%	0.0%		16.1%	63.5%	19.4%	0.9%		18.9%	64.6%	16.4%	0.1%			
Total %	4.4%	15.5%	4.5%	0.1%	24.6%	4.5%	15.9%	5.5%	0.0%	25.9%	4.3%	17.1%	5.2%	0.2%	26.9%	4.3%	14.7%	3.7%	0.0%	22.7%	100.0%	

ALL TRAFFIC DATA

City of Oakland
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 14-7807-001 International Boulevard (SR 185)-98th Avenue
Date : 12/4/2014

Unshifted Count = All Vehicles

AM PEAK HOUR	International Boulevard (SR 185) Southbound					98th Avenue Westbound					International Boulevard (SR 185) Northbound					98th Avenue Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
07:45	47	101	33	1	182	26	140	57	0	223	32	93	35	1	161	17	108	22	0	147	713
08:00	37	114	33	2	186	31	157	55	0	243	38	105	36	0	179	32	121	18	0	171	779
08:15	29	80	38	0	147	28	142	48	0	218	32	141	46	2	221	30	87	13	0	130	716
08:30	24	84	32	1	141	25	138	46	0	209	24	136	39	0	199	34	98	17	0	149	698
Total Volume	137	379	136	4	656	110	577	206	0	893	126	475	156	3	760	113	414	70	0	597	2906
% App Total	20.9%	57.8%	20.7%	0.6%		12.3%	64.6%	23.1%	0.0%		16.6%	62.5%	20.5%	0.4%		18.9%	69.3%	11.7%	0.0%		
PHF	.729	.831	.895	.500	.882	.887	.919	.904	.000	.919	.829	.842	.848	.375	.860	.831	.855	.795	.000	.873	.933

PM PEAK HOUR	International Boulevard (SR 185) Southbound					98th Avenue Westbound					International Boulevard (SR 185) Northbound					98th Avenue Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	30	134	25	0	189	42	101	51	1	195	44	136	36	3	219	38	113	45	0	196	799
16:30	24	164	42	0	230	29	87	28	0	144	35	153	42	2	232	38	121	30	0	189	795
16:45	37	137	33	1	208	43	113	28	0	184	23	144	27	4	198	34	152	23	0	209	799
17:00	29	143	20	0	192	47	90	45	0	182	25	142	41	7	215	31	123	39	0	193	782
Total Volume	120	578	120	1	819	161	391	152	1	705	127	575	146	16	864	141	509	137	0	787	3175
% App Total	14.7%	70.6%	14.7%	0.1%		22.8%	55.5%	21.6%	0.1%		14.7%	66.6%	16.9%	1.9%		17.9%	64.7%	17.4%	0.0%		
PHF	.811	.881	.714	.250	.890	.856	.865	.745	.250	.904	.722	.940	.869	.571	.931	.928	.837	.761	.000	.941	.993

ALL TRAFFIC DATA

(916) 771-8700
orders@atdtraffic.com

City of Oakland
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

File Name : 14-7807-001 International Boulevard (SR 185)-98th Avenue
Date : 12/4/2014

Bank 1 Count = Peds & Bikes

	International Boulevard (SR 185) Southbound					98th Avenue Westbound					International Boulevard (SR 185) Northbound					98th Avenue Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Ped Total
07:00	0	0	0	1	0	0	1	0	8	1	0	0	0	3	0	0	0	0	8	0	1	20
07:15	0	1	0	5	1	0	0	0	7	0	0	1	0	7	1	0	0	0	6	0	2	25
07:30	0	0	0	11	0	0	0	0	2	0	0	0	0	9	0	0	0	0	7	0	0	29
07:45	0	1	0	12	1	0	0	0	14	0	0	0	1	6	1	0	1	0	6	1	3	38
Total	0	2	0	29	2	0	1	0	31	1	0	1	1	25	2	0	1	0	27	1	6	112
08:00	0	1	0	4	1	0	0	0	6	0	0	0	0	10	0	0	0	0	9	0	1	29
08:15	0	0	0	6	0	0	0	0	10	0	0	0	0	12	0	0	0	0	10	0	0	38
08:30	0	0	0	8	0	0	1	0	2	1	0	1	0	2	1	0	1	0	8	1	3	20
08:45	0	2	0	6	2	0	0	0	8	0	0	0	0	9	0	0	0	0	11	0	2	34
Total	0	3	0	24	3	0	1	0	26	1	0	1	0	33	1	0	1	0	38	1	6	121
16:00	0	0	0	9	0	0	1	0	16	1	0	0	0	15	0	0	0	0	10	0	1	50
16:15	0	1	0	14	1	0	0	0	10	0	0	0	0	10	0	0	0	0	14	0	1	48
16:30	0	2	0	3	2	0	0	0	4	0	0	2	0	5	2	0	3	0	12	3	7	24
16:45	0	1	0	15	1	0	0	0	4	0	0	1	0	4	1	0	1	0	11	1	3	34
Total	0	4	0	41	4	0	1	0	34	1	0	3	0	34	3	0	4	0	47	4	12	156
17:00	0	2	1	10	3	0	0	0	5	0	0	2	0	19	2	0	0	0	19	0	5	53
17:15	0	1	0	7	1	0	1	0	6	1	0	0	0	12	0	0	0	0	15	0	2	40
17:30	0	0	0	5	0	0	0	0	6	0	0	1	0	12	1	0	0	0	10	0	1	33
17:45	0	2	0	8	2	0	1	0	1	1	0	2	1	10	3	1	0	0	14	1	7	33
Total	0	5	1	30	6	0	2	0	18	2	0	5	1	53	6	1	0	0	58	1	15	159
Grand Total	0	14	1	124	15	0	5	0	109	5	0	10	2	145	12	1	6	0	170	7	39	548
Apprch %	0.0%	93.3%	6.7%			0.0%	100.0%	0.0%			0.0%	83.3%	16.7%			14.3%	85.7%	0.0%				
Total %	0.0%	35.9%	2.6%		38.5%	0.0%	12.8%	0.0%		12.8%	0.0%	25.6%	5.1%		30.8%	2.6%	15.4%	0.0%		17.9%	100.0%	

ALL TRAFFIC DATA

City of Oakland
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 14-7807-001 International Boulevard (SR 185)-98th Avenue
Date : 12/4/2014

Bank 1 Count = Peds & Bikes

AM PEAK HOUR	International Boulevard (SR 185) Southbound					98th Avenue Westbound					International Boulevard (SR 185) Northbound					98th Avenue Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
07:45	0	1	0	12	1	0	0	0	14	0	0	0	1	6	1	0	1	0	6	1	3
08:00	0	1	0	4	1	0	0	0	6	0	0	0	0	10	0	0	0	0	9	0	1
08:15	0	0	0	6	0	0	0	0	10	0	0	0	0	12	0	0	0	0	10	0	0
08:30	0	0	0	8	0	0	1	0	2	1	0	1	0	2	1	0	1	0	8	1	3
Total Volume	0	2	0	30	2	0	1	0	32	1	0	1	1	30	2	0	2	0	33	2	7
% App Total	0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			0.0%	50.0%	50.0%			0.0%	100.0%	0.0%			
PHF	.000	.500	.000		.500	.000	.250	.000		.250	.000	.250	.250		.500	.000	.500	.000		.500	.583

PM PEAK HOUR	International Boulevard (SR 185) Southbound					98th Avenue Westbound					International Boulevard (SR 185) Northbound					98th Avenue Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:15 to 17:15																					
Peak Hour For Entire Intersection Begins at 16:15																					
16:15	0	1	0	14	1	0	0	0	10	0	0	0	0	10	0	0	0	0	14	0	1
16:30	0	2	0	3	2	0	0	0	4	0	0	2	0	5	2	0	3	0	12	3	7
16:45	0	1	0	15	1	0	0	0	4	0	0	1	0	4	1	0	1	0	11	1	3
17:00	0	2	1	10	3	0	0	0	5	0	0	2	0	19	2	0	0	0	19	0	5
Total Volume	0	6	1	42	7	0	0	0	23	0	0	5	0	38	5	0	4	0	56	4	16
% App Total	0.0%	85.7%	14.3%			0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			
PHF	.000	.750	.250		.583	.000	.000	.000		.000	.000	.625	.000		.625	.000	.333	.000		.333	.571

ALL TRAFFIC DATA

City of Oakland
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 14-7807-002 International Boulevard (SR 185)-103rd Avenu
Date : 12/4/2014

Unshifted Count = All Vehicles

	International Boulevard (SR 185) Southbound					103rd Avenue-104th Avenue Westbound					International Boulevard (SR 185) Northbound					103rd Avenue-104th Avenue Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
07:00	5	70	1	0	76	18	1	13	0	32	0	63	21	0	84	2	2	0	0	4	196	0
07:15	5	81	1	0	87	17	1	16	0	34	0	100	30	0	130	3	0	1	0	4	255	0
07:30	4	86	2	0	92	35	1	11	0	47	0	120	30	0	150	5	1	1	0	7	296	0
07:45	8	115	4	0	127	60	7	18	0	85	0	148	39	0	187	3	1	0	0	4	403	0
Total	22	352	8	0	382	130	10	58	0	198	0	431	120	0	551	13	4	2	0	19	1150	0
08:00	15	130	18	0	163	77	11	14	0	102	1	145	45	0	191	11	4	2	0	17	473	0
08:15	6	88	12	0	106	35	19	17	0	71	2	154	40	0	196	11	3	1	0	15	388	0
08:30	5	95	9	0	109	36	3	17	0	56	0	146	25	0	171	15	2	5	0	22	358	0
08:45	9	99	6	0	114	35	2	22	0	59	1	140	19	0	160	8	5	1	0	14	347	0
Total	35	412	45	0	492	183	35	70	0	288	4	585	129	0	718	45	14	9	0	68	1566	0
16:00	10	174	6	0	190	44	2	14	0	60	2	192	44	0	238	9	0	1	0	10	498	0
16:15	12	151	8	0	171	43	3	17	0	63	1	179	34	0	214	5	4	2	0	11	459	0
16:30	14	183	6	0	203	43	2	16	0	61	0	194	41	0	235	5	4	0	0	9	508	0
16:45	18	153	8	0	179	38	4	11	0	53	1	180	41	0	222	4	1	2	0	7	461	0
Total	54	661	28	0	743	168	11	58	0	237	4	745	160	0	909	23	9	5	0	37	1926	0
17:00	9	166	5	0	180	38	6	16	0	60	2	174	53	0	229	8	2	1	0	11	480	0
17:15	12	183	4	0	199	35	4	13	0	52	1	175	40	0	216	7	3	5	0	15	482	0
17:30	11	181	12	0	204	39	2	10	0	51	1	186	46	0	233	11	1	1	0	13	501	0
17:45	12	149	4	0	165	27	2	11	0	40	0	192	44	0	236	13	3	0	0	16	457	0
Total	44	679	25	0	748	139	14	50	0	203	4	727	183	0	914	39	9	7	0	55	1920	0
Grand Total	155	2104	106	0	2365	620	70	236	0	926	12	2488	592	0	3092	120	36	23	0	179	6562	0
Apprch %	6.6%	89.0%	4.5%	0.0%		67.0%	7.6%	25.5%	0.0%		0.4%	80.5%	19.1%	0.0%		67.0%	20.1%	12.8%	0.0%			
Total %	2.4%	32.1%	1.6%	0.0%	36.0%	9.4%	1.1%	3.6%	0.0%	14.1%	0.2%	37.9%	9.0%	0.0%	47.1%	1.8%	0.5%	0.4%	0.0%	2.7%	100.0%	

ALL TRAFFIC DATA

City of Oakland
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 14-7807-002 International Boulevard (SR 185)-103rd Avenu
Date : 12/4/2014

Unshifted Count = All Vehicles

AM PEAK HOUR	International Boulevard (SR 185) Southbound					103rd Avenue-104th Avenue Westbound					International Boulevard (SR 185) Northbound					103rd Avenue-104th Avenue Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
07:45	8	115	4	0	127	60	7	18	0	85	0	148	39	0	187	3	1	0	0	4	403
08:00	15	130	18	0	163	77	11	14	0	102	1	145	45	0	191	11	4	2	0	17	473
08:15	6	88	12	0	106	35	19	17	0	71	2	154	40	0	196	11	3	1	0	15	388
08:30	5	95	9	0	109	36	3	17	0	56	0	146	25	0	171	15	2	5	0	22	358
Total Volume	34	428	43	0	505	208	40	66	0	314	3	593	149	0	745	40	10	8	0	58	1622
% App Total	6.7%	84.8%	8.5%	0.0%		66.2%	12.7%	21.0%	0.0%		0.4%	79.6%	20.0%	0.0%		69.0%	17.2%	13.8%	0.0%		
PHF	.567	.823	.597	.000	.775	.675	.526	.917	.000	.770	.375	.963	.828	.000	.950	.667	.625	.400	.000	.659	.857

PM PEAK HOUR	International Boulevard (SR 185) Southbound					103rd Avenue-104th Avenue Westbound					International Boulevard (SR 185) Northbound					103rd Avenue-104th Avenue Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	14	183	6	0	203	43	2	16	0	61	0	194	41	0	235	5	4	0	0	9	508
16:45	18	153	8	0	179	38	4	11	0	53	1	180	41	0	222	4	1	2	0	7	461
17:00	9	166	5	0	180	38	6	16	0	60	2	174	53	0	229	8	2	1	0	11	480
17:15	12	183	4	0	199	35	4	13	0	52	1	175	40	0	216	7	3	5	0	15	482
Total Volume	53	685	23	0	761	154	16	56	0	226	4	723	175	0	902	24	10	8	0	42	1931
% App Total	7.0%	90.0%	3.0%	0.0%		68.1%	7.1%	24.8%	0.0%		0.4%	80.2%	19.4%	0.0%		57.1%	23.8%	19.0%	0.0%		
PHF	.736	.936	.719	.000	.937	.895	.667	.875	.000	.926	.500	.932	.825	.000	.960	.750	.625	.400	.000	.700	.950

ALL TRAFFIC DATA

City of Oakland
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 14-7807-002 International Boulevard (SR 185)-103rd Avenu
Date : 12/4/2014

Bank 1 Count = Peds & Bikes

	International Boulevard (SR 185) Southbound					103rd Avenue-104th Avenue Westbound					International Boulevard (SR 185) Northbound					103rd Avenue-104th Avenue Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Ped Total
07:00	0	0	0	0	0	0	0	0	10	0	0	2	0	3	2	0	0	0	3	0	2	16
07:15	0	2	0	0	2	0	0	0	4	0	0	0	0	9	0	0	0	0	3	0	2	16
07:30	0	1	0	0	1	0	0	0	5	0	0	0	0	15	0	0	0	0	6	0	1	26
07:45	0	2	0	0	2	0	0	0	4	0	0	0	0	2	0	0	0	0	7	0	2	13
Total	0	5	0	0	5	0	0	0	23	0	0	2	0	29	2	0	0	0	19	0	7	71
08:00	0	0	0	0	0	0	1	0	1	1	0	0	0	6	0	0	0	0	4	0	1	11
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	6	0	0	19
08:30	0	1	1	0	2	0	0	0	3	0	0	3	0	9	3	0	0	0	4	0	5	16
08:45	0	1	0	0	1	0	0	0	5	0	0	0	0	1	0	0	0	0	1	0	1	7
Total	0	2	1	0	3	0	1	0	9	1	0	3	0	29	3	0	0	0	15	0	7	53
16:00	0	2	0	0	2	0	0	0	11	0	0	0	0	6	0	0	0	0	5	0	2	22
16:15	0	4	0	0	4	0	0	0	5	0	0	1	0	8	1	0	0	0	8	0	5	21
16:30	1	1	0	0	2	0	0	0	7	0	0	2	0	1	2	0	0	0	3	0	4	11
16:45	0	2	0	0	2	0	0	0	5	0	0	2	0	15	2	0	0	0	6	0	4	26
Total	1	9	0	0	10	0	0	0	28	0	0	5	0	30	5	0	0	0	22	0	15	80
17:00	0	2	0	0	2	0	1	0	4	1	0	1	0	10	1	0	0	0	1	0	4	15
17:15	0	2	0	0	2	0	0	0	1	0	0	1	0	5	1	0	0	0	2	0	3	8
17:30	0	0	0	0	0	1	0	0	2	1	0	2	0	3	2	0	0	0	0	0	3	5
17:45	1	2	0	0	3	0	0	1	7	1	0	2	0	3	2	0	0	0	8	0	6	18
Total	1	6	0	0	7	1	1	1	14	3	0	6	0	21	6	0	0	0	11	0	16	46
Grand Total	2	22	1	0	25	1	2	1	74	4	0	16	0	109	16	0	0	0	67	0	45	250
Apprch %	8.0%	88.0%	4.0%			25.0%	50.0%	25.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%				
Total %	4.4%	48.9%	2.2%		55.6%	2.2%	4.4%	2.2%		8.9%	0.0%	35.6%	0.0%		35.6%	0.0%	0.0%	0.0%		0.0%	100.0%	

ALL TRAFFIC DATA

City of Oakland
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 14-7807-002 International Boulevard (SR 185)-103rd Avenu
Date : 12/4/2014

Bank 1 Count = Peds & Bikes

AM PEAK HOUR	International Boulevard (SR 185) Southbound					103rd Avenue-104th Avenue Westbound					International Boulevard (SR 185) Northbound					103rd Avenue-104th Avenue Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
07:45	0	2	0	0	2	0	0	0	4	0	0	0	0	2	0	0	0	0	7	0	2
08:00	0	0	0	0	0	0	1	0	1	1	0	0	0	6	0	0	0	0	4	0	1
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	6	0	0
08:30	0	1	1	0	2	0	0	0	3	0	0	3	0	9	3	0	0	0	4	0	5
Total Volume	0	3	1	0	4	0	1	0	8	1	0	3	0	30	3	0	0	0	21	0	8
% App Total	0.0%	75.0%	25.0%			0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.375	.250		.500	.000	.250	.000		.250	.000	.250	.000		.250	.000	.000	.000		.000	.400

PM PEAK HOUR	International Boulevard (SR 185) Southbound					103rd Avenue-104th Avenue Westbound					International Boulevard (SR 185) Northbound					103rd Avenue-104th Avenue Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:30 to 17:30																					
Peak Hour For Entire Intersection Begins at 16:30																					
16:30	1	1	0	0	2	0	0	0	7	0	0	2	0	1	2	0	0	0	3	0	4
16:45	0	2	0	0	2	0	0	0	5	0	0	2	0	15	2	0	0	0	6	0	4
17:00	0	2	0	0	2	0	1	0	4	1	0	1	0	10	1	0	0	0	1	0	4
17:15	0	2	0	0	2	0	0	0	1	0	0	1	0	5	1	0	0	0	2	0	3
Total Volume	1	7	0	0	8	0	1	0	17	1	0	6	0	31	6	0	0	0	12	0	15
% App Total	12.5%	87.5%	0.0%			0.0%	100.0%	0.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.250	.875	.000		1.000	.000	.250	.000		.250	.000	.750	.000		.750	.000	.000	.000		.000	.938

ALL TRAFFIC DATA

City of Oakland
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 14-7807-003 International Boulevard (SR 185)-105th Avenu
Date : 12/4/2014

Unshifted Count = All Vehicles

	International Boulevard (SR 185) Southbound					105th Avenue Westbound					International Boulevard (SR 185) Northbound					105th Avenue Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
07:00	0	79	26	0	105	0	0	0	0	0	9	47	0	0	56	22	0	23	0	45	206	0
07:15	0	67	31	0	98	1	0	0	0	1	14	77	1	0	92	65	1	19	0	85	276	0
07:30	0	80	45	0	125	0	0	0	0	0	20	72	0	0	92	64	0	23	0	87	304	0
07:45	0	97	91	0	188	1	0	0	0	1	28	89	1	0	118	94	0	29	0	123	430	0
Total	0	323	193	0	516	2	0	0	0	2	71	285	2	0	358	245	1	94	0	340	1216	0
08:00	0	92	95	0	187	0	0	1	0	1	33	87	1	0	121	104	1	26	0	131	440	0
08:15	1	91	49	0	141	2	0	1	0	3	31	117	0	0	148	86	0	42	0	128	420	0
08:30	2	105	34	0	141	1	2	2	0	5	25	103	2	0	130	62	1	38	0	101	377	0
08:45	4	100	32	0	136	2	0	3	0	5	27	108	2	0	137	46	1	40	0	87	365	0
Total	7	388	210	0	605	5	2	7	0	14	116	415	5	0	536	298	3	146	0	447	1602	0
16:00	4	132	69	0	205	1	1	6	0	8	32	166	4	0	202	73	1	44	0	118	533	0
16:15	2	131	60	0	193	2	3	3	0	8	17	153	3	0	173	80	2	52	0	134	508	0
16:30	0	149	55	0	204	1	0	3	0	4	25	123	2	0	150	85	2	57	0	144	502	0
16:45	7	152	49	0	208	1	0	2	0	3	15	118	0	0	133	86	1	49	0	136	480	0
Total	13	564	233	0	810	5	4	14	0	23	89	560	9	0	658	324	6	202	0	532	2023	0
17:00	3	156	50	0	209	2	0	5	0	7	10	107	5	0	122	94	1	40	0	135	473	0
17:15	4	154	60	0	218	1	0	7	0	8	37	157	1	0	195	58	2	47	0	107	528	0
17:30	5	160	47	0	212	8	3	2	0	13	29	159	3	0	191	61	3	56	0	120	536	0
17:45	4	113	49	0	166	1	0	3	0	4	29	167	1	0	197	81	4	58	0	143	510	0
Total	16	583	206	0	805	12	3	17	0	32	105	590	10	0	705	294	10	201	0	505	2047	0
Grand Total	36	1858	842	0	2736	24	9	38	0	71	381	1850	26	0	2257	1161	20	643	0	1824	6888	0
Apprch %	1.3%	67.9%	30.8%	0.0%		33.8%	12.7%	53.5%	0.0%		16.9%	82.0%	1.2%	0.0%		63.7%	1.1%	35.3%	0.0%			
Total %	0.5%	27.0%	12.2%	0.0%	39.7%	0.3%	0.1%	0.6%	0.0%	1.0%	5.5%	26.9%	0.4%	0.0%	32.8%	16.9%	0.3%	9.3%	0.0%	26.5%	100.0%	

ALL TRAFFIC DATA

City of Oakland
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 14-7807-003 International Boulevard (SR 185)-105th Avenu
Date : 12/4/2014

Unshifted Count = All Vehicles

AM PEAK HOUR	International Boulevard (SR 185) Southbound					105th Avenue Westbound					International Boulevard (SR 185) Northbound					105th Avenue Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
07:45	0	97	91	0	188	1	0	0	0	1	28	89	1	0	118	94	0	29	0	123	430
08:00	0	92	95	0	187	0	0	1	0	1	33	87	1	0	121	104	1	26	0	131	440
08:15	1	91	49	0	141	2	0	1	0	3	31	117	0	0	148	86	0	42	0	128	420
08:30	2	105	34	0	141	1	2	2	0	5	25	103	2	0	130	62	1	38	0	101	377
Total Volume	3	385	269	0	657	4	2	4	0	10	117	396	4	0	517	346	2	135	0	483	1667
% App Total	0.5%	58.6%	40.9%	0.0%		40.0%	20.0%	40.0%	0.0%		22.6%	76.6%	0.8%	0.0%		71.6%	0.4%	28.0%	0.0%		
PHF	.375	.917	.708	.000	.874	.500	.250	.500	.000	.500	.886	.846	.500	.000	.873	.832	.500	.804	.000	.922	.947

PM PEAK HOUR	International Boulevard (SR 185) Southbound					105th Avenue Westbound					International Boulevard (SR 185) Northbound					105th Avenue Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	3	156	50	0	209	2	0	5	0	7	10	107	5	0	122	94	1	40	0	135	473
17:15	4	154	60	0	218	1	0	7	0	8	37	157	1	0	195	58	2	47	0	107	528
17:30	5	160	47	0	212	8	3	2	0	13	29	159	3	0	191	61	3	56	0	120	536
17:45	4	113	49	0	166	1	0	3	0	4	29	167	1	0	197	81	4	58	0	143	510
Total Volume	16	583	206	0	805	12	3	17	0	32	105	590	10	0	705	294	10	201	0	505	2047
% App Total	2.0%	72.4%	25.6%	0.0%		37.5%	9.4%	53.1%	0.0%		14.9%	83.7%	1.4%	0.0%		58.2%	2.0%	39.8%	0.0%		
PHF	.800	.911	.858	.000	.923	.375	.250	.607	.000	.615	.709	.883	.500	.000	.895	.782	.625	.866	.000	.883	.955

ALL TRAFFIC DATA

City of Oakland
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 14-7807-003 International Boulevard (SR 185)-105th Avenu
Date : 12/4/2014

Bank 1 Count = Peds & Bikes

	International Boulevard (SR 185) Southbound					105th Avenue Westbound					International Boulevard (SR 185) Northbound					105th Avenue Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Ped Total
07:00	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	3	1	1	5
07:15	0	1	1	0	2	0	0	0	1	0	0	1	0	0	1	0	0	0	1	0	3	2
07:30	0	1	0	3	1	0	0	0	2	0	1	0	0	0	1	1	0	0	2	1	3	7
07:45	0	1	0	0	1	0	0	0	7	0	0	0	0	1	0	0	0	0	5	0	1	13
Total	0	3	1	4	4	0	0	0	11	0	1	1	0	1	2	2	0	0	11	2	8	27
08:00	0	1	0	4	1	0	0	0	4	0	0	0	0	0	0	0	0	0	2	0	1	10
08:15	0	0	0	1	0	0	0	0	5	0	0	0	0	0	0	1	0	1	10	2	2	16
08:30	0	1	0	1	1	0	0	0	4	0	0	0	0	2	0	0	0	0	4	0	1	11
08:45	0	0	0	2	0	0	0	0	15	0	0	0	0	5	0	0	0	0	0	0	0	22
Total	0	2	0	8	2	0	0	0	28	0	0	0	0	7	0	1	0	1	16	2	4	59
16:00	0	1	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	1	8
16:15	0	2	2	1	4	0	0	0	4	0	1	0	0	0	1	0	0	0	9	0	5	14
16:30	0	0	0	6	0	0	0	0	8	0	0	2	0	0	2	0	0	0	2	0	2	16
16:45	0	2	0	2	2	0	0	0	3	0	0	3	0	1	3	0	0	0	3	0	5	9
Total	0	5	2	11	7	0	0	0	15	0	1	5	0	1	6	0	0	0	20	0	13	47
17:00	0	0	0	6	0	0	0	0	9	0	0	0	0	0	0	0	0	0	9	0	0	24
17:15	0	2	1	0	3	0	0	0	5	0	0	1	0	0	1	0	0	0	9	0	4	14
17:30	0	2	0	2	2	0	0	0	7	0	0	1	0	0	1	0	0	1	4	1	4	13
17:45	0	0	0	0	0	0	0	0	4	0	0	3	0	0	3	0	0	0	5	0	3	9
Total	0	4	1	8	5	0	0	0	25	0	0	5	0	0	5	0	0	1	27	1	11	60
Grand Total	0	14	4	31	18	0	0	0	79	0	2	11	0	9	13	3	0	2	74	5	36	193
Apprch %	0.0%	77.8%	22.2%			0.0%	0.0%	0.0%			15.4%	84.6%	0.0%			60.0%	0.0%	40.0%				
Total %	0.0%	38.9%	11.1%		50.0%	0.0%	0.0%	0.0%		0.0%	5.6%	30.6%	0.0%		36.1%	8.3%	0.0%	5.6%		13.9%	100.0%	

ALL TRAFFIC DATA

City of Oakland
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 14-7807-003 International Boulevard (SR 185)-105th Avenu
Date : 12/4/2014

Bank 1 Count = Peds & Bikes

AM PEAK HOUR	International Boulevard (SR 185) Southbound					105th Avenue Westbound					International Boulevard (SR 185) Northbound					105th Avenue Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 07:45 to 08:45																					
Peak Hour For Entire Intersection Begins at 07:45																					
07:45	0	1	0	0	1	0	0	0	7	0	0	0	0	1	0	0	0	0	5	0	1
08:00	0	1	0	4	1	0	0	0	4	0	0	0	0	0	0	0	0	0	2	0	1
08:15	0	0	0	1	0	0	0	0	5	0	0	0	0	0	0	1	0	1	10	2	2
08:30	0	1	0	1	1	0	0	0	4	0	0	0	0	2	0	0	0	0	4	0	1
Total Volume	0	3	0	6	3	0	0	0	20	0	0	0	0	3	0	1	0	1	21	2	5
% App Total	0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			0.0%	0.0%	0.0%			50.0%	0.0%	50.0%			
PHF	.000	.750	.000		.750	.000	.000	.000		.000	.000	.000	.000		.000	.250	.000	.250		.250	.625

PM PEAK HOUR	International Boulevard (SR 185) Southbound					105th Avenue Westbound					International Boulevard (SR 185) Northbound					105th Avenue Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 17:00 to 18:00																					
Peak Hour For Entire Intersection Begins at 17:00																					
17:00	0	0	0	6	0	0	0	0	9	0	0	0	0	0	0	0	0	0	9	0	0
17:15	0	2	1	0	3	0	0	0	5	0	0	1	0	0	1	0	0	0	9	0	4
17:30	0	2	0	2	2	0	0	0	7	0	0	1	0	0	1	0	0	1	4	1	4
17:45	0	0	0	0	0	0	0	0	4	0	0	3	0	0	3	0	0	0	5	0	3
Total Volume	0	4	1	8	5	0	0	0	25	0	0	5	0	0	5	0	0	1	27	1	11
% App Total	0.0%	80.0%	20.0%			0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			0.0%	0.0%	100.0%			
PHF	.000	.500	.250		.417	.000	.000	.000		.000	.000	.417	.000		.417	.000	.000	.250		.250	.688

ALL TRAFFIC DATA

City of Oakland
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 14-7807-004 International Boulevard (SR 185)-Durant Aven
Date : 12/4/2014

Unshifted Count = All Vehicles

	International Boulevard (SR 185) Southbound					Durant Avenue Westbound					International Boulevard (SR 185) Northbound					Eastbound						
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total	Uturn Total
07:00	8	76	0	0	84	20	0	17	0	37	0	38	7	0	45	0	0	0	0	0	166	0
07:15	10	86	0	0	96	23	0	18	0	41	0	68	7	0	75	0	0	0	0	0	212	0
07:30	15	97	0	0	112	24	0	30	0	54	0	77	13	0	90	0	0	0	0	0	256	0
07:45	14	127	0	0	141	21	0	31	0	52	0	90	9	0	99	0	0	0	0	0	292	0
Total	47	386	0	0	433	88	0	96	0	184	0	273	36	0	309	0	0	0	0	0	926	0
08:00	16	110	0	0	126	29	0	32	0	61	0	87	15	0	102	0	0	0	0	0	289	0
08:15	18	85	0	0	103	27	0	33	0	60	0	128	19	0	147	0	0	0	0	0	310	0
08:30	26	121	0	0	147	31	0	23	0	54	0	103	13	0	116	0	0	0	0	0	317	0
08:45	23	102	0	0	125	19	0	22	0	41	0	123	14	0	137	0	0	0	0	0	303	0
Total	83	418	0	0	501	106	0	110	0	216	0	441	61	0	502	0	0	0	0	0	1219	0
16:00	35	128	0	0	163	21	0	33	0	54	0	136	24	0	160	0	0	0	0	0	377	0
16:15	33	134	0	0	167	31	0	30	0	61	0	121	23	0	144	0	0	0	0	0	372	0
16:30	27	157	0	0	184	23	0	27	0	50	0	147	29	0	176	0	0	0	0	0	410	0
16:45	29	141	0	0	170	40	0	25	0	65	0	133	22	0	155	0	0	0	0	0	390	0
Total	124	560	0	0	684	115	0	115	0	230	0	537	98	0	635	0	0	0	0	0	1549	0
17:00	30	157	0	0	187	21	0	24	0	45	0	130	34	0	164	0	0	0	0	0	396	0
17:15	29	149	0	0	178	28	0	25	0	53	0	133	38	0	171	0	0	0	0	0	402	0
17:30	39	172	0	0	211	29	0	30	0	59	0	131	24	0	155	0	0	0	0	0	425	0
17:45	34	112	0	0	146	21	0	25	0	46	0	140	42	0	182	0	0	0	0	0	374	0
Total	132	590	0	0	722	99	0	104	0	203	0	534	138	0	672	0	0	0	0	0	1597	0
Grand Total	386	1954	0	0	2340	408	0	425	0	833	0	1785	333	0	2118	0	0	0	0	0	5291	0
Apprch %	16.5%	83.5%	0.0%	0.0%		49.0%	0.0%	51.0%	0.0%		0.0%	84.3%	15.7%	0.0%		0.0%	0.0%	0.0%	0.0%			
Total %	7.3%	36.9%	0.0%	0.0%	44.2%	7.7%	0.0%	8.0%	0.0%	15.7%	0.0%	33.7%	6.3%	0.0%	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	

ALL TRAFFIC DATA

City of Oakland
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 14-7807-004 International Boulevard (SR 185)-Durant Aven
Date : 12/4/2014

Unshifted Count = All Vehicles

AM PEAK HOUR	International Boulevard (SR 185) Southbound					Durant Avenue Westbound					International Boulevard (SR 185) Northbound					Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
08:00	16	110	0	0	126	29	0	32	0	61	0	87	15	0	102	0	0	0	0	0	289
08:15	18	85	0	0	103	27	0	33	0	60	0	128	19	0	147	0	0	0	0	0	310
08:30	26	121	0	0	147	31	0	23	0	54	0	103	13	0	116	0	0	0	0	0	317
08:45	23	102	0	0	125	19	0	22	0	41	0	123	14	0	137	0	0	0	0	0	303
Total Volume	83	418	0	0	501	106	0	110	0	216	0	441	61	0	502	0	0	0	0	0	1219
% App Total	16.6%	83.4%	0.0%	0.0%		49.1%	0.0%	50.9%	0.0%		0.0%	87.8%	12.2%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.798	.864	.000	.000	.852	.855	.000	.833	.000	.885	.000	.861	.803	.000	.854	.000	.000	.000	.000	.000	.961

PM PEAK HOUR	International Boulevard (SR 185) Southbound					Durant Avenue Westbound					International Boulevard (SR 185) Northbound					Eastbound					
START TIME	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	LEFT	THRU	RIGHT	UTURNS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	29	141	0	0	170	40	0	25	0	65	0	133	22	0	155	0	0	0	0	0	390
17:00	30	157	0	0	187	21	0	24	0	45	0	130	34	0	164	0	0	0	0	0	396
17:15	29	149	0	0	178	28	0	25	0	53	0	133	38	0	171	0	0	0	0	0	402
17:30	39	172	0	0	211	29	0	30	0	59	0	131	24	0	155	0	0	0	0	0	425
Total Volume	127	619	0	0	746	118	0	104	0	222	0	527	118	0	645	0	0	0	0	0	1613
% App Total	17.0%	83.0%	0.0%	0.0%		53.2%	0.0%	46.8%	0.0%		0.0%	81.7%	18.3%	0.0%		0.0%	0.0%	0.0%	0.0%		
PHF	.814	.900	.000	.000	.884	.738	.000	.867	.000	.854	.000	.991	.776	.000	.943	.000	.000	.000	.000	.000	.949

ALL TRAFFIC DATA

City of Oakland
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 14-7807-004 International Boulevard (SR 185)-Durant Aven
Date : 12/4/2014

Bank 1 Count = Peds & Bikes

	International Boulevard (SR 185) Southbound					Durant Avenue Westbound					International Boulevard (SR 185) Northbound					Eastbound						
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total	Ped Total
07:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:15	0	1	0	4	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	6
07:30	0	2	0	2	2	1	0	0	1	1	0	0	1	0	1	0	0	0	0	0	4	3
07:45	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	3	0	10	3	1	0	0	3	1	0	0	1	0	1	0	0	0	0	0	5	13
08:00	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3
08:15	0	0	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	5
08:30	0	3	0	0	3	0	0	0	2	0	0	1	0	0	1	0	0	0	0	0	4	2
08:45	0	1	0	1	1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	2	2
Total	0	4	0	5	4	0	0	0	7	0	0	2	0	0	2	0	0	0	0	0	6	12
16:00	0	1	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4
16:15	0	0	0	7	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	9
16:30	0	0	0	4	0	1	0	0	3	1	0	2	0	0	2	0	0	0	0	0	3	7
16:45	0	2	0	3	2	1	0	0	2	1	0	3	1	0	4	0	0	0	0	0	7	5
Total	0	3	0	18	3	2	0	0	7	2	0	5	1	0	6	0	0	0	0	0	11	25
17:00	0	1	0	3	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1	6
17:15	0	0	0	1	0	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	4	1
17:30	0	0	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	4
17:45	0	0	0	1	0	0	0	0	4	0	0	2	1	0	3	0	0	0	0	0	3	5
Total	0	1	0	6	1	0	0	0	10	0	0	5	2	0	7	0	0	0	0	0	8	16
Grand Total	0	11	0	39	11	3	0	0	27	3	0	12	4	0	16	0	0	0	0	0	30	66
Apprch %	0.0%	100.0%	0.0%			100.0%	0.0%	0.0%			0.0%	75.0%	25.0%			0.0%	0.0%	0.0%				
Total %	0.0%	36.7%	0.0%		36.7%	10.0%	0.0%	0.0%		10.0%	0.0%	40.0%	13.3%		53.3%	0.0%	0.0%	0.0%		0.0%	100.0%	

ALL TRAFFIC DATA

City of Oakland
All Vehicles on Unshifted
Peds & Bikes on Bank 1
Nothing on Bank 2

(916) 771-8700
orders@atdtraffic.com

File Name : 14-7807-004 International Boulevard (SR 185)-Durant Aven
Date : 12/4/2014

Bank 1 Count = Peds & Bikes

AM PEAK HOUR	International Boulevard (SR 185) Southbound					Durant Avenue Westbound					International Boulevard (SR 185) Northbound					Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 08:00 to 09:00																					
Peak Hour For Entire Intersection Begins at 08:00																					
08:00	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	3	0	0	3	0	0	0	2	0	0	1	0	0	1	0	0	0	0	0	4
08:45	0	1	0	1	1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	2
Total Volume	0	4	0	5	4	0	0	0	7	0	0	2	0	0	2	0	0	0	0	0	6
% App Total	0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			0.0%	100.0%	0.0%			0.0%	0.0%	0.0%			
PHF	.000	.333	.000		.333	.000	.000	.000		.000	.000	.500	.000		.500	.000	.000	.000		.000	.375

PM PEAK HOUR	International Boulevard (SR 185) Southbound					Durant Avenue Westbound					International Boulevard (SR 185) Northbound					Eastbound					
START TIME	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	LEFT	THRU	RIGHT	PEDS	APP.TOTAL	Total
Peak Hour Analysis From 16:45 to 17:45																					
Peak Hour For Entire Intersection Begins at 16:45																					
16:45	0	2	0	3	2	1	0	0	2	1	0	3	1	0	4	0	0	0	0	0	7
17:00	0	1	0	3	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	1
17:15	0	0	0	1	0	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	4
17:30	0	0	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	3	0	8	3	1	0	0	8	1	0	6	2	0	8	0	0	0	0	0	12
% App Total	0.0%	100.0%	0.0%			100.0%	0.0%	0.0%			0.0%	75.0%	25.0%			0.0%	0.0%	0.0%			
PHF	.000	.375	.000		.375	.250	.000	.000		.250	.000	.500	.500		.500	.000	.000	.000		.000	.429

ATTACHMENT F

International Boulevard Senior Housing Project

Acoustic Technical Report

City of Oakland, California

Prepared for:
City of Oakland
Bureau of Planning
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Prepared by:
Stantec Consulting Services Inc.
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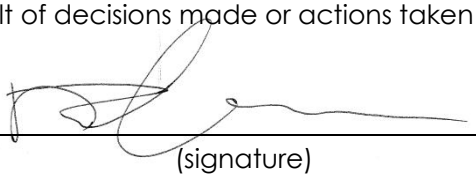
October 26, 2016

Sign-off Sheet

This document entitled International Boulevard Senior Housing Project Acoustic Technical Report was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of The Pacific Companies (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by 
(signature)

Kate Gross, Environmental Scientist

Reviewed by 
(signature)

Trevor Macenski, Principal

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1.0 INTRODUCTION

1.1 NOISE TECHNICAL STUDY PURPOSE

The purpose of this Noise Technical Report is to support the International Boulevard Senior Housing Project California Environmental Quality Act (CEQA) Categorical Exemption (Cat Ex). This Report provides analyses of potential Project-related impacts for exposure to excessive noise during project construction and operation. This study has been prepared to analyze the potential construction-related noise impacts generated from the proposed project and estimate the potential operational noise conditions located at the proposed affordable housing development. This Report will be used as supplementary analyses to the CEQA Cat Ex.

Specifically, the purpose of this study is to assess the existing ambient noise conditions at the nearest sensitive receptors and within the proposed project area. This noise report includes an evaluation of the proposed noise-generating uses that could affect offsite noise-sensitive receptors as well as the potential for offsite noise sources to impact nearby residents of the project site. Additionally, this study assesses the potential indoor noise conditions located at the proposed housing development.

Noise generation associated with housing development projects is typically attributed to the project construction activities. These include site grading, construction of the building and apparatuses, and the increased traffic related to material delivery. Operational noise can be attributed to an increase of traffic counts from residents, visitors, and workers of the housing development as well as typical residential associated noise, such as, landscape maintenance, waste collection, and people congregating and talking at the community gathering areas.

1.2 PROJECT DESCRIPTION AND LOCATION

The proposed project is approximately 3.9 acres and located on 10500 International Boulevard in the City of Oakland, Alameda County, California. The site is within the City of Oakland International Boulevard Transit-Oriented Development plan, in the Elmhurst South district. The land use designation is Community Commercial which allows up to 125 residential units per acre. Community Commercial areas may include neighborhood center uses and larger scale retail and commercial uses, such as auto related businesses, business and personal services, health services and medical uses, educational facilities, and entertainment uses. Community Commercial areas can be complemented by the addition of urban residential development and compatible mixed use development. The proposed project would be a mixed-use project consistent with the General Plan that will improve the surrounding area while enhancing the vision of the City.

The proposed development will have a total of 529 senior units. The proposed project will include one story of parking and five stories of residential units. The project will be built in two phases with the front portion of the building being constructed during the first phase and the rear of the building during the second phase. Construction would occur over two 18-month phases. The proposed type of construction will be a five-story, wood framed structure, designed and detailed in conformance with applicable life safety and fire codes, supported by perimeter foundations with concrete slab flooring on top of the parking area. Parking will be contained within the ground level, reinforced concrete and masonry podium structure. This type of construction will allow the building to conform to the natural terrain with only minor amounts of grading. Minimum construction standards will be adhered to in order to assure that a quality product is provided. The existing commercial businesses (Dollar Green, Rockforth Pharmacy, and Borderline Automotive Service Center) fronting International Boulevard will remain and their existing structures will be remodeled to ensure they match and integrate with the proposed architecture of the residential development.

1.3 NOISE FUNDAMENTALS AND TERMINOLOGY

Noise is generally defined as unwanted sound that annoys or disturbs people and potentially causes an adverse psychological or physiological effect on human health. Because noise is an environmental pollutant that can interfere with human activities, evaluation of noise is necessary when considering the environmental impacts of a proposed project.

Sound is mechanical energy (vibration) transmitted by pressure waves over a medium such as air or water. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient (existing) sound level. Although the decibel (dB) scale, a logarithmic scale, is used to quantify sound intensity, it does not accurately describe how sound intensity is perceived by human hearing. The perceived loudness of sound is dependent upon many factors, including sound pressure level and frequency content. The human ear is not equally sensitive to all frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process called A-weighting, written as dBA and referred to as A-weighted decibels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. Table 1 defines sound measurements and other terminology used in this study, and Table 2 summarizes typical A-weighted sound levels for different noise sources.

With respect to how humans perceive and react to changes in noise levels, a 1dBA increase is imperceptible, a 3 dBA increase is barely perceptible, a 6 dBA increase is clearly noticeable, and a 10 dBA increase is subjectively perceived as approximately twice as loud (Egan 2007). These subjective reactions to changes in noise levels was developed on the basis of test

subjects' reactions to changes in the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source. These statistical indicators are thought to be most applicable to noise levels in the range of 50 to 70 dBA, as this is the usual range of voice and interior noise levels. The number of agencies and municipalities have developed or adopted noise level standards, consistent with these and other similar studies, to help prevent annoyance into protect against the degradation of the existing noise environment.

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (Leq), the minimum and maximum sound levels (Lmin and Lmax), percentile-exceeded sound levels (such as L10, L20), the day-night sound level (Ldn), and the community noise equivalent level (CNEL). Ldn and CNEL values differ by less than 1 dB. As a matter of practice, Ldn and CNEL values are considered to be equivalent and are treated as such in this assessment.

For a point source such as a stationary compressor or construction equipment, sound attenuates based on geometry at rate of 6 dB per doubling of distance. For a line source such as free flowing traffic on a freeway, sound attenuates at a rate of 3 dB per doubling of distance (Federal Highway Administration 2011). Atmospheric conditions including wind, temperature gradients, and humidity can change how sound propagates over distance and can affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface such as grass attenuates at a greater rate than sound that travels over a hard surface such as pavement. The increased attenuation is typically in the range of 1–2 dB per doubling of distance. Barriers such as buildings and topography that block the line of sight between a source and receiver also increase the attenuation of sound over distance.

Table 1: Definition of Sound Measurement

Sound Measurements	Sample Heading
Decibel (dB)	A unit-less measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.
A-Weighted Decibel (dBA)	An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
C-Weighted Decibel (dBC)	The sound pressure level in decibels as measured using the C-eighting filter network. The C-weighting is very close to an unweighted or flat response. C-weighting is only used in special cases when low-frequency noise is of particular importance. A comparison of measured A- and C-weighted level gives an indication of low frequency content.

Sound Measurements	Sample Heading
Maximum Sound Level (Lmax)	The maximum sound level measured during the measurement period.
Minimum Sound Level (Lmin)	The minimum sound level measured during the measurement period.
Equivalent Sound Level (Leq)	The equivalent steady state sound level that in a stated period of time would contain the same acoustical energy.
Percentile-Exceeded Sound Level (Lxx)	The sound level exceeded xx % of a specific time period. L10 is the sound level exceeded 10% of the time. L90 is the sound level exceeded 90% of the time. L90 is often considered to be representative of the background noise level in a given area.
Day-Night Level (Ldn)	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
Community Noise Equivalent Level (CNEL)	The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
Peak Particle Velocity (Peak Velocity or PPV)	A measurement of ground vibration defined as the maximum speed (measured in inches per second) at which a particle in the ground is moving relative to its inactive state. PPV is usually expressed in inches/second.
Frequency: Hertz (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure.
Source: Federal Highway Administration 2006	

Table 2: Typical A-Weighted Sound Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	-110	Rock band
Jet flyover at 1,000 Feet		
	-100-	
Gas lawnmower at 3 Feet		
	-90-	
Diesel truck at 50 Feet at 50 MPH		Food blender at 3 Feet
	-80-	Garbage Disposal at 3 Feet
Noisy urban area, daytime		
Gas lawnmower, 100 Feet	-70-	Vacuum Cleaner at 10 Feet
Commercial area		Normal Speech at 3 Feet
Heavy traffic at 300 Feet	-60-	
		Large business office
Quiet urban daytime	-50-	Dishwasher in next room
Quiet urban nighttime	-40-	Theater, large conference room (Background)
Quiet suburban nighttime		
	-30-	Library
Quiet rural nighttime		
	-20-	Bedroom at night, concert hall(Background)
	-10-	Broadcast/recording studio
	-0-	

Decibel Addition

Because decibels are logarithmic units, sound pressure levels cannot be added or subtracted through ordinary arithmetic. On the dB scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, their combined sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one source produces a sound pressure level of 70 dBA, two identical sources would not produce 140 dBA—rather, they would combine to produce 73 dBA. The cumulative sound level of any number of sources can be determined using decibel addition.

Vibration

Operation of heavy construction equipment, particularly pile driving and other impact devices such as pavement breakers, create seismic waves that radiate along the surface of the earth and downward into the earth. These surface waves can be felt as ground vibration. Vibration from operation of this equipment can result in effects ranging from annoyance of people to damage of structures. Varying geology and distance will result in different vibration levels containing different frequencies and displacements. In all cases, vibration amplitudes will decrease with increasing distance.

Perceptible groundborne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they excite the particles of rock and soil through which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as the peak particle velocity (PPV).

Table 3 summarizes typical vibration levels generated by construction equipment (Federal Transit Administration 2006).

Table 3: Vibration Source Levels for Construction Equipment

Equipment	PPV at 25 Feet
Pile driver (impact)	0.644 to 1.518
Pile drive (sonic/vibratory)	0.170 to 0.734
Vibratory roller	0.210
Hoe ram	0.089
Large bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003
Source: Federal Transit Administration 2006.	

Vibration amplitude attenuates over distance and is a complex function of how energy is imparted into the ground and the soil conditions through which the vibration is traveling. The following equation can be used to estimate the vibration level at a given distance for typical soil conditions (Federal Transit Administration 2006). PPVref is the reference PPV from Table 3:

PPV = PPVref x (25/Distance) 1.5

Table 4 summarizes guidelines vibration annoyance potential criteria suggested by Caltrans (California Department of Transportation 2004).

Table 4: Guideline Vibration Annoyance Potential Criteria

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4
Notes: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment. Source: California Department of Transportation 2004.		

Table 5 summarizes guideline vibration damage potential criteria suggested by Caltrans (California Department of Transportation 2004).

Table 5: Guideline Vibration Damage Potential Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structure	0.5	0.3

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Sources
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Notes: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source: California Department of Transportation 2004.

2.0 REGULATORY SETTING

Federal, state, and local agencies regulate different aspects of environmental noise. Generally, the federal government sets noise standards for transportation-related noise sources closely linked to interstate commerce. These include aircraft, locomotives, and trucks. No federal noise standards are directly applicable to the project. The state government sets noise standards for transportation noise sources such as automobiles, light trucks, and motorcycles. Noise sources associated with industrial, commercial, and construction activities are generally subject to local control through noise ordinances and general plan policies. Local general plans identify general principles intended to guide and influence development plans.

2.1 STATE REGULATIONS

California Code

Part 2, Title 24 of the California Code of Regulations California Noise Insulation Standards establishes minimum noise insulation standards to protect persons within new hotels, motels, dormitories, long-term care facilities, apartment houses, and dwellings other than single-family residences. Under this regulation, interior noise levels attributable to exterior noise sources cannot exceed 45 Ldn in any habitable room. Where such residences are located in an environment where exterior noise is 60 Ldn or greater, an acoustical analysis is required to ensure that interior levels do not exceed the 45 Ldn interior standard.

General Plan Noise Element Guidelines

The State of California General Plan Guidelines (Governor's Office of Planning and Research 2003) establishes guidelines for the preparation of local general plan noise elements, including a sound level/land use compatibility chart that categorizes, by land use, outdoor Ldn ranges in up to four categories (normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable). For many land uses, the chart shows overlapping Ldn ranges for two or more compatibility categories.

The noise element guideline chart identifies the normally acceptable range of Ldn values for low-density residential uses as less than 60 dB and the conditionally acceptable range as 55–70 dB. The normally acceptable range for high-density residential uses is identified as Ldn values of less than 65 dB, and the conditionally acceptable range is identified as 60–70 dB. For educational and medical facilities, Ldn values of less than 70 dB are considered normally acceptable, and Ldn values of 60–70 dB are considered conditionally acceptable. For office and commercial land uses, Ldn values of less than 70 dB are considered normally acceptable, and Ldn values of 67.5–77.5 are categorized as conditionally acceptable. When noise levels are in the conditionally acceptable range new construction should be undertaken only after a

detailed analysis of the noise reduction requirements is made and needed noise insulation requirements are included in the design.

These overlapping Ldn ranges are intended to indicate that local conditions (existing sound levels and community attitudes toward dominant sound sources) should be considered in evaluating land use compatibility at specific locations.

2.2 LOCAL REGULATIONS

City of Oakland General Plan

The City of Oakland has developed goals and policies to protect public health from potential noise impacts. The noise element of the General Plan formulates two goals for the City:

- To protect Oakland's quality of life and physical and mental well-being of residents and others in the City by reducing the community's exposure to noise; and
- To safeguard Oakland's economic welfare by mitigating noise incompatibilities among commercial, industrial, and residential land uses.

POLICY 1: Ensure the compatibility of existing and, especially, of proposed development projects not only with neighboring land uses but also with their surrounding noise environment.

ACTION 1.1: Use the noise-land use compatibility matrix (Figure 6) in conjunction with the noise contour maps (especially for roadway traffic) to evaluate the acceptability of residential and other proposed land uses and also the need for any mitigation or abatement measures to achieve the desired degree of acceptability.

ACTION 1.2: Continue using the City's zoning regulations and permit processes to limit the hours of operation of noise-producing activities which create conflicts with residential uses and to attach noise-abatement requirements to such activities.

POLICY 3: Reduce the community's exposure to noise by minimizing the noise levels that are received by Oakland residents and others in the City. (This policy addresses the reception of noise whereas Policy 2 addresses the generation of noise.)

ACTION 3.1: Continue to use the building-permit application process to enforce the California Noise Insulation Standards regulating the maximum allowable interior noise level in new multi-unit buildings.

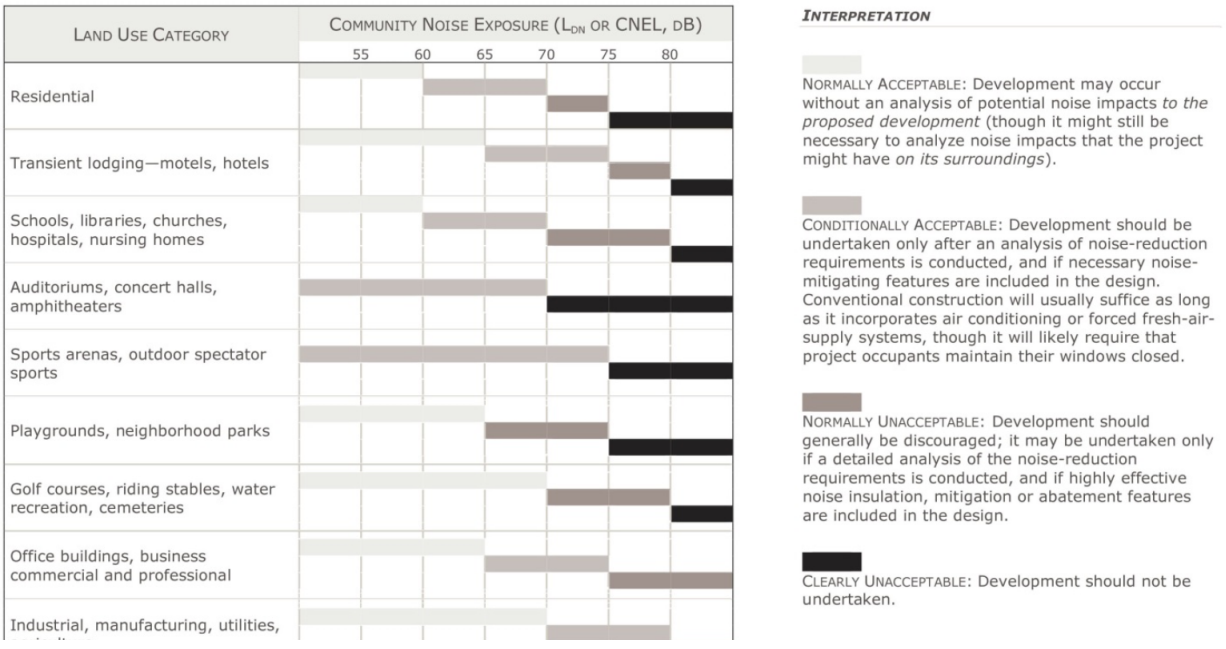
ACTION 3.2: Review the City's noise performance standards and revise them as appropriate to be consistent with City Council policy.

ACTION 3.3: Demand that Caltrans implement sound barriers, building retrofit programs and other measures to mitigate to the maximum extent feasible noise impacts on residential and other sensitive land uses from any new, widened or upgraded roadways; any new sound barrier must conform with City policies and standards regarding visual and aesthetic resources and quality.

Table 6: Permissible Maximum Indoor Noise Levels

Land Use	Maximum Indoor L_{DN} (dBA)
Residential, hotels, motels, transient lodging, institutional (churches, hospitals, classrooms, libraries), movie theaters	45 dBA
Professional offices, research and development, auditoria, meeting halls	50 dBA
Retail, banks, restaurants, sports clubs	55 dBA
Manufacturing, warehousing	65 dbA
Source: City of Oakland General Plan Noise Element 2005	

Table 7: Noise-Land Use Compatibility Matrix



Regulatory Setting
October 26, 2016

Source: City of Oakland General Plan Noise Element 2005

City of Oakland Municipal Code

8.18.010 - Excessive and annoying noises prohibited.

A. It is unlawful for any person to create or allow to be created any excessive or annoying noise as defined herein. Any violation of the regulations specified herein shall be punishable as an infraction.

B. Definitions.

"Annoying noise" means noise with a repetitive pattern, shrill frequencies, and/or static-like sounds, including loud music and noise attributable to, but not limited to, leaf blowers, alarms, engines, barking dogs, and other animals.

"Excessive noise" means any unnecessary noise which persists for ten minutes or more; such period of noise need not be witnessed by enforcement personnel if the occupants of two or more separate housing or commercial units certify that they have experienced such period of noise and describe with particularity the source.

C. Excessive and Annoying Noises a Nuisance. The following acts, and the causing or permitting thereof, shall be considered disturbing the peace and shall constitute an infraction.

1. Mechanical or Electronic Devices. Using any mechanical or electronic device for the intensification of any sound or noise into the public streets which produces excessive or annoying noise;

8. Loading and Unloading. Loading, unloading, opening, closing, or other handling of boxes, crates, containers, building materials, refuse, or similar objects between the hours of nine p.m. and six a.m. in such a manner as to cause a noise disturbance across a residential property line or at any time to violate the applicable noise provisions of the Oakland Planning Code;

9. Domestic Power Tools, Machinery. Operating or permitting the operation of any mechanically powered saw, sander, drill, grinder, lawn or garden tool, or similar tool between nine p.m. and six a.m. so as to create a noise disturbance across a real property line or at any time to violate the applicable noise provisions of the Oakland Planning Code;

10. Sensitive Uses. Creation of any noise within or adjacent to a hospital or medical care facility, nursing home, school, court, day care, church, or similar facility, so as to interfere with the functions of such activity;

11. Noise resulting from construction and demolition activities, the operation of commercial refrigeration units, air conditioning systems, compressors, commercial exhaust systems, ventilation units, and other commercial or industrial noises associated with land use activities, shall be regulated pursuant to standards contained within the noise regulations of the Oakland Planning Code.

8.18.020 - Persistent noises a nuisance.

The persistent maintenance or emission of any noise or sound produced by human, animal or mechanical means, between the hours of nine p.m. and seven a.m. next ensuing, which, by reason of its raucous or nerve-racking nature, shall disturb the peace or comfort, or be injurious to the health of any person shall constitute a nuisance.

Failure to comply with the following provisions shall constitute a nuisance.

A. All construction equipment powered by internal combustion engines shall be properly muffled and maintained.

B. Unnecessary idling of internal combustion engines is prohibited.

C. All stationery noise-generating construction equipment such as tree grinders and air compressors are to be located as far as is practical from existing residences.

D. Quiet construction equipment, particularly air compressors, are to be selected whenever possible.

E. Use of pile drivers and jack hammers shall be prohibited on Sundays and holidays, except for emergencies and as approved in advance by the Building Official.

Whenever the existence of any such nuisance shall come to the attention of the Health Officer, it shall be his or her duty to notify in writing the occupant of the premises upon which such nuisance exists, specifying the measures necessary to abate such nuisance, and unless the same is abated within forty-eight (48) hours thereafter, the occupant so notified shall be guilty of an infraction, and the Health Officer shall summarily abate such nuisance.

3.0 ENVIRONMENTAL SETTING

3.1 EFFECTS OF NOISE

The degree to which noise results in annoyance and interference is highly subjective and may be influenced by several non-acoustic factors. The number and effect of these non-acoustic environmental and physical factors vary depending on individual characteristics of the noise environment such as sensitivity, level of activity, location, time of day, and length of exposure. One key aspect in the prediction of human response to new noise environments is the individual level of adaptation to an existing noise environment. The greater the change in the noise levels that are attributed to a new noise source, relative to the environment an individual has become accustomed to, the less tolerable the new noise source will be to the individual.

3.2 EXISTING NOISE ENVIRONMENT

Existing Land Uses

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches and residences are considered to be more sensitive to noise intrusion than are commercial or industrial activities. Ambient noise levels can also affect the perceived desirability or livability of a development.

The project site consists of approximately 3.9 acres and is generally bounded by International Boulevard to the west, 105th Avenue to the north, and surrounded by commercial and industrial properties to the north, east, and south. The site is currently undeveloped. The site is within the City of Oakland International Boulevard Transit-Oriented Development plan, in the Elmhurst South district. The site is designated as Community Commercial, this designation may include neighborhood center uses and larger scale retail and commercial uses, such as auto related businesses, business and personal services, health services and medical uses, educational facilities, and entertainment uses. Community Commercial areas can be complemented by the addition of urban residential development and compatible mixed use development.

Existing Noise Conditions

The existing noise environment in a project area is characterized by the area's general level of development because the level of development and ambient noise levels tend to be closely correlated. Areas which are not urbanized are relatively quiet, while areas which are more urbanized are noisier as a result of roadway traffic, industrial activities, and other human activities. Table 8 summarizes typical ambient noise levels based on level of development. Given the commercial/industrial nature of the project area and the distance to the existing railroad, ambient noise levels are expected to be in the range of 65 to 70 Ldn.

Table 8: Population Density and Associated Ambient Noise Levels

Population Density	dBA, Ldn
Rural	40-50
Small Town or quiet suburban residential	50
Normal suburban residential	55
Urban residential	60
Noisy urban residential	65
Very noisy urban residential	70
Downtown, major metropolis	75-80
Area adjoining freeway or near major airport	80–90
Source: Hoover and Keith 2000.	

According to the Highway Traffic Noise Analysis and Abatement Policy and Guidance, provided by the Federal Highway Administration, the level of traffic noise depends on three primary factors: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the vehicle mix within the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and a greater number of trucks. A doubling of the traffic volume, assuming that the speed and vehicle mix do not change, results in a noise level increase of 3 dBA. The vehicle mix on a given roadway may also have an effect on community noise levels. As the number of medium and heavy trucks increases and becomes a larger percentage of the vehicle mix, adjacent noise level impacts will increase. Vehicle noise is a combination of the noise produced by the engine, exhaust, and tires on the roadway.

As part of the City of Oakland General Plan EIR, Illingworth & Rodkin conducted a city-wide noise-monitoring survey in August 2004 to determine local ambient noise conditions. Noise levels were measured long-term (for 24 hours) at 12 locations in the city, and short-term (for 1 hour) at 11 additional locations. These 23 measurements were supplemented with results from 14 noise studies conducted by others between 1999 and 2003 for specific development projects in Oakland. The results from this study are summarized in Table 8 for monitoring locations within the vicinity of the proposed project.

Illingworth & Rodkin used Caltrans' noise prediction model LeqV2 to develop noise contours (measured in Ldn) for the major traffic thoroughfares in Oakland (including the state and interstate freeways), employing traffic data obtained from various government agencies. The

data were input into the traffic noise model for calibration with the observed noise measurements, and existing noise levels along city streets and highways were then calculated using the calibrated traffic noise model.

Table 9: Existing Roadway Noise Levels

Street Name	Distance from centerline of road (ft)	Date	Daytime Noise Levels (dBA)	Nighttime Noise Levels	Ldn
International Blvd at 81st Street	75	8/23 to 8/24/2004	67 to 75	61 to 67	73
98th Street at E Street	81	8/23 to 8/24/2004	69 to 72	60 to 68	72
Source: City of Oakland General Plan Noise Element 2005					

4.0 METHODS

The general ambient noise conditions modeled by Illingwork & Rodkin discussed above were used to provide baseline noise conditions at nearby sensitive receptors and within the Project site vicinity. The noise study conducted by Illingwork & Rodkin and presented in the City of Oakland's General Plan Noise Element provides modeled noise levels from a specified distance from the roadway centerline, see Table 8. Average vehicle speeds on local area roadways were assumed to be consistent with posted speed limits and remain as such with or without implementation of the Project. For the purpose of this analysis, potential sensitive receptors were determined by reviewing current aerial photography. The analysis of construction activities was split into two phases, the front portion of the building will be constructed during the first phase and the rear of the building during the second.

Data collected by Illingwork & Rodkin were used as an input to the Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) and Traffic Noise Model (TNM) as the existing ambient noise level input. The RCNM is used as the FHWA's national standard for predicting noise generated from construction activities, while the TNM predicts noise generated from project-specific increase in traffic levels. The TNM was also used to predict the long-term operational noise conditions including indoor noise levels.

The primary method used to evaluate noise impacts for this analysis includes the use of the RCNM and the TNM methodologies. The RCNM analysis includes the calculation of noise levels (Lmax and Leq) at incremental distances for a variety of construction equipment. The spreadsheet inputs include acoustical use factors, Lmax values, and Leq values at the nearest sensitive receptor. For this analysis, it was assumed that a worst-case noise scenario for construction activity would entail the operation of the three noisiest pieces of equipment (grader, dozer, and compactor) simultaneously.

The following construction equipment was used as an input for the RCNM for phase 1 of construction:

1. Demolition
   - Concreate/Industrial Saws
   - Excavators
   - Rubber Tired Dozers

2. Site Preparation
   - Rough Terrain Forklift
   - Tractors/Loaders/Backhoes

3. Grading

- Grader
- Tractors/Loaders/Backhoes
- Small 10,000 Watt Generator
- Excavator

4. Building Construction
   - Rough Terrain Forklift
   - Crane
   - Tractors/Loaders/Backhoes
   - Pneumatic Tools
   - Welder / Torch
   - Small 10,000 Watt Generator

5. Architectural Coating
   - Air Compressors

The following construction equipment was used as an input for the RCNM for phase 2 of construction:

1. Building Construction
   - Rough Terrain Forklift
   - Crane
   - Tractors/Loaders/Backhoes
   - Pneumatic Tools
   - Welder / Torch
   - Small 10,000 Watt Generator

2. Paving
   - Cement and Mortar Mixers
   - Pavers
   - Rollers
   - Tractors/Loaders/Backhoes

3. Architectural Coating
   - Air Compressors

Additionally, vehicular noise along major roadways was modeled to estimate existing noise levels from mobile traffic. The existing roadway noise levels were assessed using the FHWA TNM. The FHWA model is based upon reference energy mean emission levels (REMELS) for automobiles, medium trucks (two axles) and heavy trucks (three or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver,

and the acoustical characteristics of the site. The FHWA TNM was used to predict increases in traffic noise due to Project construction activities and long-term operation of the Project at eight existing sensitive receptors as well as the Project location. Sensitive receptors were identified through review of current aerial photography and are shown on Figure 1.

Approximately 455 truck trips per day are assumed for project construction-related deliveries and worker commute trips during phase 1 of construction. During phase 2, it is estimated that there would be approximately 168 truck trips per day for construction activities. Construction traffic entering and exiting the project site would travel on the following local roadways:

International Boulevard/ SR 185 is a four-lane urban arterial roadway that runs approximately north-south parallel to Interstate 880 (I-880), beginning at the Lake Merritt area, passing through east Oakland and City of San Leandro, and ending in the City of Hayward where it becomes Mission Street.

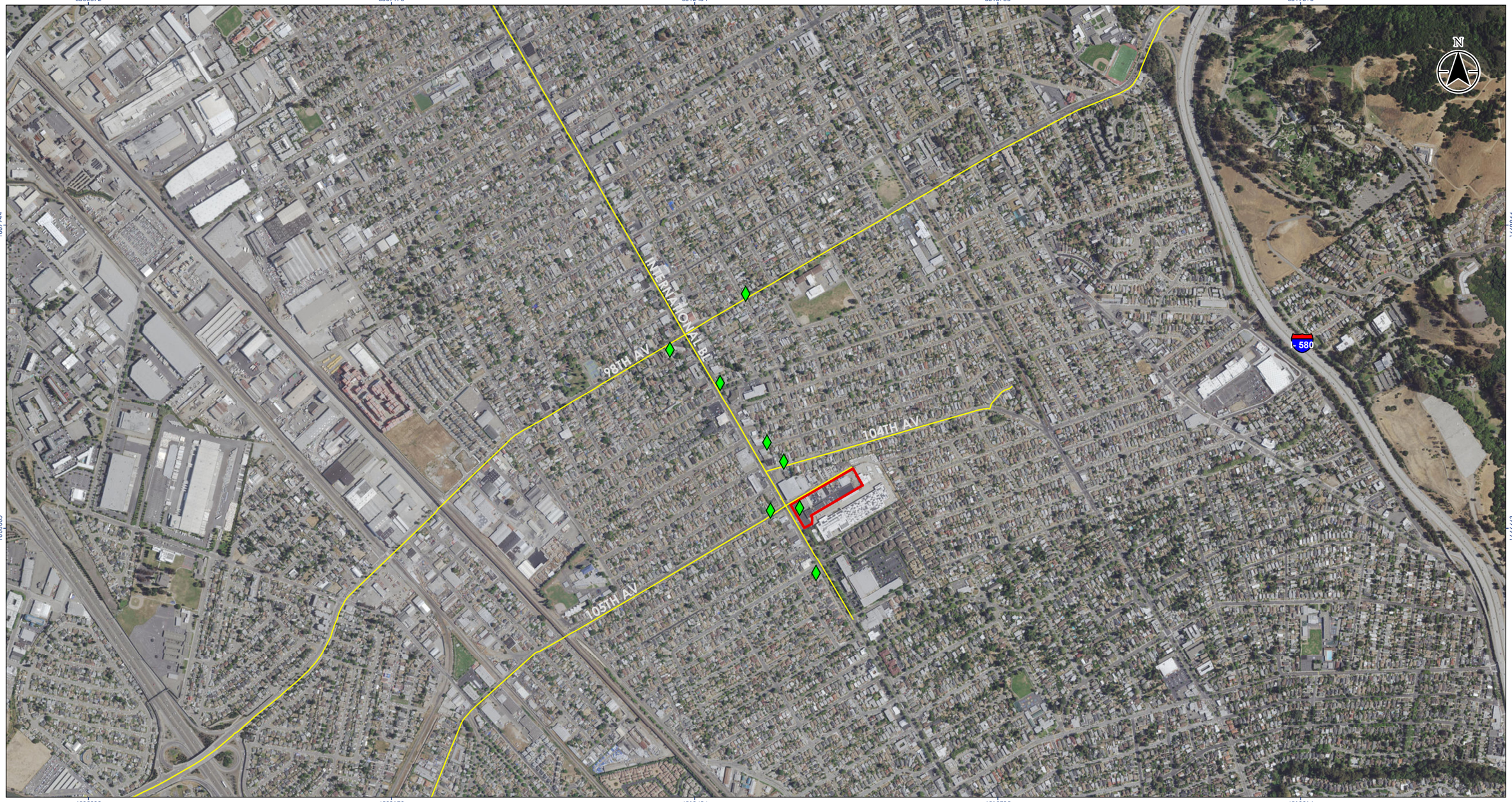
98th Avenue is a four-lane urban arterial roadway that runs approximately east-west between Doolittle Drive and Interstate 580 (I-580). 98th Avenue has interchanges with both the I-880 and I-580 freeways.

104th Avenue is a two-lane collector street that runs east-west between E Street to the west and Bancroft Avenue to the east.

105th Avenue is a two-lane collector street that runs discontinuously between I-880 and Bancroft Avenue in the City of Oakland.

6505892 6509173 6512454 6515735 6519016

1669944



1666663

Legend

- Sensitive Receptor Location
- Road Impacted from Project
- Project Location

Stantec

Figure No.
1

Title
Potential Sensitive Receptor Loactions

Project
City of Oakland International
Boulevard Affordable Housing Project

0 510 1,020 Feet

1:12,568 (at original document size of 11x17)

N

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Stantec conducted a Project specific traffic study during which existing weekday vehicle counts at all the intersections of the roadways listed above were collected. The survey took place during a.m. (7:00 a.m. – 9:00 a.m.) and p.m. (4:00 p.m. – 6:00 p.m.) peak periods. For the purpose of this noise study, the estimated trip generation rates based off of the vehicle counts calculated during the survey were entered into the FHWA TNM in order determine the existing noise conditions at sensitive receptors identified along each of the roadway segments.

The traffic study estimated the increase of vehicle traffic generated from the operations of the proposed project. The Institute of Transportation Engineers (ITE) has compiled the results of trip generation research from over 4,250 individual land use studies throughout the United States and Canada. Trip generation rates for the proposed project are based on data published in this manual. It is expected that the Project would generate approximately 1,256 daily trips, 83 trips (28 inbound and 55 outbound) during the a.m. peak hour and 101 trips (55 inbound and 46 outbound) during the p.m. peak hour. Stantec developed the proposed project's trip distribution based on knowledge of the study area and input from City staff.

Long-term operation of the Project would generate an increase in traffic volumes on the local roadway network within the Project vicinity. Consequently, noise levels from vehicular traffic sources along International Boulevard, 98th Avenue, 104th Avenue, and 105th Avenue would increase. The FHWA TNM was used to predict potential noise impacts to off-site sensitive receptors and to residents of the proposed affordable housing development. Noise impacts resulting from the increase of vehicle traffic were evaluated by comparing existing conditions to construction estimates and the operations noise level projections.

5.0 NOISE ANALYSIS RESULTS

5.1 CONSTRUCTION-RELATED NOISE IMPACTS

Construction of the proposed affordable housing facility is expected to occur over two 18-month phases. Construction noise would typically be generated from the use of graders, compactors, and backhoes. Noise generated from construction activities would be temporary and would occur within the hours allowed by the City's Noise Ordinance.

Table 10 lists equipment that is expected to be used along with noise levels generated from the Federal Highway Administration's Roadway Construction Noise Model (Federal Highway Administration 2006). Lmax sound levels at the nearest sensitive receptor, commercial properties approximately 100 feet from the Project boundary, are shown along with the typical acoustic use factor. The acoustical use factor is the percentage of time each piece of construction equipment is assumed to be operating at full power (i.e., its loudest condition) during construction and is used to estimate Leq values from Lmax values. For example the Leq value for

a piece of equipment that operates at full power 50% of the time (acoustical use factor of 50) is 3 dB less than the Lmax value.

Table 10: RCNM Estimated Construction Equipment Noise Levels at Nearest Receptor

Source	Distance to Nearest Residence	Sound Level at nearest receptor			Phase
		Lmax	Acoustical Use Factor (%)	Leq	
Excavator	100 ft	74.7	40	70.7	Phase 1
Grader	100 ft	79.0	40	75.0	Phase 1
Concrete Saw	100 ft	83.6	20	76.6	Phase 1
Dozer	100 ft	75.6	40	71.7	Phase 1
Backhoe	100 ft	71.5	40	67.6	Phase 1 and Phase 2
Compressor (air)	100 ft	71.6	40	67.7	Phase 1 and Phase 2
Concrete Pump Truck	100 ft	71.6	16	68.4	Phase 1 and Phase 2
Crane	100 ft	74.5	40	66.6	Phase 1 and Phase 2
Generator	100 ft	74.6	50	71.6	Phase 1 and Phase 2
Man Lift	100 ft	68.7	20	61.7	Phase 1 and Phase 2
Pneumatic Tools	100 ft	79.2	20	76.1	Phase 1 and Phase 2
Welder / Torch	100 ft	68.0	40	64.0	Phase 1 and Phase 2
Project construction trucks	100 ft	69.0	40	65.0	Phase 1 and Phase 2
Roller	100 ft	74.0	20	67.0	Phase 2
Source: Federal Highway Administration 2006 (Stantec 2015)					

A reasonable worst-case noise condition for general construction activity is that a grader, excavator, and generator would operate simultaneously. This represents a conservative scenario, as it assumes that all three pieces of equipment would be operating at the same time and same place. Construction would occur in sequential phases. Thus, in reality, it is not likely that the three loudest pieces of equipment would be operating simultaneously at the exact location of the project site closest to the nearest residence. Nevertheless, the RCNM calculated

that this scenario would result in a combined noise level of 79.2 dBA-Lmax and 81.1 dBA-Leq at 100 feet. These calculations represent the worst-case scenario at the nearest residences, located approximately 100 feet from the proposed project where general construction activity would occur.

The type of building construction implemented for the proposed project will allow the building to conform to the natural terrain with only minor amounts of grading, in effect reducing construction noise levels resulting from grading activities. Noise impacts associated with the proposed project construction would result in temporary or periodic increases in ambient noise levels. However, construction activities would be temporary and would occur during daylight hours, all construction equipment powered by internal combustion engines would be properly muffled and maintained, idling of internal combustion engines will be minimized, and all stationery noise-generating construction equipment, such as generators, would be located as far as practically possible from existing residences.

Construction-related traffic (i.e., materials delivery trucks and employee commute vehicles) would pass as close as about 100 feet of several residences located along the access roads. Construction-related deliveries and employee trips during phase 1 are expected to result in approximately 455 truck trips per day over the duration of construction. The traffic noise level was calculated using the FHWA TNM. Table 11 summarizes the results of the FHWA TNM. It is estimated that 455 truck trips per day over the 18-month construction period, traveling approximately 30 mph would generate maximum noise levels of 73.4 dBA, at receptor 1, approximately 100 feet from the roadway centerline.

During phase 2 of construction, approximately 168 construction-related delivery and worker commuter trucks would pass within 100 feet of several residences located along the access routes. Construction traffic noise for phase 2 was calculated using the FHWA TNM. Table 12 summarizes the results of the model for traffic noise during phase 2 of construction. According to the modelling results, it is estimated that 168 trucks per day during the 18-month construction period would generate maximum noise levels of

Table 11: Short Term Construction Impacts Phase 1 (Hourly Equivalent)

Receptor	Existing Noise Level (dBA)	Construction Noise Level (dBA)
1 (off-site)	72.5	73.4
2 (off-site)	72.4	73.3
3 (off-site)	70.7	71.8
4 (off-site)	66.7	67.6
5 (off-site)	61.0	62.2
6 (on-site)	67.7	68.9

7 (off-site)	69.4	70.6
8 (off-site)	68.3	69.5
Source: Federal Highway Administration TNM (Stantec, 2015)		

Table 12: Short Term Construction Impacts Phase 2 (Hourly Equivalent)

Receptor	Existing Noise Level (dBA)	Construction Noise Level (dBA)
1 (off-site)	72.5	72.5
2 (off-site)	72.4	72.4
3 (off-site)	70.7	71.1
4 (off-site)	66.7	66.9
5 (off-site)	61.0	61.3
6 (on-site)	67.7	67.9
7 (off-site)	69.4	69.5
8 (off-site)	68.3	68.7
Source: Federal Highway Administration TNM (Stantec, 2015)		

The results in Table 11 indicate that noise from project construction activity and truck and commute trips during phase 1 would slightly exceed City daytime or Ldn noise standards at the nearest residence. Maximum noise levels due to truck activity at 73.4 dBA, would exceed the daytime maximum exterior residential noise standard of 60 dBA. However, according to the FHWA TNM, existing ambient noise levels currently exceed the daytime maximum exterior residential noise standard. Traffic noise increases due to construction traffic at a maximum would increase noise levels by 0.9 dBA at receptor 1, this increase in noise level is less than 1 dBA, which is typically inaudible to the human ear and would be considered an insignificant increase in noise levels and would not be considered a significant impact.

Similarly, during phase 2 of construction, traffic noise levels would slightly increase from existing ambient noise levels. Maximum noise levels due to the temporary increase in traffic are estimated to be 72.5 dBA, this represents a 0 increase to the existing ambient noise levels and therefore, would be considered insignificant.

Vibration

During construction of the proposed project, equipment such as cranes, excavators, graders, loaders backhoes, and bulldozers may be used as close as 100 feet from the closest sensitive receptor. Construction equipment that would be used during project construction would

generate vibration levels between 0.004 and 0.026 PPV as measured at a distance of 100 feet from the operating machinery. According to Table 13, the groundborne vibration levels are below the FTA vibration threshold at which human annoyance could occur of 0.1 PPV. Therefore, construction related groundborne vibration impacts would be less than significant.

Table 13: Construction Equipment Related to Groundbourne Vibration

Type of Equipment	Peak Particle Velocity at 25 feet	Peak Particle Velocity at 50 feet	Peak Particle Velocity at 100 feet	Threshold at which Human Annoyance could Occur	Potential for proposed project to exceed threshold
Large Bulldozer	0.089	0.031	0.011	0.1	None
Loaded Trucks	0.076	0.027	0.010	0.1	None
Small Bulldozer	0.003	0.001	0.000	0.1	None
Jackhammer	0.035	0.012	0.004	0.1	None
Vibratory Hammer	0.070	0.025	0.009	0.1	None
Vibratory Compactor/roller	0.210	0.074	0.026	0.1	None
Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Guidelines 2006b					

5.2 OPERATIONAL NOISE IMPACTS

Long-term operation of the Project would generate an increase in traffic volumes on the local roadways within the Project vicinity. As Shown in Table 14 the existing conditions currently exceed the applicable City of Oakland noise level thresholds of 60 and 65 dB Ldn. Therefore, potential noise impacts were assessed by comparing estimated increases in noise levels to ambient noise conditions. Existing traffic noise exposure levels indicate that sensitive receptors within and nearby the project area are currently exposed to noise levels ranging from 61.0 dBA to 72.5 dBA.

Table 14: Long Term Impacts (Hourly Equivalent)

Receptor	Existing Noise Level (dBA)	Operational Noise Level (dBA)
1 (off-site)	72.5	73.0
2 (off-site)	72.4	72.9
3 (off-site)	70.7	71.1

Noise Analysis Results
October 26, 2016

Receptor	Existing Noise Level (dBA)	Operational Noise Level (dBA)
4 (off-site)	66.7	67.3
5 (off-site)	61.0	61.4
6 (on-site)	**67.7**	**68.2**
7 (off-site)	69.4	70.0
8 (off-site)	68.3	68.8
Source: Federal Highway Administration TNM (Stantec, 2015)		

Estimated noise levels resulting from the development of the proposed project would change slightly from existing conditions. Traffic noise would increase at a maximum by 0.6 dBA at both receptor 4 and receptor 7, this increase in noise level is less than 1 dBA, which is typically inaudible to the human ear and would be considered an insignificant increase in noise levels and would not be considered a significant impact.

The modeled noise exterior noise levels at the Project boundary (receptor 6) are estimated to be 68.2 dBA. Although these levels exceed the City of Oakland's established threshold for maximum exterior noise levels, according to the noise-land use compatibility matrix (Table 7), the modeled levels are considered conditionally acceptable, meaning that conventional construction will usually suffice as long as it incorporates air conditioning or forced fresh-air supply systems where window can be kept closed (City of Oakland General Plan 2005). In order to ensure noise reductions and meet the City's noise threshold, the Project design includes central air conditioning and forced fresh-air supply systems.

The City of Oakland has established a threshold of 45 dBA Ldn for indoor noise levels for designated residential land uses. Modern construction materials, consistent with the Universal Building Code (UBC), typically provide an exterior-to-interior noise level reduction of 25 to 30 dB with all exterior openings sealed (Caltrans 2013). Therefore, given the projected exterior volumes equaling 68.2 dBA on the site, the projected interior noise conditions for the proposed housing development are estimated at 43.2 dBA. Based on the construction design, it is not anticipated that interior noise levels will exceed the City's threshold, resulting in a less than significant impact.

6.0 CONCLUSION

Noise generation associated with the proposed development is typically attributed to the project construction activities. These include site grading, construction of the building and apparatuses, and the increased traffic related to facility use. Operational noise generation can be attributed to the slight increase to traffic counts from residents, visitors, and workers of the housing development as well as typical residential associated noise, such as, landscape maintenance, waste collection, and people congregating and talking at the community gathering areas.

Based on the FHWA RCNM the proposed project can anticipate, high levels of construction noise, which temporarily are not resulting in any long-term impacts from construction. While the noise level impacts presented for each phase of construction are a "worst-case" scenario and may at times be audible over traffic-related noise level impacts surrounding the area, these high levels are not expected to be continuous. Moreover, these noise levels will occur only during the hours allowed by the City's Noise Ordinance, and will be reduced by the application of noise control techniques affecting and controlling the construction noise at the source. Noise control techniques would be implemented to ensure that noise generated from temporary construction activities would not exceed the City of Oakland's established maximum outdoor noise threshold at nearby sensitive receptors.

Furthermore, based on the FHWA TNM; which included, noise volumes from existing and projected roadway noise, project occupants can anticipate long-term exterior operational noise conditions below the City's thresholds of significance. Likewise, given the anticipated noise reduction offered by the proposed building structure, the project occupants can anticipate long-term interior noise levels below the City's interior thresholds of significance. In summary, the proposed project is not anticipated to exceed interior noise levels above the City's thresholds of significance.

7.0 REFERENCES

California Department of Transportation. 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. Website: http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013B.pdf. Accessed February 10, 2015.

California Department of Transportation. 2004. Transportation-and Construction-Induced Vibration Guidance Manual. 2004. Website: http://www.dot.ca.gov/hq/env/noise/pub/vibrationmanFINAL.pdf. Accessed February 9, 2015.

City of Oakland General Plan. 2005. Website: http://www2.oaklandnet.com/Government/o/PBN/OurServices/GeneralPlan/DOWD008821 Accessed February 10, 2015

Egan, David M. Architectural Acoustics. J. Ross Pub., Pub 2007

Federal Highway Administration. 2011. Highway Traffic Noise. Website: http://www.fhwa.dot.gov/environment/noise/noise_barriers/design_construction/keepdown.cfm. Accessed February 10, 2015.

Federal Highway Administration. 2006. Construction Noise Handbook. Website: http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/. Accessed February 11, 2015

Federal Transit Administration. 2006. Transit Noise and Vibration Impact Assessment. Website: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf. Accessed February 10, 2015.

Hoover & Keith Inc. 2000. Noise Control for Buildings, Manufacturing Plants, Equipment and Products. Lecture Notes, first published in 1981. Houston, TX.

State of California. Governor's Office of Planning and Research. 2003. General Plan Guidelines. Website: http://opr.ca.gov/docs/General_Plan_Guidelines_2003.pdf. Accessed February 12, 2015.

APPENDICES

Appendix A FHWA RCNM RESULTS

Roadway Construction Noise Model (RCNM), Version 1.

Report date: 10/26/2002 16
Case Description:

Receptor #1

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
receptor 1	Commercial	73	73	73

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40		77.6	100	0
Compressor (air)	No	40		77.7	100	0
Concrete Pump Truck	No	20		81.4	100	0
Crane	No	16		80.6	100	0
Excavator	No	40		80.7	100	0
Generator	No	50		80.6	100	0
Grader	No	40	85		100	0
Pickup Truck	No	40		75	100	0
Pneumatic Tools	No	50		85.2	100	0
Welder / Torch	No	40		74	100	0
Concrete Saw	No	20		89.6	100	0
Dozer	No	40		81.7	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	75.4	68.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	74.5	66.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	74.6	71.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	79	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pickup Truck	69	65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pneumatic Tools	79.2	76.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	83.6	76.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	75.6	71.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	83.6	82.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Appendix B FHWA TNM RESULTS

Existing Noise Conditions

RESULTS: SOUND LEVELS **<Project Name?>**

<Organization?>
<Analysis By?>

8 March 2016
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: **<Project Name?>**
RUN: **<Run Title?>**
BARRIER DESIGN: **INPUT HEIGHTS**

ATMOSPHERICS: **20 deg C, 50% RH**

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	No Barrier LAeq1h Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	With Barrier Noise Reduction Calculated	With Barrier Noise Reduction Goal	With Barrier Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	68.0	72.5	66	4.5	10	Snd Lvl	72.5	0.0	8	-8.0
Receiver2	2	1	68.0	72.4	66	4.4	10	Snd Lvl	72.4	0.0	8	-8.0
Receiver3	3	1	68.0	70.7	66	2.7	10	Snd Lvl	70.7	0.0	8	-8.0
Receiver4	4	1	68.0	66.7	66	-1.3	10	Snd Lvl	66.7	0.0	8	-8.0
Receiver5	5	1	68.0	61.0	66	-7.0	10	----	61.0	0.0	8	-8.0
Receiver6	6	1	68.0	67.7	66	-0.3	10	Snd Lvl	67.7	0.0	8	-8.0
Receiver7	7	1	68.0	69.4	66	1.4	10	Snd Lvl	69.4	0.0	8	-8.0
Receiver8	8	1	68.0	68.3	66	0.3	10	Snd Lvl	68.3	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	8	0.0	0.0	0.0
All Impacted	7	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Predicted Construction Noise - Phase 1

RESULTS: SOUND LEVELS

<Project Name?>

<Organization?>
<Analysis By?>

26 October 2016
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: <Project Name?>
RUN: <Run Title?>
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	No Barrier LAeq1h Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	With Barrier Noise Reduction Calculated	With Barrier Noise Reduction Goal	With Barrier Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	68.0	73.4	66	5.4	10	Snd Lvl	73.4	0.0	8	-8.0
Receiver2	2	1	68.0	73.3	66	5.3	10	Snd Lvl	73.3	0.0	8	-8.0
Receiver3	3	1	68.0	71.8	66	3.8	10	Snd Lvl	71.8	0.0	8	-8.0
Receiver4	4	1	68.0	67.6	66	-0.4	10	Snd Lvl	67.6	0.0	8	-8.0
Receiver5	5	1	68.0	62.2	66	-5.8	10	----	62.2	0.0	8	-8.0
Receiver6	6	1	68.0	68.9	66	0.9	10	Snd Lvl	68.9	0.0	8	-8.0
Receiver7	7	1	68.0	70.6	66	2.6	10	Snd Lvl	70.6	0.0	8	-8.0
Receiver8	8	1	68.0	69.5	66	1.5	10	Snd Lvl	69.5	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	8	0.0	0.0	0.0
All Impacted	7	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Predicted Construction Noise - Phase 2

RESULTS: SOUND LEVELS <Project Name?>

<Organization?>
<Analysis By?>

26 October 2016
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: <Project Name?>
RUN: <Run Title?>
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	No Barrier LAeq1h Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	With Barrier Noise Reduction Calculated	With Barrier Noise Reduction Goal	With Barrier Noise Reduction Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	68.0	72.5	66	4.5	10	Snd Lvl	72.5	0.0	8	-8.0
Receiver2	2	1	68.0	72.4	66	4.4	10	Snd Lvl	72.4	0.0	8	-8.0
Receiver3	3	1	68.0	71.1	66	3.1	10	Snd Lvl	71.1	0.0	8	-8.0
Receiver4	4	1	68.0	66.9	66	-1.1	10	Snd Lvl	66.9	0.0	8	-8.0
Receiver5	5	1	68.0	61.3	66	-6.7	10	----	61.3	0.0	8	-8.0
Receiver6	6	1	68.0	67.9	66	-0.1	10	Snd Lvl	67.9	0.0	8	-8.0
Receiver7	7	1	68.0	69.5	66	1.5	10	Snd Lvl	69.5	0.0	8	-8.0
Receiver8	8	1	68.0	68.7	66	0.7	10	Snd Lvl	68.7	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	8	0.0	0.0	0.0
All Impacted	7	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Predicted Operational Noise

RESULTS: SOUND LEVELS <Project Name?>

<Organization?>
<Analysis By?>

18 October 2016
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: <Project Name?>
RUN: <Run Title?>
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 20 deg C, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver

Name	No.	#DUs	Existing LAeq1h	No Barrier					With Barrier			
				LAeq1h		Increase over existing		Type Impact	Calculated LAeq1h	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc			Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver1	1	1	68.0	73.0	66	5.0	10	Snd Lvl	73.0	0.0	8	-8.0
Receiver2	2	1	68.0	72.9	66	4.9	10	Snd Lvl	72.9	0.0	8	-8.0
Receiver3	3	1	68.0	71.1	66	3.1	10	Snd Lvl	71.1	0.0	8	-8.0
Receiver4	4	1	68.0	67.3	66	-0.7	10	Snd Lvl	67.3	0.0	8	-8.0
Receiver5	5	1	68.0	61.4	66	-6.6	10	---	61.4	0.0	8	-8.0
Receiver6	6	1	68.0	68.2	66	0.2	10	Snd Lvl	68.2	0.0	8	-8.0
Receiver7	7	1	68.0	70.0	66	2.0	10	Snd Lvl	70.0	0.0	8	-8.0
Receiver8	8	1	68.0	68.8	66	0.8	10	Snd Lvl	68.8	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	8	0.0	0.0	0.0
All Impacted	7	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

ATTACHMENT G

International Boulevard Senior Housing Project

Air Quality and Greenhouse Gas Technical Report

City of Oakland, California

Prepared for:
City of Oakland
Bureau of Planning
250 Frank H. Ogawa Plaza Suite 2114
Oakland, CA 94612

Prepared by:
Stantec Consulting Services Inc.
1340 Treat Boulevard, Suite 300
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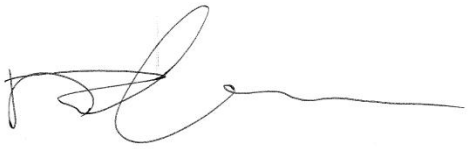
May 5, 2017

Sign-off Sheet

This document entitled International Boulevard Senior Housing ProjectAir Quality and Greenhouse Gas Technical Report was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of The Pacific Companies (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by 

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Kate Gross, Environmental Scientist

Reviewed by 

(signature)

Trevor Macenski, Principal

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1.0 INTRODUCTION

1.1 AIR QUALITY AND GREENHOUSE GAS TECHNICAL STUDY PURPOSE

The purpose of this Technical Report is to support the International Boulevard Senior Housing Project California Environmental Quality Act (CEQA) Categorical Exemption (Cat Ex). This Report provides analyses of potential Project-related impacts for exposure to emission based pollutants during project construction and operation. This study has been prepared to analyze the potential construction-related air quality and greenhouse gas impacts generated from the proposed project and estimate the potential operational emissions located at the proposed affordable housing development. This Report will be used as supplementary analyses to support the CEQA Cat Ex.

Specifically, the purpose of this study is to assess the emissions generated from the proposed project and the localized and cumulative impact from those emissions. This technical study report includes an evaluation of the proposed emissions generating activities that could affect offsite sensitive receptors during construction as well as long term cumulative emissions impacts.

Pollutant emissions associated with housing development projects are typically attributed to the combustion of fossil fuels from the operation of internal combustion engines used during project construction activities. These include site grading, construction of the building and apparatuses, architectural coating, and the increased traffic related to material delivery. Operational emissions can be attributed to the increase in vehicular traffic from residents, visitors, and workers of the housing development.

1.2 PROJECT DESCRIPTION AND LOCATION

The proposed project is approximately 3.9 acres and located on 10500 International Boulevard in the City of Oakland, Alameda County, California. The site is within the City of Oakland International Boulevard Transit-Oriented Development plan, in the Elmhurst South district. The land use designation is Community Commercial which allows up to 125 residential units per acre. Community Commercial areas may include neighborhood center uses and larger scale retail and commercial uses, such as auto related businesses, business and personal services, health services and medical uses, educational facilities, and entertainment uses. Community Commercial areas can be complemented by the addition of urban residential development and compatible mixed use development. The proposed project would be a mixed-use project consistent with the General Plan that will improve the surrounding area while enhancing the vision of the City.

The proposed development will have a total of 529 senior housing. The scope of the project includes the construction of the apartment community and renovation of the façades of the existing commercial uses along International Boulevard. The new residential structure will include

one floor of parking and five stories of residential setback ten feet on all sides except the side adjacent to 105th Avenue. Various amenities and common open space are proposed for the project. There will be a total of 327 parking stalls in the ground floor parking garage for the residential portion of the project resulting in a ratio of 0.62 stalls for residents. Two hundred seventy-five (275) of the stalls will be standard with 52 at compact dimensions. Twenty-one (21) of the stalls will be tandem. The residential parking can be accessed through three vehicular entries from 105th Avenue. The project will be constructed in two phases.

2.0 REGULATORY SETTING

The Project site is within the San Francisco Bay Area Air Basin and is under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD), California Air Resources Board (CARB), and Environmental Protection Agency (EPA).

2.1 FEDERAL

Federal Clean Air Act

The Federal Clean Air Act (FCAA) establishes the framework for modern air pollution control. The FCAA, enacted in 1970 and amended in 1990, directs the EPA to establish ambient air quality standards. These standards are divided into primary and secondary standards, the former are set to protect human health, the latter are set to protect environmental values, such as plant and animal life. Standards have been established for the following six pollutants:

- Ozone (O_3) According to CARB, ozone is a pollutant that forms in the atmosphere through complex reactions between chemicals directly emitted from vehicles, industrial plants, and many other sources. Key pollutants involved in ozone formation are hydrocarbon and nitrogen oxide gases. Ozone is a highly reactive and unstable gas capable of damaging the linings of the respiratory tract. Exposure to levels of ozone above the current ambient air quality standard can lead to human health effects such as lung inflammation and tissue damage and impaired lung functioning. Ozone exposure is also associated with symptoms such as coughing, chest tightness, shortness of breath, and the worsening of asthma symptoms. The greatest risk for harmful health effects belongs to outdoor workers, athletes, children and others who spend greater amounts of time outdoors during smoggy periods. Elevated ozone levels can reduce crop and timber yields, as well as damage native plants. (CARB 2009)

- Carbon monoxide (CO): According to the EPA, "CO is a colorless, odorless gas emitted from combustion processes. Nationally and, particularly in urban areas, the majority of CO emissions to ambient air come from mobile sources. CO can cause harmful health effects by reducing oxygen delivery to the body's organs (like the heart and brain) and tissues. At extremely high levels, CO can cause death. EPA first set air quality standards for CO in 1971. For protection of both public health and welfare, EPA set an 8-hour primary standard at 9 parts per million (ppm) and a 1-hour primary standard at 35 ppm. In a review of the standards completed in 1985, EPA revoked the secondary standards (for public welfare) due to a lack of evidence of adverse effects on public welfare at or near ambient concentrations. The last review of the CO National Ambient Air Quality Standards (NAAQS) was completed in 1994 and the Agency chose not to revise the standards at that time" (EPA 2014)

- Lead (Pb): According to the EPA, "Pb is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been from fuels in on-road motor vehicles (such as cars and trucks) and industrial sources. As a result of EPA's regulatory efforts to remove lead from on-road motor vehicle gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions to the air today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers" (EPA 2012)

- Nitrogen Oxides (NO_x): According to CARB, "NO_2 is a reactive, oxidizing gas capable of damaging cells lining the respiratory tract. This pollutant is also an essential ingredient in the formation of ground-level ozone pollution. NO_2 is one of the nitrogen oxides emitted from high-temperature combustion processes, such as those occurring in trucks, cars and power plants. In the presence of sunlight, complex reactions of nitrogen oxides with ozone and other air pollutants produce the majority of NO_2 in the atmosphere. Indoors, home heaters and gas stoves also produce substantial amounts of NO_2. Exposure to NO_2 along with other traffic-related pollutants, is associated with respiratory symptoms, episodes of respiratory illness and impaired lung functioning. Studies in animals have reported biochemical, structural, and cellular changes in the lung when exposed to NO_2 above the level of the current California air quality standard. Clinical studies of human subjects suggest that NO_2 exposure to levels near the current standard may worsen the effect of allergens in allergic asthmatics, especially in children" (CARB 2011)

- Particulate matter (PM_{10}, $PM_{2.5}$): According to CARB, "PM is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, and dust. Particles 10 microns or less in diameter are defined as "respirable particulate matter" or "PM_{10}." Fine particles are 2.5 microns or less in diameter or "$PM_{2.5}$" and can contribute significantly to regional haze and reduction of visibility in California. Extensive research indicates that exposure to outdoor PM_{10} and $PM_{2.5}$ levels exceeding current air quality standards is associated with increased risk of hospitalization for lung and heart-related respiratory illness, including emergency room visits for asthma. PM exposure is also associated with increased risk of premature deaths, especially in the elderly and people with pre-existing cardiopulmonary disease. In children, studies have shown associations between PM exposure and reduced lung function and increased respiratory symptoms and illnesses. Besides reducing visibility, the acidic portion of PM (nitrates, sulfates) can harm crops, forests, aquatic and other ecosystems" (CARB 2005).

- Sulfur dioxide (SO_2): According to the EPA, "SO_2 is one of a group of highly reactive gasses known as "oxides of sulfur." The largest sources of SO_2 emissions are from fossil fuel combustion at power plants (73%) and other industrial facilities (20%). Smaller sources of

> SO_2 emissions include industrial processes such as extracting metal from ore, and the burning of high sulfur containing fuels by locomotives, large ships, and non-road equipment. SO_2 is linked with a number of adverse effects on the respiratory system. EPA first set standards for SO_2 in 1971. EPA set a 24-hour primary standard at 140 ppb and an annual average standard at 30 ppb (to protect health). EPA also set a 3-hour average secondary standard at 500 ppb (to protect the public welfare). The last review of the SO_2 NAAQS was completed in 1996 and the Agency chose not to revise the standards. In the last review, EPA also considered, but did not set, a five minute NAAQS to protect asthmatics at elevated ventilation rates from bronchoconstriction and respiratory symptoms associated with 5-10 minute peaks of SO2" (EPA 2012)

Toxic Air Contaminants (TACs)

Toxic Air Contaminants (TACs) are air contaminants not included in the California Ambient Air Quality Standards (CAAQS) but are considered hazardous to human health. TACs are defined by the California Air Resources Board (CARB) as those pollutants that "may cause or contribute to an increase in deaths or in serious illness, or which may pose a present or potential hazard to human health".

The health effects associated with TACs are generally assessed locally rather than regionally. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis or genetic damage; or short-term acute affects such as eye watering, respiratory irritation, running nose, throat pain, and headaches. For evaluation purposes, TACs are separated into carcinogens and non-carcinogens. Carcinogens are assumed to have no safe threshold below which health impacts would not occur, and the cancer risk is expressed as excess cancer cases per one million exposed individuals, typically over a lifetime of exposure.

Diesel Particulate Matter

Diesel particulate matter is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas or particle. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde and polycyclic aromatic hydrocarbons. The particle phase also has many different types of particles that can be classified by size or composition. The size of diesel particulates that are of greatest health concern are those that are in the categories of fine, and ultra-fine particles. The composition of these fine and ultra-fine particles may be composed of elemental carbon with adsorbed compounds such as organic compounds, sulfate, nitrate, metals and other trace elements. Diesel exhaust is emitted from a broad range of diesel engines; the on-road diesel engines of trucks, buses and cars and the off road diesel engines that include locomotives, marine vessels and heavy duty equipment (EPA 2014).

Asbestos

Asbestos is a fibrous mineral which is both naturally occurring in ultramafic rock (a rock type commonly found in California), and used as a processed component of building materials. Because asbestos has been proven to cause a number of disabling and fatal diseases, such as asbestosis and lung cancer, it is strictly regulated either based on its natural widespread occurrence, or in its use as a building material. In the initial Asbestos National Emission Standards for Hazardous Air Pollutants rule promulgated in 1973, a distinction was made between building materials that would readily release asbestos fibers when damaged or disturbed (friable) and those materials that were unlikely to result in significant fiber release (non-friable). The EPA has since determined that, severely damaged, otherwise non-friable materials can release significant amounts of asbestos fibers. Asbestos has been banned from many building materials under the Toxic Substances Control Act, the Clean Air Act, and the Consumer Product Safety Act.

Greenhouse Gases

Greenhouse gases (GHGs) and climate changes are a cumulative global issue. The CARB and EPA regulate GHG emissions within the State of California and the United States, respectively. While the CARB has the primary regulatory responsibility within California for GHG emissions, local agencies can also adopt policies for GHG emission reduction.

Many chemical compounds in the Earth's atmosphere act as GHGs, they absorb and emit radiation within the thermal infrared range. When radiation from the sun reaches the Earth's surface, some of it is reflected back into the atmosphere as infrared radiation (heat). GHGs absorb this infrared radiation and trap the heat in the atmosphere. Over time, the amount of energy from the sun to the Earth's surface should be approximately equal to the amount of energy radiated back into space, leaving the temperature of the Earth's surface roughly constant. Many gases exhibit these "greenhouse" properties. Some of them occur in nature (water vapor, carbon dioxide, methane, and nitrous oxide), while others are exclusively human-made (like gases used for aerosols) (EPA 2014b).

The principal climate change gases resulting from human activity that enter and accumulate in the atmosphere are listed below:

- **Carbon Dioxide (CO_2):** CO_2 enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and chemical reactions (e.g., the manufacture of cement). CO_2 is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.

- **Methane (CH_4):** CH_4 is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and agricultural practices and the decay of organic waste in municipal solid waste landfills.

- **Nitrous Oxide (N_2O):** N_2O is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.

- **Fluorinated Gases:** Hydrofluorocarbons (HFCs), Perfluorinated Chemicals (PFCs), and SF_6 are synthetic, powerful climate-change gases that are emitted from a variety of industrial processes. Fluorinated gases are often used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). These gases are typically emitted in smaller quantities, but because they are potent climate-change gases, they are sometimes referred to as high Global Warming Potential (GWP) gases.

Emissions Inventories and Trends

California is the second-largest contributor in the United States of GHGs and the sixteenth-largest in the world (California Energy Commission 2006). According to the ARB's recent greenhouse gas inventory for the State, released August 2013, California produced 459 million metric tons of carbon dioxide equivalents ($MTCO_2e$) in 2012 (ARB 2014). The major source of GHGs in California is transportation, contributing 37 percent of the State's total GHG emissions in 2012.

Potential Environmental Effects

For California, climate change in the form of warming has the potential to incur/exacerbate environmental impacts, including but not limited to changes to precipitation and runoff patterns, increased agricultural demand for water, inundation of low-lying coastal areas by sea-level rise, and increased incidents and severity of wildfire events (Moser et al. 2009). Cooling of the climate may have the opposite effects. Although certain environmental effects are widely accepted to be a potential hazard to certain locations, such as rising sea level for low-lying coastal areas, it is currently infeasible to predict all environmental effects of climate change on any one location.

U.S. Environmental Protection Agency

On April 2, 2007, in Massachusetts v. EPA, 549 U.S. 497 (2007), the Supreme Court found that GHGs are air pollutants covered by the Federal Clean Air Act (FCAA). The Court held that the EPA must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the EPA was required to follow the language of Section 202(a) of the FCAA. This is because the Supreme Court decision resulted from a petition for rulemaking under Section 202(a) filed by more than a dozen environmental, renewable energy, and other organizations.

On April 17, 2009, the EPA Administrator signed proposed "endangerment and cause or contributes findings" for GHGs under Section 202(a) of the Federal CAA. The EPA held a 60-day public comment period, which ended June 23, 2009, and received over 380,000 public comments. These included both written comments as well as testimony at two public hearings in

Arlington, Virginia subsequently Seattle, Washington. The EPA carefully reviewed, considered, and incorporated public comments and has now issued these final Findings.

The EPA found that six GHGs taken in combination endanger both the public health and the public welfare of current and future generations. The EPA also found that the combined emissions of these GHGs from new motor vehicle engines contribute to the greenhouse as air pollution that endangers public health and welfare under FCAA section 202(a). These Findings were based on careful consideration of the full weight of scientific evidence and a thorough review of numerous public comments received on the Proposed Findings published April 24, 2009. These Findings went into effect on January 14, 2010 (EPA 2014).

2.2 STATE

California Clean Air Act

The California Clean Air Act (CAA) focuses on attainment of the California Ambient Air Quality Standards (CAAQS). These standards are more stringent than federal regulations with respect to certain Criteria Pollutants and averaging periods. Responsibility for monitoring the CAAQS is placed on CARB and local air pollution control districts.

California State Implementation Plan

According to CARB, the "Federal clean air laws require areas with unhealthy levels of ozone, inhalable particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide to develop plans, known as State Implementation Plans (SIPs). SIPs are comprehensive plans that describe how an area will attain NAAQS. The 1990 amendments to the federal CCA set deadlines for attainment based on the severity of an area's air pollution problem" (CARB 2015).

Table 1: California and National Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards	
		Concentration	Primary	Secondary
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m3)	—	Same as Primary Standard
	8 Hour	0.070 ppm (137 µg/m3)	0.075 ppm (147 µg/m3)	
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m3	150 µg/m3	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m3	—	
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	—	35 µg/m^3	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	—
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	—
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	—	—
Nitrogen Dioxide (NO_2)	1 Hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m3)	—
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary Standard
Sulfur Dioxide (SO_2)	1 Hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	—
	3 Hour	—	—	0.5 ppm (1300 µg/m3)
	24 Hour	0.04 ppm (105 µg/m3)	0.14 ppm (for certain areas)9	—
	Annual Arithmetic Mean	—	0.030 ppm (for certain areas)9	—
Lead	30 Day Average	1.5 µg/m3	—	—
	Calendar Quarter	—		Same as Primary Standard
	Rolling 3-Month Average	—		
Visibility Reducing	8 Hour	See footnote 12	No National Standards	

Pollutant	Averaging Time	California Standards	National Standards	
		Concentration	Primary	Secondary
Particles				
Sulfates	24 Hour	25 µg/m3		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m3)		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m3)		
Source: CARB 2013				

Table 2: Alameda County Area Designations for State and National Ambient Air Quality

Criteria Pollutants	State Designation	National Designation
Ozone	Non-attainment	Non-attainment
PM_{10}	Non-attainment	Unclassified
$PM_{2.5}$	Non-attainment	Non-attainment
Carbon Monoxide	Attainment	Unclassified /Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified
Sulfates	Attainment	-
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	-
Visibility Reducing Particles	Unclassified	-
Source: CARB 2013		

Greenhouse Gases

There are a variety of statewide rules and regulations which have been implemented or are in development in California which mandates the quantification or reduction of GHGs. Under CEQA, an analysis and mitigation of emissions of GHGs and climate change in relation to a proposed project is required where it has been determined that a project will result in a significant addition of GHGs. Certain Air Pollution Control Districts (APCDs) have proposed their own levels of significance.

Executive Order S-3-05

Executive Order S-3-05 was established by Governor Arnold Schwarzenegger in June 2006 and establishes the following statewide emission reduction targets through the year 2050:

- by 2010, reduce GHG emissions to 2000 levels
- by 2020, reduce GHG emissions to 1990 levels
- by 2050, reduce GHG emissions to 80 percent below 1990 levels

This Executive Order does not include any specific requirements that would pertain directly to the proposed project. However, actions taken by the State to implement these goals may affect the proposed project, depending on the specific implementation measures that are developed.

Assembly Bill 32

AB 32, also known as the California Global Warming Solutions Act of 2006, was established in 2006 to mandate the quantification and reduction of GHGs to 1990 levels by 2020. The law establishes periodic targets for reductions, and requires certain facilities to report emissions of GHGs annually. The bill also reserves the ability to reduce emissions targets lower than those proposed in certain sectors which contribute the most to emissions of GHGs, including transportation. Additionally, the bill requires:

- Prepare and approve a Scoping Plan for achieving the maximum technologically feasible and cost-effective reductions in GHG emissions from sources or categories of sources of GHGs by 2020, and update the Scoping Plan every five years.
- Maintain and continue reductions in emissions of GHG beyond 2020.
- Identify the statewide level of GHG emissions in 1990 to serve as the emissions limit to be achieved by 2020.
- Identify and adopt regulations for discrete early actions that could be enforceable on or before January 1, 2010.
- Adopt a regulation that establishes a system of market-based declining annual aggregate emission limits for sources or categories of sources that emit GHG emissions.
- Convene an Environmental Justice Advisory Committee to advise the Board in developing and updating the Scoping Plan and any other pertinent matter in implementing AB 32.
- Appoint an Economic and Technology Advancement Advisory Committee to provide recommendations for technologies, research and GHG emission reduction measures.

The Assembly Bill 32 Scoping Plan contains the main strategies California will use to reduce the GHG that cause climate change. The scoping plan has a range of GHG reduction actions which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 cost of implementation fee regulation to fund the program.

2.3 LOCAL

Bay Area Air Quality Management District

The BAAQMD regulates air quality in the Air Basin. The BAAQMD is responsible for controlling and permitting industrial pollution sources (such as power plants, refineries, and manufacturing operations) and widespread, area wide sources (such as bakeries, dry cleaners, service stations, and commercial paint applicators), and for adopting local air quality plans and rules.

Air Quality Plans

As described above under federal and state regulations, a SIP is a federal requirement; each state prepares a SIP to describe existing air quality conditions and measures that will be followed to attain and maintain the federal standards. In addition, in California state ozone standards have planning requirements. However, state PM_{10} standards have no attainment planning requirements, but air districts must demonstrate that all measures feasible for the area have been adopted. Because the Air Basin is nonattainment for the federal and state ozone standards, the BAAQMD prepared an Ozone Attainment Demonstration Plan to satisfy the federal 1-hour ozone planning requirement and a Clean Air Plan to satisfy the state 1-hour ozone planning requirement.

The latest Air Quality Plan (AQP) in the Basin is the 2010 Clean Air Plan, which provides the following:

- Review progress in improving Bay Area air quality to date.
- Establish a control strategy including "all feasible measures" to achieve state ozone standards by the earliest practicable date and reduce transport of ozone precursors to neighboring air basins.
- Address ozone, particulate matter, air toxics, and GHG emissions in a single integrated plan.

AQPs are required to address transportation control measures requirements of the federal Clean Air Act and California Clean Air Act. Transportation control measures are defined as "any strategy to reduce vehicle trips, vehicle use, vehicle miles traveled (VMT), vehicle idling, or traffic congestion for the purpose of reducing motor vehicle emissions." The Bay Area has extensive experience with developing and implementing transportation control measures. The first regional plan prepared pursuant to the California Clean Air Act, the 1991 Clean Air Plan, included 23 transportation control measures to meet state planning requirements (state transportation control measures). Plan updates in 1994 and 1997 included revisions to the transportation control measures.

BAAQMD Climate Protection Program

The BAAQMD established a climate protection program in 2005 to reduce pollutants that contribute to global climate change and affect air quality in the San Francisco Bay Area Air Basin (SFBAAB). The climate protection program includes measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative sources of energy all of which assist in reducing emissions of GHG and in reducing air pollutants that affect the health of residents. The Air District is updating the 2010 Bay Area Clean Air Plan in partnership with the Association of Bay Area Governments, the Bay Conservation and Development Commission, and the Metropolitan Transportation Commission. The Bay Area's first-ever comprehensive Regional Climate Protection Strategy will be included in the 2016 Clean Air Plan - which will identify potential rules, control measures, and strategies that the Air District can pursue to reduce greenhouse gases throughout the Bay Area.

Rules and Regulations

The BAAQMD has established rules and regulations to attain and maintain station and national air quality standards. The rules and regulations that apply to this Project include, but are not limited to, the following:

Regulation 2, Rule 2. New Source Review. This rule requires any new source resulting in an increase of any criteria pollutant to be evaluated for adherence to best available control technology. For compression internal combustion engines, best available control technology requires that the generator be fired on "California Diesel Fuel" (fuel oil with a sulfur content less than 0.05 percent by weight and less than 20 percent by volume of aromatic hydrocarbons). All stationary internal combustion engines larger than 50 horsepower must obtain a Permit to Operate. If the engine is diesel fueled, then it must also comply with the District administered Statewide Air Toxics Control Measure for Stationary Diesel Engines.

Regulation 2, Rule 5. New Source Review of Toxic Air Contaminants. This rule applies to preconstruction review of new and modified sources of toxic air contaminants, contains project health risk limits, and requires Toxics Best Available Control Technology.

Regulation 6, Rule 2. Commercial Cooking Equipment. The purpose of this rule is to reduce emissions from commercial cooking equipment, and it applies to chain driving or under fired charbroilers.

Regulation 8, Rule 3. Architectural Coatings. This rule governs the manufacture, distribution, and sale of architectural coatings and limits the ROG content in paints and paint solvents. Although this rule does not directly apply to the Project, it does dictate the ROG content of paint available for use during the construction.

Regulation 8, Rule 15. Emulsified and Liquid Asphalts. Although this rule does not directly apply to the Project, it does dictate the ROG content of asphalt available for use during the construction through regulating the sale and use of asphalt and limits the ROG content in asphalt.

Alameda County General Plan

Alameda County has developed goals and policies as a part of its General Plan in order to address air quality issues within the region.

GOAL 12.1-1 Improve air quality and meet all Federal and State ambient air quality standards by reducing the generation of air pollutants from stationary and mobile sources and by appropriate siting and design of sensitive land uses.

Policy 12.1-1 Promotion of Alternate Travel Modes to Reduce Air Pollution. Promote pedestrian, bicycle, and transit modes of travel to reduce air pollutant emissions from automobiles. (Action Steps for this policy are located in Chapter 6 – Transportation.)

Policy 12.1-2 Land Use Planning to Reduce Air Pollution. Promote land use mixes and development densities that encourage pedestrian, bicycle and transit modes of travel to reduce air pollutant emissions from automobiles. (Action Steps for this policy are located in Chapter 4 - Land Use and Community Development.)

Policy 12.1-5 Air Quality Requirements for Construction and Demolition Activities. Reduce combustion emissions and release of suspended and inhalable particulate matter during construction and demolition phases.

Action 12.1-4 BAAQMD's Dust Abatement Approach. Require sponsors of individual development projects requiring site development and/or environmental review to implement the BAAQMD's approach to dust abatement through conditions of approval. This calls for "basic" control measures that should be implemented at all construction sites, "enhanced" control measures that should be implemented in addition to the basic control measures at construction sites greater than four acres in area, and "optional" control measures that should be implemented on a case-by-case basis at construction sites that are large in area, located near sensitive receptors or which, for any other reason, may warrant additional emissions reductions.

Alameda County Climate Action Plan

Alameda County has developed a Climate Action Plan as a comprehensive climate protection strategy. The following regulatory actions are pertinent to the proposed project:

Bay-Friendly Landscaping Resolution (Adopted 2008) Bay-Friendly Landscaping is a whole systems approach to creating and maintaining landscapes that reduces waste, nurtures healthy soils, conserves water, energy and topsoil, minimizes chemical use, reduces stormwater runoff, and creates wildlife habitat. The County's policy requires incorporating Bay-Friendly Landscaping elements in County landscape projects and in public-private projects built on County-owned land.

Climate Action Plan for Government Services and Operations Resolution (Adopted 2010) The Alameda County Climate Action Plan for Government Services and Operations provides a comprehensive blueprint to achieve at least 15% greenhouse gas emissions reductions by 2020 and make County services more efficient. Fulfilling the commitments made in the 2006 and 2007 climate resolutions, this resolution adopts the Plan, 16 Commitments to Climate Protection, and short-term

and long-term greenhouse gas emissions reduction targets for government services and operations.

Climate Change Leadership Resolution (Adopted 2006) Climate change threatens the health and economic vitality of our community. This resolution commits the County to create a climate action plan for County government and unincorporated areas.

Climate Action Principles Resolution (Adopted 2012) The Alameda County Climate Action Plan for Government Services and Operations contains 80 recommended actions. In 2011-2012, specific programs and principles were developed to facilitate implementation of a subset of these recommended actions which require coordination across County agencies. This resolution lays out key approaches that agencies are instructed to undertake to reduce greenhouse gas emissions in 2013 and beyond.

Complete Streets Policy (Adopted 2012) Complete streets are roadways designed to accommodate all users, including bicyclists, pedestrians, and transit riders, as well as motorists. This policy lays out principles to be incorporated into planned and existing streets.

City of Oakland General Plan

The City of Oakland has developed goals and policies to attain air quality objectives on a local and regional scale. The following policies are pertinent to the proposed project:

Objective CO-12: Air Resources: To improve air quality in Oakland and the surrounding Bay Region

Policy CO-12.1: Land Use Patterns Which Promote Air Quality: Promote land use patterns and densities which help improve regional air quality conditions by: (a) minimizing dependence on single passenger autos; (b) promoting projects which minimize quick auto starts and stops, such as live-work development, mixed use development, and office development with ground floor retail space; (c) separating land uses which are sensitive to pollution from the sources of air pollution; and (d) supporting telecommuting, flexible work hours, and behavioral changes which reduce the percentage of people in Oakland who must drive to work on a daily basis.

Policy CO-12.4: Design of Development to Minimize Air Quality Impacts: Require that development projects be designed in a manner which reduces potential adverse air quality impact. This may include: (a) the use of vegetation and landscaping to absorb carbon monoxide and to buffer sensitive receptors; (b) the use of low-polluting energy sources and energy conservation measures; (c) designs which encourage transit use and facilitate bicycle and pedestrian travel.

City of Oakland Climate Action Plan

The Oakland Climate Action Coalition has worked with the City of Oakland and local residents to develop Oakland's Energy and Climate Action Plan. The Plan puts forth goals and measures to promote healthy and sustainable communities and ultimately reduce greenhouse gas emissions.

The following goals are addressed in the Transportation and Land Use section of the Climate Action Plan:

Energy and Climate Action Plan Measures Addressed: PA-31 Because so much of residents' GHG production is a result of the amount of driving, the Transportation and Land Use Committee is working on several plans and policies that will help reduce GHG's through transportation and land use planning opportunities. These include efforts to:

- Reduce the amount of truck traffic and idling in and around Oakland's residential neighborhoods.
- Advocate support for Bus Rapid Transit along Oakland's major transit corridors, resulting in efficiencies that reduce operations costs, resulting in improving transit while reducing the need for additional service cuts and fare hikes.
- Ensure that high-density transit-oriented development (TOD) happens at transit hubs (BART Stations and transit centers) and along transit corridors (International Blvd., San Pablo Ave., Macarthur), allowing people to live with less reliance on a private automobile.
- Ensure any new development and parking policies reflect the city's transit first policies and provide infrastructure and policies for alternative means of transportation.
- Work with transit agencies and jurisdictions to restore lost service and to make transit more accessible through restoration of lost service, youth passes, and avoiding fare hikes.
- Work with the City of Oakland and bicycle and pedestrian advocates to improve bicycle and pedestrian infrastructure that removes barriers to bicyclists and pedestrians from walking or bicycling more as an alternative to driving a car.
- Ensure that TOD plans and projects create new affordable housing opportunities and include policies that protect existing residents from indirect or direct displacement.
- Create policies that allow Oakland's current residents to stay in their current homes by creating stronger rent controls and protections from unjustified evictions and foreclosure proceedings.

City of Oakland Significance Thresholds

The thresholds below related to criteria air pollutants (thresholds 1 through 3) pertain to impacts that are, by their nature, cumulative impacts because one project by itself cannot generate air pollution that would violate regional air quality standards. Thresholds 1 through 3 pertain to a project's contribution to cumulative impacts but are labeled "Project-Level Impacts" here to be consistent with the terminology used by BAAQMD.

1. During project construction result in average daily emissions of 54 pounds per day of ROG, NOx, or PM2.5 or 82 pounds per day of PM10;

2. During project operation result in average daily emissions of 54 pounds per day of ROG, NOx, or PM2.5 or 82 pounds per day of PM10; or result in maximum annual emissions of 10 tons per year of ROG, NOx, or PM2.5 or 15 tons per year of PM10;

3. Contribute to carbon monoxide (CO) concentrations exceeding the California Ambient Air Quality Standards (CAAQS) of nine parts per million (ppm) averaged over eight hours and 20 ppm for one hour [NOTE: Pursuant to BAAQMD CEQA Guidelines, localized CO concentrations should be estimated for projects in which (a) project-generated traffic would conflict with an applicable congestion management program established by the county congestion management agency or (b) project-generated traffic would increase traffic volumes at affected intersections to more than 44,000 vehicles per hour (or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited, such as tunnels, parking garages, bridge underpasses, natural or urban street canyons, and below-grade roadways). In Oakland, only the MacArthur Maze portion of Interstate 580 exceeds the 44,000 vehicles per hour screening criteria.];

4. For new sources of Toxic Air Contaminants (TACs), during either project construction or project operation expose sensitive receptors to substantial levels of TACs under project conditions resulting in (a) an increase in cancer risk level greater than 10 in one million, (b) a non-cancer risk (chronic or acute) hazard index greater than 1.0, or (c) an increase of annual average PM2.5 of greater than 0.3 micrograms per cubic meter; or, under cumulative conditions, resulting in (a) a cancer risk level greater than 100 in a million, (b) a non-cancer risk (chronic or acute) hazard index greater than 10.0, or (c) annual average PM2.5 of greater than 0.8 micrograms per cubic meter [NOTE: Pursuant to the BAAQMD CEQA Guidelines, when siting new TAC sources consider receptors located within 1,000 feet. For this threshold, sensitive receptors include residential uses, schools, parks, daycare centers, nursing homes, and medical centers. The cumulative analysis should consider the combined risk from all TAC sources.];

5. Expose new sensitive receptors to substantial ambient levels of Toxic Air Contaminants (TACs) resulting in (a) a cancer risk level greater than 100 in a million, (b) a non-cancer risk (chronic or acute) hazard index greater than 10.0, or (c) annual average PM2.5 of greater than 0.8 micrograms per cubic meter [NOTE: Pursuant to the BAAQMD CEQA Guidelines, when siting new sensitive receptors consider TAC sources located within 1,000 feet including, but not limited to, stationary sources, freeways, major roadways (10,000 or greater vehicles per day), truck distribution centers, airports, seaports, ferry terminals, and rail lines. For this threshold, sensitive receptors include residential uses, schools, parks, daycare centers, nursing homes, and medical centers.]; or

6. Frequently and for a substantial duration, create or expose sensitive receptors to substantial objectionable odors affecting a substantial number of people [NOTE: For this threshold, sensitive receptors include residential uses, schools, daycare centers, nursing homes, and medical centers (but not parks).].

3.0 ENVIRONMENTAL SETTING

3.1 REGIONAL CLIMATE

The proposed project is located in Alameda County within the San Francisco Bay Area Air Basin. During the summer months, the regional climate is driven by a high-pressure cell centered over the northeastern Pacific Ocean that dominates the summer climate of the West Coast. The persistence of this high-pressure cell generally results in negligible precipitation during the summer. During the summer, meteorological conditions are typically stable with a steady northwesterly wind flow. This flow causes upwelling of cold ocean water from below the surface, which produces a band of cold water off the California coast. The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold water band, resulting in condensation and the presence of fog and stratus clouds along the Northern California coast.

In the winter, the Pacific high-pressure cell weakens and shifts to the south, resulting in wind flows offshore, the absence of upwelling, and an increase in the occurrence of storms. Winter stagnation episodes are characterized by nocturnal drainage wind flows in coastal valleys. Drainage is a reversal of the usual daytime air-flow patterns; air moves from the Central Valley toward the coast and back down toward the Bay from the smaller valleys within the Air Basin.

3.2 REGIONAL AIR QUALITY

The westerly prevailing winds dominant in the San Francisco Bay Region tend to transport air pollutants from the coastal cities into the central valley and up against the western Sierra Foothills. Table 3, summarizes the estimated annual average emissions (tons per day) for the most recent published inventory (2012) within the San Francisco Bay Area Air Basin.

Table 3: 2012 Estimated Annual Average Emissions San Francisco Bay Area Air Basin

Stationary Sources	TOG	ROG	CO	NO_X	So_X	PM	PM_{10}	$PM_{2.5}$
Fuel Combustion	18.8	4.3	27.7	34.0	9.4	1.4	1.4	1.3
Waste Disposal	192.7	3.1	1.9	1.1	0.5	-	-	-
Cleaning and Surface Coatings	38.2	26.8	0.0	0.0	0.0	-	-	-
Petroleum Production and Marketing	69.7	14.9	0.9	0.6	2.1	-	-	-
Industrial Processes	12.3	10.0	1.9	3.9	7.9	8.4	4.5	1.4
*** Total Stationary Sources**	**331.6**	**59.2**	**32.4**	**39.7**	**19.8**	**9.7**	**5.8**	**2.8**
Areawide Sources	**TOG**	**ROG**	**CO**	**NO_X**	**So_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**
Solvent Evaporation	68.4	57.9	-	-	-	-	-	-
Miscellaneous Processes	64.0	14.9	127.4	15.8	0.5	173.9	95.2	31.5
*** Total Areawide Sources**	**132.3**	**72.8**	**127.4**	**15.8**	**0.5**	**173.9**	**95.2**	**31.5**
Mobile Sources	**TOG**	**ROG**	**CO**	**NO_X**	**SO_X**	**PM**	**PM_{10}**	**$PM_{2.5}$**
On-Road Motor Vehicles	90.6	83.4	720.9	166.0	0.9	13.4	13.2	6.9
Other Mobile Sources	54.9	49.6	391.3	96.1	1.7	4.8	4.7	4.4
***Total Mobile Sources**	**145.5**	**133.0**	**1,112.2**	**262.1**	**2.7**	**18.2**	**17.9**	**11.3**
Grand Total For San Francisco Bay Area Air Basin	**609.5**	**265.0**	**1,272.0**	**317.6**	**23.0**	**201.9**	**118.9**	**45.6**
Source: CARB 2013								

3.1 LOCAL CLIMATE

The City of Oakland is bound by the Oakland-Berkeley Hills on the east and the San Francisco Bay on the west. According the BAAQMD, "The Oakland-Berkeley Hills causes a bifurcation of westerly flow in the vicinity of Oakland, with southerly winds observed over the San Francisco Bay north of the Golden Gate and northwesterlies over the bay to the south of the Golden Gate. The divergent wind field results in diminished speed on the east side of the bay, with a higher frequency of near calm conditions than areas west of this split flow. Temperatures have a narrow range due to the proximity of the moderating marine air. Maximum temperatures in summer average in the upper 60's to low 70's, with minimums in the mid-50's. Winter highs are in the mid to high 50's and winter lows are in the low to mid-40's. Precipitation totals, generally, increase from south to north and from the lowlands to the Oakland-Berkeley Hills' ridge line." (BAAQMD 2010)

3.2 LOCAL AIR QUALITY

The proposed project is located within the Northern Alameda, Western Contra Costa Counties Region, bordered to the west by the San Francisco Bay and on east the Oakland-Berkeley Hills. The Oakland-Berkeley Hills create a significant barrier to air flow having an approximately ridge line height of 1500 feet. The most densely populated area of the region is the narrow strip of land,

about 4 miles in width, between the bay and approximately 500 feet in elevation. This is the area where most people live, drive, and work. This area is home to an international airport, major chemical, petroleum, shipping and other industrial operations, a large university, a major military facility (in the process of being decommissioned) and over 3/4 of a million people. (BAAQMD 2010). The air pollution potential of the coastal areas is minor, due to frequent wind flow and less influx of high pollutant concentrations from upwind sources.

4.0 MODELING PARAMETERS AND ASSUMPTIONS

4.1 MODEL SELECTION

The California Emissions Estimator Model (CalEEMod) version 2016.3.1 was developed for the California Air Pollution Officers Association (CAPCOA) in collaboration with the California Air Districts. Default data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California Air Districts to account for local requirements and conditions. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with construction and operation from a variety of land uses. CalEEMod version 2016.3.1 was used to estimate construction and operational impacts of the project.

4.2 AIR POLLUTANTS AND GHGS ASSESSED

Criteria Air Pollutants Assessed

The following criteria air pollutants are assessed in this analysis:

- Reactive organic gases (ROG)
- Nitrogen oxides (NOx)
- Carbon monoxide (CO)
- Sulfur oxides (SOx)
- Particulate matter less than 10 microns in diameter (PM_{10})
- Particulate matter less than 2.5 microns in diameter ($PM_{2.5}$)

Note that the project would emit ozone precursors ROG and NOx. However, the project would not directly emit ozone, since it is formed in the atmosphere during the photochemical reaction of ozone precursors.

GHGs Assessed

This analysis is restricted to GHGs identified by AB 32, which include carbon dioxide (CO_2), methane (CH_4), NOx, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The project would generate a variety of GHGs, including several defined by AB 32 such as CO_2, CH_4 and NOx.

Certain GHGs defined by AB 32 would not be emitted by the project. Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications, none of which would be used by the

project. Therefore, it is not anticipated that the project would emit perfluorocarbons or sulfur hexafluoride.

Greenhouse gas emissions associated with the proposed project construction, and future operations were estimated using CO_2e (Carbon Dioxide Equivalent) emissions as a proxy for all greenhouse gas emissions. In order to obtain the CO_2e, an individual GHG is multiplied by its global warming potential (GWP). The GWP designates on a pound for pound basis the potency of the GHG compared to CO_2.

4.3 ASSUMPTIONS

Construction Modeling Assumptions

The project was assumed to start construction in June 2017 and to be constructed in two 18-month phases with buildout completed by May 2020. It was assumed that all demolition, site preparation, and grading would be completed in the first phase. Table 4 provides the anticipated construction schedule.

Table 4: Construction Schedule

Project Phase	Construction Phase	Anticipated Phase Start Date	Anticipated Phase End Date	Total Number of Days
1	Demolition	06/05/2017	06/30/2017	20
1	Site Preparation	07/01/2017	07/07/2017	5
1	Site Grading	07/08/2017	07/19/2017	8
1	Building Construction	07/20/2017	10/10/2018	320
1	Paving	10/11/2018	11/05/2018	18
1	Architectural Coating	11/06/2018	11/29/2018	18
2	Building Construction	12/03/2018	02/21/2020	320
2	Paving	02/22/2020	03/18/2020	18
2	Architectural Coating	03/19/2020	04/13/2020	18

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from on-site and off-site activities. On-site emissions principally consist of exhaust emissions from the activity levels of heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM_{10}) from disturbed soil. Additionally, paving operations and application of architectural coatings would release volatile organic compound (VOC) emissions. Off-site emissions are caused by motor vehicle exhaust from delivery vehicles, worker traffic, and road dust (PM_{10} and $PM_{2.5}$).

The construction equipment list is shown in Table 5. The air emission estimates for construction equipment is based on the horsepower and load factors of the equipment. In general, the horsepower is the power of an engine—the greater the horsepower, the greater the power. The load factor is the average power of a given piece of equipment while in operation compared with its maximum rated horsepower. A load factor of 1.0 indicates that a piece of equipment continually operates at its maximum operating capacity.

Table 5: Construction Equipment Assumptions

Project Phase	Construction Phase	Equipment	Unit Amount	Hours per Day	Horsepower	Load Factor
1	**Demolition**	Concrete/Industrial Saws	1	8	81	0.73
		Excavators	3	8	162	0.38
		Rubber Tired Dozers	2	8	255	0.4
1	**Site Preparation**	Rubber Tired Dozers	3	8	255	0.4
		Tractors/Loaders/Backhoes	4	8	97	0.37
1	**Grading**	Excavators	2	8	162	0.38
		Graders	1	8	174	0.41
		Rubber Tired Dozers	1	8	255	0.4
		Scrapers	2	8	367	0.48
		Tractors/Loaders/Backhoes	2	8	97	0.37
1	**Building Construction**	Cranes	1	7	226	0.29
		Forklifts	3	8	89	0.2
		Generator Sets	1	8	84	0.74
		Tractors/Loaders/Backhoes	3	7	97	0.37
		Welders	1	8	46	0.45
1	**Paving**	Pavers	2	8	125	0.42
		Paving Equipment	2	6	130	0.36
		Rollers	2	6	80	0.38
1	**Architectural Coating**	Air Compressors	1	6	78	0.48
2	**Building Construction**	Cranes	1	7	226	0.29
		Forklifts	1	8	89	0.2
		Generator Sets	1	8	84	0.74
		Tractors/Loaders/Backhoes	1	7	97	0.37
		Welders	3	8	46	0.45
2	**Paving**	Cement and Mortar Mixers	1	6	9	0.56
		Pavers	1	8	125	0.42
		Paving Equipment	1	6	130	0.36
		Rollers	1	6	80	0.38

Project Phase	Construction Phase	Equipment	Unit Amount	Hours per Day	Horsepower	Load Factor
		Tractors/Loaders/Backhoes	1	8	97	0.37
2	**Architectural Coating**	Air Compressors	1	6	78	0.48

Operational Modeling Assumptions

Operational emissions are those emissions that occur during operation of the project. The major sources are summarized below.

Motor Vehicles

Motor vehicle emissions refer to exhaust and road dust emissions from the automobiles that would travel to and from the project site. The emissions were estimated using CalEEMod.

The operational phasing and trip generation rates are shown in Table 6. The trip generation rates for weekdays were derived from the Traffic Study prepared for the project.

Table 6: Trip Generation Rates

Land Use ITE Code	Size	Total Daily Trips	Transit Trip Reduction Percent (Number of Trips)	Revised Total Daily Trips	Daily Trip Generation Rate (trips/unit/day)
Senior Adult Housing - Attached (252)	529	1,598	21.4% (-342)	1,256	2.37
Source: Stantec Traffic Study 2017					

Pass-by trips are made as intermediate stops on the way from an origin to a primary trip destination without a route diversion. Pass-by trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the generator. Pass-by trips are not diverted from another roadway. The CalEEMod default pass-by trip rates were used in the analysis.

The CalEEMod default round trip lengths for an urban setting (Alameda County portion of the BAAQMD) were used in this analysis. The trip lengths are 10.8 miles home to work trips, 4.8 miles for home to shop trips, and 5.7 miles for home to other trips.

The vehicle fleet mix is defined as the mix of motor vehicle classes active during the operation of the project. Emission factors are assigned to the expected vehicle mix as a function of vehicle class, speed, and fuel use (gasoline- and diesel-powered vehicles). The CalEEMod default vehicle fleet mix was used for the project.

Architectural Coatings (Painting)

Paints release VOC emissions. The building would be repainted on occasion. CalEEMod defaults were used for this purpose.

Consumer Products

Consumer products are various solvents used in non-industrial applications that emit VOCs during their product use. The default CalEEMod value was used for this project.

Electricity

There would be emissions from the power plants that would generate electricity to be used by the project (for lighting, etc.). CalEEMod was used to estimate these emissions from the project. l.

5.0 AIR QUALITY ANALYSIS RESULTS

5.1 CONSTRUCTION-RELATED AIR QUALITY IMPACTS

Air quality impacts from construction activities are generally associated with the combustion of fossil fuels from the operation of internal combustion engines (portable equipment, off-road equipment, and vehicles), fugitive dust generated from earth moving activities, and ROG emissions from architectural coating.

Table 7 summarizes the construction-generated emissions in annual tons. Table 8 and Table 9 provide the average daily emissions rates per construction year for the proposed project.

Table 7: Construction Criteria Air Pollutant Emissions (Annual Tons)

	Air Pollutant Emissions (Annual Tons)			
	ROG	NO_x	PM_{10}[1]	$PM_{2.5}$[1]
2017 Construction	0.37	2.98	0.15	0.14
2018 Construction[2]	3.24	3.70	0.18	0.18
2019 Construction	0.37	2.53	0.12	0.12
2020 Construction	1.15	0.43	0.02	0.02
Maximum for Project	**5.13**	**9.64**	**0.47**	**0.46**

Notes:
1. Exhaust only
2. Includes Phase 1 and Phase 2 Construction Emissions
ROG = reactive organic gases NO_x = oxides of nitrogen PM_{10} = particulate matter 10 microns in diameter
$PM_{2.5}$ = particulate matter 2.5 microns in diameter

Table 8: 2017 Construction Criteria Air Pollutant Emissions (Average Daily Emissions)

	Air Pollutant Emissions			
	ROG	NO_x	PM_{10}[1]	$PM_{2.5}$[1]
Total Emissions (tons)	0.37	2.98	0.15	0.14
Total Emissions (lbs)	740	5,960	300	280
Average Daily Emissions (lbs/day)[2]	4.81	38.70	1.95	1.82
City of Oakland Significance Threshold (lbs/day)	54	54	82	54
Exceed Significance Threshold?	No	No	No	No

Notes:
1. Exhaust only
2. Based on 154 work days
ROG = reactive organic gases NO_x = oxides of nitrogen PM_{10} = particulate matter 10 microns in diameter
$PM_{2.5}$ = particulate matter 2.5 microns in diameter

Table 9: 2018 Construction Criteria Air Pollutant Emissions (Average Daily Emissions)

	Air Pollutant Emissions			
	ROG	NO_x	PM_{10}[1]	$PM_{2.5}$[1]
Total Emissions (tons)	3.24	3.70	0.18	0.18
Total Emissions (lbs)	6,480	7,400	360	360
Average Daily Emissions (lbs/day)[2]	24.55	28.03	1.36	1.36
City of Oakland Significance Threshold (lbs/day)	54	54	82	54
Exceed Significance Threshold?	No	No	No	No

Notes:
1. Exhaust only
2. Based on 264 work days

ROG = reactive organic gases NO_x = oxides of nitrogen PM_{10} = particulate matter 10 microns in diameter
$PM_{2.5}$ = particulate matter 2.5 microns in diameter

Table 10: 2019 Construction Criteria Air Pollutant Emissions (Average Daily Emissions)

	Air Pollutant Emissions			
	ROG	NO_x	PM_{10}[1]	$PM_{2.5}$[1]
Total Emissions (tons)	0.37	2.53	0.12	0.12
Total Emissions (lbs)	740	5,060	240	240
Average Daily Emissions (lbs/day)[2]	2.80	19.17	0.91	0.91
City of Oakland Significance Threshold (lbs/day)	54	54	82	54
Exceed Significance Threshold?	No	No	No	No

Notes:
1. Exhaust only
2. Based on 264 work days

ROG = reactive organic gases NO_x = oxides of nitrogen PM_{10} = particulate matter 10 microns in diameter
$PM_{2.5}$ = particulate matter 2.5 microns in diameter

Table 11: 2020 Construction Criteria Air Pollutant Emissions (Average Daily Emissions)

	Air Pollutant Emissions			
	ROG	NO_x	PM_{10}[1]	$PM_{2.5}$[1]
Total Emissions (tons)	1.15	0.43	0.02	0.02
Total Emissions (lbs)	2,300	860	40	40
Average Daily Emissions (lbs/day)[2]	26.14	9.77	0.45	0.45
City of Oakland Significance Threshold (lbs/day)	54	54	82	54
Exceed Significance Threshold?	No	No	No	No

Notes:
1. Exhaust only
2. Based on 88 work days

ROG = reactive organic gases NO_x = oxides of nitrogen PM_{10} = particulate matter 10 microns in diameter

	Air Pollutant Emissions			
	ROG	NO_x	PM_{10}[1]	$PM_{2.5}$[1]
$PM_{2.5}$ = particulate matter 2.5 microns in diameter				

As shown in Tables 8 through 11 emissions of criteria pollutants would not exceed the City of Oakland significance thresholds. Therefore, project construction emissions are less than significant.

Fugitive Dust

Dust emissions from grading, trenching, or land clearing can create nuisances and localized health impacts related to fugitive dust. As mentioned above, grading activities would be minimal due to project design and would not generate significant levels of fugitive dust. The City of Oakland does not have a quantitative threshold for fugitive dust, however as shown Tables 9-12, the total PM10 would not exceed the City of Oakland's thresholds. The BAAQMD 2010 recommends using Best Management Practices (BMPs) to control construction-generated $PM_{2.5}$ and PM_{10}. These BMPs would be incorporated during Project construction; therefore, the proposed project would not expose sensitive receptors to substantial PM_{10} concentrations from construction activities.

Toxic Air Contaminants and Diesel Particulate Matter

Construction of the proposed project could result in the generation of TACs, specifically DPM, during on-road hauling and grading activities. Construction activities would be temporary, approximately 15 months, and would not result in long-term emissions of DPM. Additionally, the CalEEMod results indicate that emissions estimates for diesel exhaust (PM_{10} and $PM_{2.5}$) would be below the City of Oakland's significance thresholds. Furthermore, construction equipment fleet operators are subject to ARB's In Use Off Road Equipment Fleet Regulation, which requires the use of increasing amounts of lower-emitting equipment that will help to ensure that risks are minimized.

Construction phase risks would be considered acute health risks as opposed to cancer risks, which are long-term. OEHHA has yet to define acute risk factors for diesel particulates that would allow the calculation of a hazards risk index; thus, evaluation of this impact would be speculative and no further discussion is necessary.

Asbestos

Because the proposed project would involve demolition of the existing buildings, various regulatory requirements apply. The BAAQMD has regulations that require compliance with the asbestos demolition and renovation requirements. Regulation 11-2-401.3 requires that for every demolition (even when no asbestos is present), a notification must be made to the BAAQMD at least 10 working days (except in special circumstances) prior to commencement of demolition/renovation.

The California Department of Conservation and the USGS have published a guide for generally identifying areas that are likely to contain naturally occurring asbestos (NOA). Ultramafic rock outcroppings have been mapped within approximately one mile of the proposed project. The BAAQMD requires that construction and grading projects located where naturally-occurring asbestos is likely to be found prepare an Asbestos Airborne Toxic Control Measure (ATCM). The building is designed to conform to the natural terrain, thus minimizing the amount of grading. Although the Project would require an ATCM, it is unlikely that asbestos would be discovered on-site due to minimal grading and excavation activities.

5.2 OPERATIONAL AIR QUALITY IMPACTS

Long-term operation of the Project would generate an increase in traffic volumes on the local roadways within the Project vicinity and as such would increase localized emissions.

The Phase 1 annual operational emissions for the Project are shown in Table 12. Table 13 and Table 14 show the daily operational emissions for summer and winter respectively. Please note that these results include the benefits from compliance with mandated regulations not yet incorporated into CalEEMod, and project design and location using the CalEEMod mitigation component. These measures and regulations are considered part of the project baseline; however, the results are presented in the CalEEMod mitigated model output and are not considered mitigation required for CEQA compliance. As shown in the tables, the project's Phase 1 operational emissions would not exceed the BAAQMD's annual or daily significance thresholds. The impact would be less than significant.

Table 12: Phase 1 Annual Operational Emissions (2018)

	Annual Emissions (tons)			
	ROG	NO_x	PM_{10}	$PM_{2.5}$
Project Operations	2.22	2.13	0.59	0.21
City of Oakland Significance Threshold	10	10	15	10
Exceed Significance Threshold?	No	No	No	No

Table 13: Phase 1 Daily Operational Emissions (2018) (Summer)

	Overall Operational lbs./day (Maximum Daily Emissions – Criteria Pollutants)			
	ROG	NO_x	PM_{10}	$PM_{2.5}$
Project Operations	12.95	11.56	3.46	1.25
City of Oakland Significance Threshold	54	54	82	54
Exceed Significance Threshold?	No	No	No	No

Table 14: Daily Operational Emissions (2018) (Winter)

	Overall Operational lbs./day (Maximum Daily Emissions – Criteria Pollutants)			
	ROG	NO_x	PM_{10}	$PM_{2.5}$
Project Operations	12.71	11.85	3.46	1.25
City of Oakland Significance Threshold	54	54	82	54
Exceed Significance Threshold?	No	No	No	No

The project would be built out in 2020 to the full 529 residential units. The annual operational emissions for full buildout of the project are shown in Table 15. Table 16 and Table 17 show the daily operational emissions for summer and winter respectively. As shown in the tables, the project's operational emissions would not exceed the City of Oakland's annual or daily significance thresholds. The impact would be less than significant.

Table 15: Buildout Annual Operational Emissions (2020)

	Annual Emissions (tons)			
	ROG	NO_x	PM_{10}	$PM_{2.5}$
Project Operations	2.65	2.45	0.80	0.26
City of Oakland Significance Threshold	10	10	15	10
Exceed Significance Threshold?	No	No	No	No

Table 16: Buildout Daily Operational Emissions (2020) (Summer)

	Overall Operational lbs./day (Maximum Daily Emissions – Criteria Pollutants)			
	ROG	NO_x	PM_{10}	$PM_{2.5}$
Project Operations	15.49	14.40	4.84	1.73
City of Oakland Significance Threshold	54	54	82	54
Exceed Significance Threshold?	No	No	No	No

Table 17:Buildout Daily Operational Emissions (2020) (Winter)

	Overall Operational lbs./day (Maximum Daily Emissions – Criteria Pollutants)			
	ROG	NO_x	PM_{10}	$PM_{2.5}$
Project Operations	15.20	14.66	4.84	1.73
City of Oakland Significance Threshold	54	54	82	54

	Overall Operational lbs./day (Maximum Daily Emissions – Criteria Pollutants)			
	ROG	NO_x	PM_{10}	$PM_{2.5}$
Exceed Significance Threshold?	No	No	No	No

Carbon Monoxide

Localized levels of CO (CO hotspots) are associated with traffic congestion and idling or slow moving vehicles. The City of Oakland has established the following threshold for CO:

Contribute to carbon monoxide (CO) concentrations exceeding the CAAQS of nine parts per million (ppm) averaged over eight hours and 20 ppm for one hour.

Pursuant to BAAQMD CEQA Guidelines, localized CO concentrations should be estimated for projects in which (a) project-generated traffic would conflict with an applicable congestion management program established by the county congestion management agency or (b) project-generated traffic would increase traffic volumes at affected intersections to more than 44,000 vehicles per hour (or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited, such as tunnels, parking garages, bridge underpasses, natural or urban street canyons, and below-grade roadways). These two screening scenarios are provided as those would situations have the potential to result in a CO exceedance of the CAAQS.

The proposed project would increase daily traffic trips along the local roadways by 1,254 trips per day. Although traffic would increase along the local road network, it is not anticipated that the additional trips would significantly add to roadway congestion. In Oakland, only the MacArthur Maze portion of Interstate 580 exceeds the 44,000 vehicles per hour screening criteria established by the BAAQMD. The Project is located within 250 feet of public transportation and would be within the Transit-Oriented Development Plan. This would likely reduce localized congestion from the Project. Additionally, the Project is designed as a mixed-use development and therefore would promote on-site living, shopping, and educational opportunities, thus reducing the need for commuting.

As detailed in the traffic study conducted by Stantec, all study intersections are expected to continue to operate at the same level of service as under the existing conditions. Potential Project operational emissions are not expected to violate an air quality standard or significantly contribute to an existing air quality violation; therefore, the Project's operational impacts would be considered less than significant.

Health Risk Assessment Screening

The project is locating new sensitive receptors (residents) in an area where they could be subject to existing sources of TACs.

For project-level analysis, the City of Oakland specifies both individual and cumulative-level thresholds of significance for risks and hazards. For projects that are considered new sources of TACs or PM2.5 (such as stationary sources, industrial sources, or roadway projects), it is generally appropriate to use both the project-level and cumulative-level thresholds because the project-level threshold identifies said project's individual contribution to risk, while the cumulative threshold assesses said project's cumulative contribution to risk. However, for projects that consist of new receptors, it is generally appropriate to use only the cumulative-level threshold because the project itself is not a source of TACs and, thus, the individual project-level threshold is not relevant. The cumulative risk threshold accounts for all potential sources of TACs and PM2.5 in proximity to new receptors. Because the proposed project is a residential development, and residential development is not considered a source of TACs, this analysis is focused to the cumulative impact of nearby sources of TACs to the project site. BAAQMD's recommended procedure involves first consulting with screening tools to identify whether there are any substantial TAC sources within 1,000 feet of the project. The results of the screening tools were as follows:

- There are two stationary sources of TACs located within 1,000 feet of the project site, the Monument Gas & Mart and the AC Transit District Central Maintenance. The BAAQMD Stationary Source Screening Analysis tool was used to estimate risks and hazards for those sources. Note that the BAAQMD Gasoline Dispensing Facility Multiplier Tool was used to refine the estimate from the Monument Gas & Mart facility. The BAAQMD Multiplier Tool for Diesel Internal Combustion Engines was used to refine the emissions from the AC Transit Facility. The distance multiplier tools refine the screening values for cancer risk and chronic hazard index found in the District's Stationary Source Screening Analysis Tool to represent adjusted risk and hazard impacts that can be expected with farther distances from the source of emissions, the gasoline dispensing facility and the diesel internal combustion engine.

- The project site is bordered on the west by International Boulevard. The BAAQMD has prepared a risk assessment for the roadway based on the level of anticipated traffic and distance to the nearest receptor. A 75 distance was used to determine the risks.

Table 18 provides a summary of the cumulative screening health risk assessment.

Table 18: Screening Health Risk Assessment Cumulative Results

Source	Lifetime Cancer Risk (in a million)	Chronic Hazard Index	Acute Hazard Index	$PM_{2.5}$ Concentration ($\mu g/m^2$)
International Boulevard	6.51	0.009	0.025	0.04
Monument Gas & Mart	0.23	<0.001	<0.001	N/A
AC Transit District	0.79	0.004	<0.001	0.15

Source	Lifetime Cancer Risk (in a million)	Chronic Hazard Index	Acute Hazard Index	$PM_{2.5}$ Concentration ($\mu g/m^2$)
Total	6.74	0.013	0.025	0.19
City of Oakland Project Level Threshold	10	1.0	1.0	0.3
City of Oakland Cumulative Threshold	100	10	10	0.80
Exceed Either Project-Level or Cumulative Threshold?	No	No	No	No

The analysis showed the proposed project would not exceed the lifetime excess cancer risk nor would it exceed the PM2.5 concentration level. As such, it can be assumed future residents would not be subject to levels of TACs above screening levels. Therefore, impacts from TAC sources would be less than significant.

6.0 GREENHOUSE GAS ANALYSIS RESULTS

The City of Oakland has established its GHG significance threshold based on the BAAQMD's thresholds. Greenhouse gas impacts are, by their nature, cumulative impacts because one project by itself cannot cause global climate change. These thresholds pertain to a project's contribution to cumulative impacts but are labeled "Project-Level Impacts" here to be consistent with the terminology used by BAAQMD. The City of Oakland has determined that a project would have a significant impact on the environment if it would generate GHG emissions, either directly or indirectly that may have a significant impact on the environment. Specifically, the City of Oakland has determined the significance level for a project which involves land use development is the following:

> *The project produces total emissions of 1,100 metric tons of CO2equivalent ($MTCO_2e$)* ***AND*** *more than 4.6 $MTCO_2e$ per service population. The service population includes both residents and the employees of the project.*

The project's expected greenhouse gas emissions during construction should be annualized over a period of 40 years and then added to the expected emissions during operation for comparison to the threshold. A 40-year period is used because 40 years is considered the average life expectancy of a building before it is remodeled with considerations for increased energy efficiency. The BAAQMD thresholds were originally developed for project operation impacts only. Therefore, combining both the construction emissions and operation emissions for comparison to the threshold represents a conservative analysis of potential greenhouse gas impacts.

The City of Oakland adopted its Energy and Climate Action Plan (ECAP) in December 2012. The ECAP identified a GHG reduction target for the year 2020 of 36 percent below the 2005 levels and provided a checklist for new development to determine consistency with the Plan. The ECAP is recognized as a qualified GHG Reduction Strategy pursuant to State CEQA Guidelines and BAAQMD criteria.

6.1 CONSTRUCTION GHG IMPACTS

The project would emit greenhouse gas emissions during construction from the off-road equipment, worker vehicles, and any hauling that may occur. As previously indicated, BAAQMD does not presently provide a construction-related greenhouse gas generation threshold, but recommends that construction-generated greenhouse gases be quantified and disclosed. BAAQMD also recommends that lead agencies make a determination of the level of significance of construction-generated greenhouse gas emissions in relation to meeting AB 32 greenhouse gas reduction goals. Greenhouse gas emissions from project construction equipment and worker vehicles are shown in Table 19.

Table 19: Construction Greenhouse Gas Emissions

Year	Emissions ($MTCO_2e$)
2017	455
2018[1]	713
2019	446
2020	79
Total	**1,693**
Annualized over 40 years	**42**

[1]. Includes Phase 1 and Phase 2 Construction Emissions

Construction of the proposed project would generate greenhouse gases. AB 32 requires that greenhouse gas emissions generated in California in year 2020 be equal to or less than California's statewide inventory from 1990. Construction emissions would occur largely before the year 2020, so the project's construction would not contribute substantially to year 2020 emissions. Therefore, construction emissions would not conflict with the AB 32 Scoping Plan. Additionally, as shown in Table 21 below, when the amortized construction emissions are added to the operational emissions the emissions do not exceed the City of Oakland thresholds of significance.

6.2 OPERATIONAL GHG IMPACTS

Long-term, operational GHG emissions would result from Project generated vehicular traffic, onsite combustion of natural gas, operation of any landscaping equipment, offsite generation of electrical power over the life of the Project, the energy required to convey water to and wastewater from the Project Site, the emissions associated with the hauling and disposal of solid waste from the Project Site. The Project will be built out in the year 2020. The project is eligible for a qualified infill exemption, pursuant to both State CEQA Guidelines Section 15183 and 15183.3.

Under CEQA Guidelines Section 15183, all type of emission sources need to be accounted for to make a consistency determination under the previously certified EIR. However, consistent with CEQA Guidelines Section 15183.3 under SB 226, the project is not required to discuss project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network. The California Emissions Estimator Model (CalEEMod) includes default vehicle fleet mixes established by the Bay Area Air Quality Management District (BAAQMD) based on emissions inventories. The fleet mix in CalEEMod includes vehicles such as cars, light-duty trucks, medium and heavy duty trucks, and other vehicle types such as, buses and motorcycles. These vehicle types are used in calculating mobile source GHG emissions. The emissions estimate results presented in Table 20 removes the mobile source emissions from the cars and light-duty truck trips, but it includes the mobile source emissions from the other vehicle types that comprise the remaining fleet.

Table 20: Operational Greenhouse Gas Emissions (2020)

Emission Source	Emissions ($MTCO_2e$)
Area Sources	7
Energy	1,286
Mobile (Motor Vehicles)	320[1]
Waste	131
Water	105
Total Operational Emissions[2]	1,849
Annualized Construction Emissions[3]	42,
Total Project Emissions	1,891
Service Population[4]	1,513
City of Oakland Significance Threshold 1	**1,100**
Exceed City of Oakland Significance Threshold 1	**Yes**
City of Oakland Significance Threshold 2	**4.6 $MTCO_2e$/SP/yr**
Project Emission Generation	**1.25**
Exceed City of Oakland Significance Threshold 2	**No**
Significant Impact?	**No**

Notes:
SP = Service Population
Yr. = year
1. Pursuant to SB226, the project-specific and cumulative impacts from cars and light-duty truck trips generated by the project are not included in the emissions estimate. However, the CalEEMod fleet mix includes approximately 7 percent comprised of medium-heavy duty trucks, heavy-duty trucks, and other bus vehicle types. Those vehicle emissions are shown above.
2. Includes CalEEMod "mitigation" for locational features, compliance with regulatory measure
3. Construction emissions annualized over an anticipated 40-year project lifespan.
4. Based on CalEEMod default estimate based on Alameda County specific data for individuals per household

The Project would exceed the first screening criteria of 1,100 $MTCO_2e$, however, the City of Oakland has established that in order to have a significant impact, a project would also have to exceed the GHG efficiency threshold of 4.6 $MTCO_2e$/SP/yr to result in a significant impact. The Project has a GHG efficiency of 1.25, well below the GHG efficiency screening threshold. Because the Project would not exceed **both** screening thresholds, the Project impacts to GHGs would be less than significant. However, based on the City of Oakland's Standard Conditions of Approval 38, the project is considered a very large project (exceeds 500 dwelling units) and also exceeds one of the screening criteria (1,100 $MTCO_2e$), therefore the Project will be required to prepare a GHG Reduction Plan. The GHG Reduction Plan shall be submitted prior to issuance of a construction-related permit and will document the project's reduction of GHG emissions by 36 percent below the adjusted baseline.

6.3 COMPLIANCE WITH A GHG REDUCTION PLAN

The Project's consistency with the City of Oakland's ECAP and ARB's Scoping Plan were used for this analysis.

Energy Climate Action Plan

As a qualified GHG Reduction Strategy, the ECAP provides a list of mandatory measures that a new development project must comply with in order to be deemed consistent and thus less than significant for GHG impacts. Table 21 provides a consistency determination of the required measures.

Table 21: City of Oakland Energy and Climate Action Plan Consistency Analysis

Reduction Measure		Consistency/Applicability Determination
Goal Area: Transportation and Land Use		
TLU-7	Create a Transportation Impact Fee	**Not applicable.** This is a City-wide measure. The Project would pay all applicable development fees at the time building permits are sought.
TLU-8	Require Transit-Oriented Development Performance for New Development	**Consistent.** The Project is within the City of Oakland International Boulevard Transit-Oriented Development Plan, in the Elmhurst South node. The Project is consistent with the land use designation and zoning. The Project would construct a mix of uses near transit which would promote alternative transportation methods from residents and employees.
TLU-13	Launch and Develop a Funding Plan for the Downtown Shuttle	**Not applicable.** The City launched the Free B Shuttle and service is continuing. The project would not impact the operation of the Shuttle.
TLU-16	Accelerate Completion of Bicycle and Pedestrian Networks	**Not applicable.** This is a City-wide measure and is not project-specific. The City has implemented this measure and has completed a number of bikeways. The project would comply with regulations for constructing pedestrian connections through and from the site.
TLU-17	Optimize Street Design for Transit, Bicycling and Walking	**Not applicable.** This is a City-wide measure. The City is developing "complete streets" criteria for optimizing street design based on the primary and secondary modes each street is designed to serve. The project would not impede the City's progress towards this goal.

Reduction Measure		Consistency/Applicability Determination
TLU-26	Enforce Transportation Demand Management Measures in New Development	**Not applicable.** The City has developed a Transportation Demand Management Program that is applicable to new large, dense development to ensure that these projects establish programs to reduce vehicle traffic and provide multi-modal options. The project would not be considered a large development and would generate a small amount of vehicle trips.
TLU-30	Impose Parking Maximums on New Development	**Not applicable.** The City is currently considering parking maximums, and other strategies to reduce parking demand, in the process of preparing zoning updates for Off-Street Parking. The Transportation Demand Management program update will include updating TDM requirements for major new development projects. The project would comply with the existing parking requirements.
TLU-31	Facilitate Unbundling of Parking Costs from Renting Building Space	**Not applicable.** This is a City-wide measure that the applicant cannot implement at a project-level.
Goal Area: Building Energy Use		
BE-1	Adopt a Green Building Ordinance for Private Development	**Consistent.** The City Council adopted a Green Building Ordinance for Private Development in 2010. The Project would comply with the Ordinance.
BE-32	Create an Oakland-specific Water Efficient Landscape Ordinance	**Not applicable.** This is a City-wide measure that the applicant cannot implement at a project-level. The Ordinance development is on-hold due to budgetary concerns.
Goal Area: Material Consumption and Waste		
MW-1	Restructure Solid Waste Management System	**Not applicable.** This is a City-wide measure that the applicant cannot implement at a project-level.
MW-4	Enforce Statewide and Countywide Bans on Certain Materials	**Not applicable.** This is a City-wide measure that the applicant cannot implement at a project-level.
Source of Measures: City of Oakland Energy and Climate Action Plan, Appendix 2011		

As shown above, many of the measures would not be applicable on a project-level basis; however, the project would not impede the implementation of those measures. The proposed project is located within the International Boulevard Transit-Oriented Development Plan. As a part of the Transit-Oriented Plan, the City intends to reduce air pollution and GHGs by replacing automobile trips with pedestrian, bicycle, and transit trips (City of Oakland, 2011). The proposed project would promote transit use, pedestrian activity, and bicycling by incorporating bicycle

racks into the Project design, there is also a public transit stop located within 250 feet of the Project site. The Project is designed as a mixed-use development and therefore would promote on-site living, shopping, and educational opportunities, thus reducing the need for commuting and ultimately decreasing local and regional air pollution and GHG emissions.

The Project would be consistent with Title 24, Part 6 energy efficiency standards. Consistent with Executive Order S-20- 04, sustainable measures and conservation features would be implemented in accordance with the Green Building Code, assuring minimal energy use and further minimizing direct and indirect GHG emissions from project operations.

For all the reasons provided above, the Project would be consistent with the City of Oakland's ECAP and would have a less than significant impact on GHGs.

AB 32 Scoping Plan

AB 32 required the ARB to develop a Scoping Plan that would reduce emissions to 1990 levels by 2020. The ARB's adopted AB 32 Scoping Plan (Scoping Plan) calls for an approximate 29 percent reduction of Business as Usual (BAU) from 2020 levels or 15 percent from 2008 levels. The Scoping Plan also refers to Executive Order S-3-05, which identified the Scoping Plan's 2020 target, but also included a 2050 GHG emissions reduction goal that represents the level scientists believe is necessary to stabilize the climate. The City of Oakland's GHG thresholds incorporate BAAQMD's recommended significance thresholds which are based on Executive Order S-3-05 reductions goals. Therefore, project emission less than the City of Oakland's significance thresholds demonstrates consistency with Executive Order S-3-05 goals and, by extension, the ARB's Scoping Plan to achieve AB 32 reduction goals. The Project's GHG emissions are below the greenhouse gas thresholds recommended by the City of Oakland, as demonstrated above. Therefore, it can be concluded that the project is in compliance with the applicable AB 32 Scoping Plan.

The Scoping Plan identifies recommended measures for multiple greenhouse gas emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As shown in Table 22, the Project is consistent with the strategies or the strategies are not applicable to the project. Therefore, the Project is consistent with the applicable strategies and would not conflict with the recommendations of AB 32 in achieving a statewide reduction in greenhouse emissions. The impact is less than significant.

Table 22: Scoping Plan Measures Consistency Analysis

Scoping Plan Reduction Measure	Project Consistency
California Cap-and-Trade Program Linked to Western Climate Initiative. Implement a broad-based California Cap-and-Trade program to provide a firm limit on emissions. Link the California cap-and-trade program with other Western	**Not applicable.** Although the cap-and-trade system has begun, the project is not one targeted by cap-and-trade system regulations and therefore this measure does not apply to the Project.

Scoping Plan Reduction Measure	Project Consistency
Climate Initiative Partner programs to create a regional market system to achieve greater environmental and economic benefits for California. Ensure California's program meets all applicable AB 32 requirements for market-based mechanisms.	
California Light-Duty Vehicle Greenhouse Gas Standards. Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	**Not applicable.** This is a statewide measure that cannot be implemented by a project applicant or lead agency. However, the standards would be applicable to the light-duty vehicles that would access the project site.
Energy Efficiency. Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	**Consistent.** This is a measure for the State to increase its energy efficiency standards in new buildings. The project is required to build to the new standards and would maximize its energy efficiency through compliance.
Renewable Portfolio Standard. Achieve 33 percent renewable energy mix statewide. Renewable energy sources include (but are not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.	**Not applicable.** This is a statewide measure that cannot be implemented by a project applicant or lead agency. Pacific Gas and Electric is required to increase its percent of power supply from renewable sources to 33 percent by the year 2020 pursuant to various regulations. Therefore, the residences within the project would purchase power that is comprised of a greater amount of renewable sources.
Low Carbon Fuel Standard. Develop and adopt the Low Carbon Fuel Standard.	**Not applicable.** This is a statewide measure that cannot be implemented by a project applicant or lead agency. When this measure goes into effect, the standard would be applicable to the fuel used by vehicles that would access the project site.
Regional Transportation-Related Greenhouse Gas Targets. Develop regional greenhouse gas emissions reduction targets for passenger vehicles. This measure refers to SB 375.	**Not applicable.** The project is not related to developing greenhouse gas emission reduction targets. To meet the goals of SB 375, Plan Bay Area is the Sustainable Communities Strategy Plan from the Bay Area Metropolitan Transportation Commission that is applicable to the project. The project would not preclude the implementation of this strategy.
Vehicle Efficiency Measures. Implement light-duty vehicle efficiency measures.	**Not applicable.** When this measure is initiated, the standards would be applicable to the light-duty vehicles that would access the project site.
Goods Movement. Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.	**Not applicable.** The project does not propose any changes to maritime, rail, or intermodal facilities or forms of transportation.

Scoping Plan Reduction Measure	Project Consistency
Million Solar Roofs Program. Install 3,000 MW of solar-electric capacity under California's existing solar programs.	**Consistent.** This measure is to increase solar throughout California, which is being done by various electricity providers and existing solar programs. The project would comply with Title 24, which requires new buildings to be "solar ready." The project would not preclude the implementation of this strategy.
Medium/Heavy-Duty Vehicles. Adopt medium and heavy-duty vehicle efficiency measures.	**Not applicable.** This is a statewide measure that cannot be implemented by a project applicant or lead agency. The standards phase-in over model years 2014 through 2018 would be applicable to the vehicles that access the project site.
Industrial Emissions. Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.	**Not applicable.** This measure would apply to the direct greenhouse gas emissions at major industrial facilities emitting more than 500,000 $MTCO_2e$ per year. The project is not an industrial land use.
High Speed Rail. Support implementation of a high-speed rail system.	**Not applicable.** This is a statewide measure that cannot be implemented by a project applicant or lead agency. The project would not preclude the implementation of this strategy.
Green Building Strategy. Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	**Consistent.** The project would comply with the California Energy Code, and thus incorporate applicable energy efficiency features designed to reduce project energy consumption.
High Global Warming Potential Gases. Adopt measures to reduce high global warming potential gases.	**Not applicable.** This measure is applicable to the high global warming potential gases (high GWP refrigerant) that would be used by non-residential sources with large equipment (such as in air conditioning and commercial refrigerators). he project is a mixed-use project and would not include refrigeration or air conditioning equipment that would use more than 50 pounds of high-GWP refrigerant.
Recycling and Waste. Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero waste.	**Consistent.** The project would utilize City of Oakland recycling services.
Sustainable Forests. Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation.	**Not applicable.** The project site is not forested; therefore, no preservation is possible.

Scoping Plan Reduction Measure	Project Consistency
Water. Continue efficiency programs and use cleaner energy sources to move and treat water.	**Consistent.** The project would comply with Green Building Code regulations and would implement required water conservation features.
Agriculture. In the near-term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020.	**Not applicable.** The project site is not designated or in use for agriculture purposes. No grazing, feedlot, or other agricultural activities that generate manure occur on-site or are proposed to be implemented by the project.
Source of Measures: California Air Resources Board, Scoping Plan, 2008	

7.0 CONCLUSION

The CalEEMod results indicate that Project emissions for all criteria pollutants and greenhouse gases would be below the City of Oakland's significance thresholds. Additionally, the proposed project would not exceed the City of Oakland's threshold for cumulative health risks for the residents of the Project. Lastly, the proposed project would be consistent with the local and regional air quality and climate change plans, including the AB 32 scoping plan. Thus, air quality and GHG emissions from the construction and operation of the proposed project would be considered less than significant.

8.0 REFERENCES

Bay Area Air Quality Management District, 2012. BAAQMD CEQA Guidelines Final May 2012. Website: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_Final_May%202012.ashx?la=en. Accessed February 2, 2015

Bay Area Air Quality Management District. 2010. BAAQMD Draft CEQA Guidelines May 2010. Website: http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/Draft_BAAQMD_CEQA_Guidelines_May_2010_Final.ashx?la=en. Accessed February 2, 2015

Bay Area Air Quality Management District. 2010. Northern Alameda Western Contra Costa Counties Region. Website: http://www.baaqmd.gov/Divisions/Communications-and-Outreach/Air-Quality-in-the-Bay-Area/Bay-Area-Climatology/Subregions/Northern-Alameda--Western-Contra-Costa-Counties-Region.aspx. Accessed February 19, 2015

CARB 2015. California State Implementation Plans. Website: http://www.arb.ca.gov/planning/sip/sip.htm. Accessed February 19, 2015

CARB. 2009. Review of the Ambient Air Quality Standard for Ozone. Website: http://www.arb.ca.gov/research/aaqs/ozone-rs/ozone-rs.htm. Accessed February 19, 2015

CARB. 2013. California and National Ambient Air Quality Standards. Website: http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed February 19, 2015

CARB. 2013. Almanac Emissions Projection Data. Website: http://www.arb.ca.gov/app/emsinv/2013/emseic1 query.php?F DIV=-4&F YR=2ir 012&F SEASON=A&SP=2013&F AREA=AB&F AB=SF&F DD=Y. Accessed February 19, 2015

City of Oakland. 2012. Energy and Climate Action Plan. Website: http://www2.oaklandnet.com/oakca1/groups/pwa/documents/report/oak039056.pdf. Accessed March 4, 2016.

City of Oakland. 2011. International Boulevard Transit-Oriented Development Plan. Website: http://www.raimiassociates.com/db files/projects-specific 2 3397381791.pdf. Accessed: March 2, 2015

City of Oakland General Plan. 2005. Website: http://www2.oaklandnet.com/Government/o/PBN/OurServices/GeneralPlan/DOWD008821Accessed February 10, 2015

EPA. 2014. Carbon Monoxide. Website: http://www.epa.gov/airquality/carbonmonoxide/. Accessed February 2, 2015

EPA. 2014. Climate Change Regulatory Initiatives. Website: http://www.epa.gov/climatechange/EPAactivities/regulatory-initiatives.html. Accessed February 2, 2015

EPA. 2014b. Climate Change Overview of Greenhouse Gases. Website: http://www.epa.gov/climatechange/ghgemissions/gases.html. Accessed February 19, 2015

Air Resources Board. 2014. 2014 Edition California Greenhouse Ga Emission Inventory 2000-2012. Website: http://www.arb.ca.gov/cc/inventory/pubs/reports/ghg_inventory_00-12_report.pdf. Accessed February 19, 2015

APPENDIX A: CalEEMod Results

10500 International - Phase 1

Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	220.00	Space	0.00	88,000.00	0
Parking Lot	50.00	Space	0.45	20,000.00	0
Retirement Community	376.00	Dwelling Unit	75.20	376,000.00	1075
Strip Mall	15.86	1000sqft	0.36	15,860.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Site plan

Construction Phase - Applicant schedule

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	110.00	18.00
tblConstructionPhase	NumDays	1,550.00	320.00
tblConstructionPhase	NumDays	100.00	20.00
tblConstructionPhase	NumDays	155.00	8.00

tblConstructionPhase	NumDays	110.00	18.00
tblConstructionPhase	NumDays	60.00	5.00
tblConstructionPhase	PhaseEndDate	6/4/2017	11/29/2018
tblConstructionPhase	PhaseEndDate	6/4/2017	10/10/2018
tblConstructionPhase	PhaseEndDate	6/4/2017	6/30/2017
tblConstructionPhase	PhaseEndDate	6/4/2017	7/19/2017
tblConstructionPhase	PhaseEndDate	6/4/2017	11/5/2018
tblConstructionPhase	PhaseEndDate	6/4/2017	7/7/2017
tblConstructionPhase	PhaseStartDate	6/5/2017	11/6/2018
tblConstructionPhase	PhaseStartDate	6/5/2017	7/20/2017
tblConstructionPhase	PhaseStartDate	6/5/2017	7/8/2017
tblConstructionPhase	PhaseStartDate	6/5/2017	10/11/2018
tblConstructionPhase	PhaseStartDate	6/5/2017	7/1/2017
tblFireplaces	NumberGas	56.40	0.00
tblFireplaces	NumberNoFireplace	15.04	376.00
tblFireplaces	NumberWood	63.92	0.00
tblGrading	AcresOfGrading	20.00	4.00
tblLandUse	LotAcreage	1.98	0.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblSolidWaste	SolidWasteGenerationRate	16.65	0.00
tblVehicleTrips	ST_TR	2.03	2.37
tblVehicleTrips	ST_TR	42.04	0.00
tblVehicleTrips	SU_TR	1.95	2.37
tblVehicleTrips	SU_TR	20.43	0.00
tblVehicleTrips	WD_TR	2.40	2.37
tblVehicleTrips	WD_TR	44.32	0.00
tblWater	IndoorWaterUseRate	1,174,790.19	0.00
tblWater	OutdoorWaterUseRate	720,032.70	0.00
tblWoodstoves	NumberCatalytic	7.52	0.00
tblWoodstoves	NumberNoncatalytic	7.52	0.00

2.0 Emissions Summary

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	tons/yr										MT/yr					
2017	0.3691	2.9806	2.3458	4.9700e-003	0.2594	0.1516	0.4110	0.0873	0.1418	0.2292	0.0000	453.7017	453.7017	0.0660	0.0000	455.3520
2018	3.2119	3.4803	3.2149	7.4300e-003	0.3032	0.1700	0.4732	0.0816	0.1598	0.2414	0.0000	674.4371	674.4371	0.0834	0.0000	676.5229
Total	**3.5810**	**6.4609**	**5.5607**	**0.0124**	**0.5626**	**0.3215**	**0.8842**	**0.1689**	**0.3016**	**0.4705**	**0.0000**	**1,128.1388**	**1,128.1388**	**0.1494**	**0.0000**	**1,131.8749**

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					
2017	0.3691	2.9806	2.3458	4.9700e-003	0.2594	0.1516	0.4110	0.0873	0.1418	0.2292	0.0000	453.7014	453.7014	0.0660	0.0000	455.3518
2018	3.2119	3.4803	3.2149	7.4300e-003	0.3032	0.1700	0.4732	0.0816	0.1598	0.2414	0.0000	674.4368	674.4368	0.0834	0.0000	676.5226
Total	**3.5810**	**6.4609**	**5.5607**	**0.0124**	**0.5626**	**0.3215**	**0.8842**	**0.1689**	**0.3016**	**0.4705**	**0.0000**	**1,128.1382**	**1,128.1382**	**0.1494**	**0.0000**	**1,131.8743**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	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					
Area	1.8987	0.0325	2.8083	1.5000e-004		0.0154	0.0154		0.0154	0.0154	0.0000	4.5655	4.5655	4.4900e-003	0.0000	4.6778
Energy	0.0576	0.4923	0.2110	3.1400e-003		0.0398	0.0398		0.0398	0.0398	0.0000	1,310.4110	1,310.4110	0.0444	0.0174	1,316.6990
Mobile	0.3082	1.9316	3.3877	0.0107	0.7700	0.0149	0.7849	0.2070	0.0141	0.2211	0.0000	980.4953	980.4953	0.0473	0.0000	981.6788
Waste						0.0000	0.0000		0.0000	0.0000	35.1093	0.0000	35.1093	2.0749	0.0000	86.9819
Water						0.0000	0.0000		0.0000	0.0000	7.7721	54.2880	62.0600	0.8007	0.0194	87.8463
Total	**2.2645**	**2.4564**	**6.4070**	**0.0140**	**0.7700**	**0.0701**	**0.8400**	**0.2070**	**0.0693**	**0.2763**	**42.8814**	**2,349.7597**	**2,392.6411**	**2.9719**	**0.0367**	**2,477.8838**

Mitigated Operational

	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					
Area	1.8987	0.0325	2.8083	1.5000e-004		0.0154	0.0154		0.0154	0.0154	0.0000	4.5655	4.5655	4.4900e-003	0.0000	4.6778
Energy	0.0576	0.4923	0.2110	3.1400e-003		0.0398	0.0398		0.0398	0.0398	0.0000	1,310.4110	1,310.4110	0.0444	0.0174	1,316.6990
Mobile	0.2730	1.6008	2.6348	7.6300e-003	0.5282	0.0106	0.5388	0.1420	0.0101	0.1521	0.0000	701.9807	701.9807	0.0389	0.0000	702.9539
Waste						0.0000	0.0000		0.0000	0.0000	35.1093	0.0000	35.1093	2.0749	0.0000	86.9819
Water						0.0000	0.0000		0.0000	0.0000	7.7721	54.2880	62.0600	0.8007	0.0194	87.8463
Total	**2.2293**	**2.1256**	**5.6540**	**0.0109**	**0.5282**	**0.0658**	**0.5940**	**0.1420**	**0.0652**	**0.2072**	**42.8814**	**2,071.2452**	**2,114.1266**	**2.9635**	**0.0367**	**2,199.1589**

	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	**1.56**	**13.47**	**11.75**	**21.72**	**31.40**	**6.08**	**29.29**	**31.40**	**5.83**	**24.99**	**0.00**	**11.85**	**11.64**	**0.28**	**0.00**	**11.25**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	11/6/2018	11/29/2018	5	18	
2	Building Construction	Building Construction	7/20/2017	10/10/2018	5	320	
3	Demolition	Demolition	6/5/2017	6/30/2017	5	20	
4	Grading	Grading	7/8/2017	7/19/2017	5	8	
5	Paving	Paving	10/11/2018	11/5/2018	5	18	
6	Site Preparation	Site Preparation	7/1/2017	7/7/2017	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0.45

Residential Indoor: 761,400; Residential Outdoor: 253,800; Non-Residential Indoor: 23,790; Non-Residential Outdoor: 7,930; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Demolition	Excavators	3	8.00	158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37

Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

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
Architectural Coating	1	64.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	321.00	60.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Demolition	6	15.00	0.00	123.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Architectural Coating - 2018

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	tons/yr										MT/yr					
Archit. Coating	2.7520					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6900e-003	0.0181	0.0167	3.0000e-005		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	2.2979	2.2979	2.2000e-004	0.0000	2.3034
Total	**2.7547**	**0.0181**	**0.0167**	**3.0000e-005**		**1.3500e-003**	**1.3500e-003**		**1.3500e-003**	**1.3500e-003**	**0.0000**	**2.2979**	**2.2979**	**2.2000e-004**	**0.0000**	**2.3034**

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	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	2.4100e-003	1.9000e-003	0.0189	5.0000e-005	4.5500e-003	3.0000e-005	4.5900e-003	1.2100e-003	3.0000e-005	1.2400e-003	0.0000	4.3035	4.3035	1.3000e-004	0.0000	4.3069
Total	**2.4100e-003**	**1.9000e-003**	**0.0189**	**5.0000e-005**	**4.5500e-003**	**3.0000e-005**	**4.5900e-003**	**1.2100e-003**	**3.0000e-005**	**1.2400e-003**	**0.0000**	**4.3035**	**4.3035**	**1.3000e-004**	**0.0000**	**4.3069**

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/yr										MT/yr					
Archit. Coating	2.7520					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6900e-003	0.0181	0.0167	3.0000e-005		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	2.2979	2.2979	2.2000e-004	0.0000	2.3034
Total	**2.7547**	**0.0181**	**0.0167**	**3.0000e-005**		**1.3500e-003**	**1.3500e-003**		**1.3500e-003**	**1.3500e-003**	**0.0000**	**2.2979**	**2.2979**	**2.2000e-004**	**0.0000**	**2.3034**

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	tons/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	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	2.4100e-003	1.9000e-003	0.0189	5.0000e-005	4.5500e-003	3.0000e-005	4.5900e-003	1.2100e-003	3.0000e-005	1.2400e-003	0.0000	4.3035	4.3035	1.3000e-004	0.0000	4.3069
Total	**2.4100e-003**	**1.9000e-003**	**0.0189**	**5.0000e-005**	**4.5500e-003**	**3.0000e-005**	**4.5900e-003**	**1.2100e-003**	**3.0000e-005**	**1.2400e-003**	**0.0000**	**4.3035**	**4.3035**	**1.3000e-004**	**0.0000**	**4.3069**

3.3 Building Construction - 2017

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	tons/yr										MT/yr					
Off-Road	0.1822	1.5534	1.0637	1.5700e-003		0.1046	0.1046		0.0982	0.0982	0.0000	140.6883	140.6883	0.0347	0.0000	141.5549
Total	**0.1822**	**1.5534**	**1.0637**	**1.5700e-003**		**0.1046**	**0.1046**		**0.0982**	**0.0982**	**0.0000**	**140.6883**	**140.6883**	**0.0347**	**0.0000**	**141.5549**

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	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	0.0199	0.5035	0.1200	9.9000e-004	0.0231	4.2800e-003	0.0273	6.6700e-003	4.0900e-003	0.0108	0.0000	94.4142	94.4142	6.4800e-003	0.0000	94.5763
Worker	0.0886	0.0710	0.7044	1.6000e-003	0.1485	1.1300e-003	0.1496	0.0395	1.0400e-003	0.0405	0.0000	144.1854	144.1854	5.0300e-003	0.0000	144.3113
Total	**0.1085**	**0.5745**	**0.8244**	**2.5900e-003**	**0.1715**	**5.4100e-003**	**0.1769**	**0.0462**	**5.1300e-003**	**0.0513**	**0.0000**	**238.5996**	**238.5996**	**0.0115**	**0.0000**	**238.8875**

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/yr										MT/yr					
Off-Road	0.1822	1.5534	1.0637	1.5700e-003		0.1046	0.1046		0.0982	0.0982	0.0000	140.6881	140.6881	0.0347	0.0000	141.5547
Total	**0.1822**	**1.5534**	**1.0637**	**1.5700e-003**		**0.1046**	**0.1046**		**0.0982**	**0.0982**	**0.0000**	**140.6881**	**140.6881**	**0.0347**	**0.0000**	**141.5547**

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	tons/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	0.0199	0.5035	0.1200	9.9000e-004	0.0231	4.2800e-003	0.0273	6.6700e-003	4.0900e-003	0.0108	0.0000	94.4142	94.4142	6.4800e-003	0.0000	94.5763
Worker	0.0886	0.0710	0.7044	1.6000e-003	0.1485	1.1300e-003	0.1496	0.0395	1.0400e-003	0.0405	0.0000	144.1854	144.1854	5.0300e-003	0.0000	144.3113
Total	**0.1085**	**0.5745**	**0.8244**	**2.5900e-003**	**0.1715**	**5.4100e-003**	**0.1769**	**0.0462**	**5.1300e-003**	**0.0513**	**0.0000**	**238.5996**	**238.5996**	**0.0115**	**0.0000**	**238.8875**

3.3 Building Construction - 2018

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	tons/yr										MT/yr					
Off-Road	0.2720	2.3741	1.7844	2.7300e-003		0.1522	0.1522		0.1431	0.1431	0.0000	241.3337	241.3337	0.0591	0.0000	242.8119

Total	**0.2720**	**2.3741**	**1.7844**	**2.7300e-003**		**0.1522**	**0.1522**		**0.1431**	**0.1431**	**0.0000**	**241.3337**	**241.3337**	**0.0591**	**0.0000**	**242.8119**

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	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	0.0303	0.8209	0.1875	1.7100e-003	0.0400	5.8600e-003	0.0459	0.0116	5.6000e-003	0.0172	0.0000	163.3340	163.3340	0.0105	0.0000	163.5953
Worker	0.1366	0.1072	1.0698	2.7000e-003	0.2576	1.8800e-003	0.2595	0.0685	1.7300e-003	0.0703	0.0000	243.4289	243.4289	7.6300e-003	0.0000	243.6197
Total	**0.1668**	**0.9281**	**1.2573**	**4.4100e-003**	**0.2976**	**7.7400e-003**	**0.3053**	**0.0801**	**7.3300e-003**	**0.0874**	**0.0000**	**406.7628**	**406.7628**	**0.0181**	**0.0000**	**407.2150**

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/yr										MT/yr					
Off-Road	0.2720	2.3741	1.7844	2.7300e-003		0.1522	0.1522		0.1431	0.1431	0.0000	241.3335	241.3335	0.0591	0.0000	242.8116
Total	**0.2720**	**2.3741**	**1.7844**	**2.7300e-003**		**0.1522**	**0.1522**		**0.1431**	**0.1431**	**0.0000**	**241.3335**	**241.3335**	**0.0591**	**0.0000**	**242.8116**

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	tons/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	0.0303	0.8209	0.1875	1.7100e-003	0.0400	5.8600e-003	0.0459	0.0116	5.6000e-003	0.0172	0.0000	163.3340	163.3340	0.0105	0.0000	163.5953
Worker	0.1366	0.1072	1.0698	2.7000e-003	0.2576	1.8800e-003	0.2595	0.0685	1.7300e-003	0.0703	0.0000	243.4289	243.4289	7.6300e-003	0.0000	243.6197
Total	**0.1668**	**0.9281**	**1.2573**	**4.4100e-003**	**0.2976**	**7.7400e-003**	**0.3053**	**0.0801**	**7.3300e-003**	**0.0874**	**0.0000**	**406.7628**	**406.7628**	**0.0181**	**0.0000**	**407.2150**

3.4 Demolition - 2017

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	tons/yr										MT/yr					
Fugitive Dust					0.0133	0.0000	0.0133	2.0100e-003	0.0000	2.0100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0410	0.4275	0.2301	3.9000e-004		0.0219	0.0219		0.0204	0.0204	0.0000	35.6005	35.6005	9.7300e-003	0.0000	35.8438
Total	**0.0410**	**0.4275**	**0.2301**	**3.9000e-004**	**0.0133**	**0.0219**	**0.0352**	**2.0100e-003**	**0.0204**	**0.0224**	**0.0000**	**35.6005**	**35.6005**	**9.7300e-003**	**0.0000**	**35.8438**

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	6.7000e-004	0.0217	3.5900e-003	5.0000e-005	1.0400e-003	1.1000e-004	1.1600e-003	2.9000e-004	1.1000e-004	4.0000e-004	0.0000	4.8442	4.8442	2.7000e-004	0.0000	4.8509
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	7.1000e-004	5.7000e-004	5.6300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.1517	1.1517	4.0000e-005	0.0000	1.1527
Total	**1.3800e-003**	**0.0223**	**9.2200e-003**	**6.0000e-005**	**2.2300e-003**	**1.2000e-004**	**2.3500e-003**	**6.1000e-004**	**1.2000e-004**	**7.2000e-004**	**0.0000**	**5.9959**	**5.9959**	**3.1000e-004**	**0.0000**	**6.0036**

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/yr										MT/yr					
Fugitive Dust					0.0133	0.0000	0.0133	2.0100e-003	0.0000	2.0100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0410	0.4275	0.2301	3.9000e-004		0.0219	0.0219		0.0204	0.0204	0.0000	35.6005	35.6005	9.7300e-003	0.0000	35.8438
Total	**0.0410**	**0.4275**	**0.2301**	**3.9000e-004**	**0.0133**	**0.0219**	**0.0352**	**2.0100e-003**	**0.0204**	**0.0224**	**0.0000**	**35.6005**	**35.6005**	**9.7300e-003**	**0.0000**	**35.8438**

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	tons/yr										MT/yr					
Hauling	6.7000e-004	0.0217	3.5900e-003	5.0000e-005	1.0400e-003	1.1000e-004	1.1600e-003	2.9000e-004	1.1000e-004	4.0000e-004	0.0000	4.8442	4.8442	2.7000e-004	0.0000	4.8509
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	7.1000e-004	5.7000e-004	5.6300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.1517	1.1517	4.0000e-005	0.0000	1.1527
Total	**1.3800e-003**	**0.0223**	**9.2200e-003**	**6.0000e-005**	**2.2300e-003**	**1.2000e-004**	**2.3500e-003**	**6.1000e-004**	**1.2000e-004**	**7.2000e-004**	**0.0000**	**5.9959**	**5.9959**	**3.1000e-004**	**0.0000**	**6.0036**

3.5 Grading - 2017

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	tons/yr										MT/yr					
Fugitive Dust					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0230	0.2718	0.1551	2.5000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	23.0239	23.0239	7.0500e-003	0.0000	23.2003
Total	**0.0230**	**0.2718**	**0.1551**	**2.5000e-004**	**0.0262**	**0.0123**	**0.0385**	**0.0135**	**0.0113**	**0.0248**	**0.0000**	**23.0239**	**23.0239**	**7.0500e-003**	**0.0000**	**23.2003**

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	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	3.8000e-004	3.0000e-004	3.0000e-003	1.0000e-005	6.3000e-004	0.0000	6.4000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.6143	0.6143	2.0000e-005	0.0000	0.6148
Total	**3.8000e-004**	**3.0000e-004**	**3.0000e-003**	**1.0000e-005**	**6.3000e-004**	**0.0000**	**6.4000e-004**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.6143**	**0.6143**	**2.0000e-005**	**0.0000**	**0.6148**

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/yr										MT/yr					
Fugitive Dust					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0230	0.2718	0.1551	2.5000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	23.0239	23.0239	7.0500e-003	0.0000	23.2003
Total	**0.0230**	**0.2718**	**0.1551**	**2.5000e-004**	**0.0262**	**0.0123**	**0.0385**	**0.0135**	**0.0113**	**0.0248**	**0.0000**	**23.0239**	**23.0239**	**7.0500e-003**	**0.0000**	**23.2003**

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	tons/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	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	3.8000e-004	3.0000e-004	3.0000e-003	1.0000e-005	6.3000e-004	0.0000	6.4000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.6143	0.6143	2.0000e-005	0.0000	0.6148
Total	**3.8000e-004**	**3.0000e-004**	**3.0000e-003**	**1.0000e-005**	**6.3000e-004**	**0.0000**	**6.4000e-004**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.6143**	**0.6143**	**2.0000e-005**	**0.0000**	**0.6148**

3.6 Paving - 2018

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	tons/yr										MT/yr					
Off-Road	0.0148	0.1577	0.1332	2.1000e-004		8.6100e-003	8.6100e-003		7.9200e-003	7.9200e-003	0.0000	18.7305	18.7305	5.8300e-003	0.0000	18.8762

Paving	5.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0154**	**0.1577**	**0.1332**	**2.1000e-004**		**8.6100e-003**	**8.6100e-003**		**7.9200e-003**	**7.9200e-003**	**0.0000**	**18.7305**	**18.7305**	**5.8300e-003**	**0.0000**	**18.8762**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	4.4000e-004	4.4300e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	1.0086	1.0086	3.0000e-005	0.0000	1.0094
Total	**5.7000e-004**	**4.4000e-004**	**4.4300e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**1.0086**	**1.0086**	**3.0000e-005**	**0.0000**	**1.0094**

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/yr										MT/yr					
Off-Road	0.0148	0.1577	0.1332	2.1000e-004		8.6100e-003	8.6100e-003		7.9200e-003	7.9200e-003	0.0000	18.7304	18.7304	5.8300e-003	0.0000	18.8762
Paving	5.9000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0154**	**0.1577**	**0.1332**	**2.1000e-004**		**8.6100e-003**	**8.6100e-003**		**7.9200e-003**	**7.9200e-003**	**0.0000**	**18.7304**	**18.7304**	**5.8300e-003**	**0.0000**	**18.8762**

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	tons/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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	4.4000e-004	4.4300e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	1.0086	1.0086	3.0000e-005	0.0000	1.0094
Total	**5.7000e-004**	**4.4000e-004**	**4.4300e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**1.0086**	**1.0086**	**3.0000e-005**	**0.0000**	**1.0094**

3.7 Site Preparation - 2017

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	tons/yr										MT/yr					
Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0124	0.1307	0.0586	1.0000e-004		7.2000e-003	7.2000e-003		6.6200e-003	6.6200e-003	0.0000	8.8336	8.8336	2.7100e-003	0.0000	8.9013
Total	**0.0124**	**0.1307**	**0.0586**	**1.0000e-004**	**0.0452**	**7.2000e-003**	**0.0524**	**0.0248**	**6.6200e-003**	**0.0315**	**0.0000**	**8.8336**	**8.8336**	**2.7100e-003**	**0.0000**	**8.9013**

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	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	2.1000e-004	1.7000e-004	1.6900e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3455	0.3455	1.0000e-005	0.0000	0.3458
Total	**2.1000e-004**	**1.7000e-004**	**1.6900e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3455**	**0.3455**	**1.0000e-005**	**0.0000**	**0.3458**

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/yr										MT/yr					
Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0124	0.1307	0.0586	1.0000e-004		7.2000e-003	7.2000e-003		6.6200e-003	6.6200e-003	0.0000	8.8336	8.8336	2.7100e-003	0.0000	8.9013
Total	**0.0124**	**0.1307**	**0.0586**	**1.0000e-004**	**0.0452**	**7.2000e-003**	**0.0524**	**0.0248**	**6.6200e-003**	**0.0315**	**0.0000**	**8.8336**	**8.8336**	**2.7100e-003**	**0.0000**	**8.9013**

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	tons/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	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	2.1000e-004	1.7000e-004	1.6900e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3455	0.3455	1.0000e-005	0.0000	0.3458
Total	**2.1000e-004**	**1.7000e-004**	**1.6900e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3455**	**0.3455**	**1.0000e-005**	**0.0000**	**0.3458**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Pedestrian Network

	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					
Mitigated	0.2730	1.6008	2.6348	7.6300e-003	0.5282	0.0106	0.5388	0.1420	0.0101	0.1521	0.0000	701.9807	701.9807	0.0389	0.0000	702.9539
Unmitigated	0.3082	1.9316	3.3877	0.0107	0.7700	0.0149	0.7849	0.2070	0.0141	0.2211	0.0000	980.4953	980.4953	0.0473	0.0000	981.6788

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Retirement Community	891.12	891.12	891.12	2,058,137	1,411,882
Strip Mall	0.00	0.00	0.00		
Total	891.12	891.12	891.12	2,058,137	1,411,882

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Retirement Community	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.556416	0.041967	0.190895	0.111485	0.018156	0.005234	0.022193	0.041963	0.002079	0.002948	0.005586	0.000300	0.000779

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	740.5551	740.5551	0.0335	6.9300e-003	743.4568
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	740.5551	740.5551	0.0335	6.9300e-003	743.4568
NaturalGas Mitigated	0.0576	0.4923	0.2110	3.1400e-003		0.0398	0.0398		0.0398	0.0398	0.0000	569.8559	569.8559	0.0109	0.0105	573.2422
NaturalGas Unmitigated	0.0576	0.4923	0.2110	3.1400e-003		0.0398	0.0398		0.0398	0.0398	0.0000	569.8559	569.8559	0.0109	0.0105	573.2422

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					

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
Retirement Community	1.06054e+007	0.0572	0.4887	0.2080	3.1200e-003		0.0395	0.0395		0.0395	0.0395	0.0000	565.9457	565.9457	0.0109	0.0104	569.3089
Strip Mall	73273.2	4.0000e-004	3.5900e-003	3.0200e-003	2.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	3.9101	3.9101	7.0000e-005	7.0000e-005	3.9334
Enclosed Parking with Elevator	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		**0.0576**	**0.4923**	**0.2110**	**3.1400e-003**		**0.0398**	**0.0398**		**0.0398**	**0.0398**	**0.0000**	**569.8559**	**569.8559**	**0.0109**	**0.0105**	**573.2422**

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
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
Retirement Community	1.06054e+007	0.0572	0.4887	0.2080	3.1200e-003		0.0395	0.0395		0.0395	0.0395	0.0000	565.9457	565.9457	0.0109	0.0104	569.3089
Strip Mall	73273.2	4.0000e-004	3.5900e-003	3.0200e-003	2.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	3.9101	3.9101	7.0000e-005	7.0000e-005	3.9334
Enclosed Parking with Elevator	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		**0.0576**	**0.4923**	**0.2110**	**3.1400e-003**		**0.0398**	**0.0398**		**0.0398**	**0.0398**	**0.0000**	**569.8559**	**569.8559**	**0.0109**	**0.0105**	**573.2422**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	593120	172.5454	7.8000e-003	1.6100e-003	173.2215

Parking Lot	17600	5.1200	2.3000e-004	5.0000e-005	5.1401
Retirement Community	1.76506e+006	513.4753	0.0232	4.8000e-003	515.4872
Strip Mall	169861	49.4144	2.2300e-003	4.6000e-004	49.6080
Total		**740.5551**	**0.0335**	**6.9200e-003**	**743.4568**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	593120	172.5454	7.8000e-003	1.6100e-003	173.2215
Parking Lot	17600	5.1200	2.3000e-004	5.0000e-005	5.1401
Retirement Community	1.76506e+006	513.4753	0.0232	4.8000e-003	515.4872
Strip Mall	169861	49.4144	2.2300e-003	4.6000e-004	49.6080
Total		**740.5551**	**0.0335**	**6.9200e-003**	**743.4568**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	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					

Mitigated	1.8987	0.0325	2.8083	1.5000e-004		0.0154	0.0154		0.0154	0.0154	0.0000	4.5655	4.5655	4.4900e-003	0.0000	4.6778
Unmitigated	1.8987	0.0325	2.8083	1.5000e-004		0.0154	0.0154		0.0154	0.0154	0.0000	4.5655	4.5655	4.4900e-003	0.0000	4.6778

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	tons/yr										MT/yr					
Architectural Coating	0.2752					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.5374					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	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
Landscaping	0.0861	0.0325	2.8083	1.5000e-004		0.0154	0.0154		0.0154	0.0154	0.0000	4.5655	4.5655	4.4900e-003	0.0000	4.6778
Total	**1.8987**	**0.0325**	**2.8083**	**1.5000e-004**		**0.0154**	**0.0154**		**0.0154**	**0.0154**	**0.0000**	**4.5655**	**4.5655**	**4.4900e-003**	**0.0000**	**4.6778**

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	tons/yr										MT/yr					
Architectural Coating	0.2752					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.5374					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	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

Landscaping	0.0861	0.0325	2.8083	1.5000e-004		0.0154	0.0154		0.0154	0.0154	0.0000	4.5655	4.5655	4.4900e-003	0.0000	4.6778
Total	**1.8987**	**0.0325**	**2.8083**	**1.5000e-004**		**0.0154**	**0.0154**		**0.0154**	**0.0154**	**0.0000**	**4.5655**	**4.5655**	**4.4900e-003**	**0.0000**	**4.6778**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	62.0600	0.8007	0.0194	87.8463
Unmitigated	62.0600	0.8007	0.0194	87.8463

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	24.4979 / 15.4443	62.0600	0.8007	0.0194	87.8463
Strip Mall	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**62.0600**	**0.8007**	**0.0194**	**87.8463**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	24.4979 / 15.4443	62.0600	0.8007	0.0194	87.8463
Strip Mall	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**62.0600**	**0.8007**	**0.0194**	**87.8463**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	35.1093	2.0749	0.0000	86.9819
Unmitigated	35.1093	2.0749	0.0000	86.9819

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	172.96	35.1093	2.0749	0.0000	86.9819
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**35.1093**	**2.0749**	**0.0000**	**86.9819**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	172.96	35.1093	2.0749	0.0000	86.9819
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**35.1093**	**2.0749**	**0.0000**	**86.9819**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

10500 International - Phase 1

Alameda County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	220.00	Space	0.00	88,000.00	0
Parking Lot	50.00	Space	0.45	20,000.00	0
Retirement Community	376.00	Dwelling Unit	75.20	376,000.00	1075
Strip Mall	15.86	1000sqft	0.36	15,860.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project description

Land Use - Site plan

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	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/day					
Area	10.8979	0.3629	31.2694	1.6400e-003		0.1706	0.1706		0.1706	0.1706	0.0000	55.9182	55.9182	0.0555	0.0000	57.3064
Energy	0.3155	2.6974	1.1560	0.0172		0.2180	0.2180		0.2180	0.2180		3,441.9647	3,441.9647	0.0660	0.0631	3,462.4185
Mobile	1.9314	10.2098	19.1855	0.0618	4.3922	0.0818	4.4740	1.1773	0.0774	1.2546		6,255.5036	6,255.5036	0.2839		6,262.6010
Total	**13.1448**	**13.2700**	**51.6110**	**0.0806**	**4.3922**	**0.4704**	**4.8626**	**1.1773**	**0.4660**	**1.6432**	**0.0000**	**9,753.3864**	**9,753.3864**	**0.4054**	**0.0631**	**9,782.3259**

Mitigated Operational

	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/day					
Area	10.8979	0.3629	31.2694	1.6400e-003		0.1706	0.1706		0.1706	0.1706	0.0000	55.9182	55.9182	0.0555	0.0000	57.3064
Energy	0.3155	2.6974	1.1560	0.0172		0.2180	0.2180		0.2180	0.2180		3,441.9647	3,441.9647	0.0660	0.0631	3,462.4185
Mobile	1.7328	8.4976	14.5075	0.0441	3.0130	0.0583	3.0713	0.8076	0.0551	0.8627		4,474.0644	4,474.0644	0.2300		4,479.8138
Total	**12.9462**	**11.5579**	**46.9329**	**0.0630**	**3.0130**	**0.4469**	**3.4599**	**0.8076**	**0.4437**	**1.2513**	**0.0000**	**7,971.9473**	**7,971.9473**	**0.3515**	**0.0631**	**7,999.5387**

	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	**1.51**	**12.90**	**9.06**	**21.86**	**31.40**	**5.00**	**28.85**	**31.40**	**4.78**	**23.85**	**0.00**	**18.26**	**18.26**	**13.30**	**0.00**	**18.22**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Pedestrian Network

	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/day					
Mitigated	1.7328	8.4976	14.5075	0.0441	3.0130	0.0583	3.0713	0.8076	0.0551	0.8627		4,474.0644	4,474.0644	0.2300		4,479.8138
Unmitigated	1.9314	10.2098	19.1855	0.0618	4.3922	0.0818	4.4740	1.1773	0.0774	1.2546		6,255.5036	6,255.5036	0.2839		6,262.6010

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Retirement Community	891.12	891.12	891.12	2,058,137	1,411,882
Strip Mall	0.00	0.00	0.00		
Total	891.12	891.12	891.12	2,058,137	1,411,882

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Retirement Community	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.556416	0.041967	0.190895	0.111485	0.018156	0.005234	0.022193	0.041963	0.002079	0.002948	0.005586	0.000300	0.000779

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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/day					
NaturalGas Mitigated	0.3155	2.6974	1.1560	0.0172		0.2180	0.2180		0.2180	0.2180		3,441.9647	3,441.9647	0.0660	0.0631	3,462.4185
NaturalGas Unmitigated	0.3155	2.6974	1.1560	0.0172		0.2180	0.2180		0.2180	0.2180		3,441.9647	3,441.9647	0.0660	0.0631	3,462.4185

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
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
Retirement Community	29056	0.3134	2.6777	1.1395	0.0171		0.2165	0.2165		0.2165	0.2165		3,418.3472	3,418.3472	0.0655	0.0627	3,438.6607
Strip Mall	200.748	2.1600e-003	0.0197	0.0165	1.2000e-004		1.5000e-003	1.5000e-003		1.5000e-003	1.5000e-003		23.6175	23.6175	4.5000e-004	4.3000e-004	23.7578
Enclosed Parking with Elevator	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		**0.3155**	**2.6974**	**1.1560**	**0.0172**		**0.2180**	**0.2180**		**0.2180**	**0.2180**		**3,441.9647**	**3,441.9647**	**0.0660**	**0.0631**	**3,462.4185**

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
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
Retirement Community	29.056	0.3134	2.6777	1.1395	0.0171		0.2165	0.2165		0.2165	0.2165		3,418.3472	3,418.3472	0.0655	0.0627	3,438.6607
Strip Mall	0.200748	2.1600e-003	0.0197	0.0165	1.2000e-004		1.5000e-003	1.5000e-003		1.5000e-003	1.5000e-003		23.6175	23.6175	4.5000e-004	4.3000e-004	23.7578
Enclosed Parking with Elevator	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		**0.3155**	**2.6974**	**1.1560**	**0.0172**		**0.2180**	**0.2180**		**0.2180**	**0.2180**		**3,441.9647**	**3,441.9647**	**0.0660**	**0.0631**	**3,462.4185**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	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/day					
Mitigated	10.8979	0.3629	31.2694	1.6400e-003		0.1706	0.1706		0.1706	0.1706	0.0000	55.9182	55.9182	0.0555	0.0000	57.3064
Unmitigated	10.8979	0.3629	31.2694	1.6400e-003		0.1706	0.1706		0.1706	0.1706	0.0000	55.9182	55.9182	0.0555	0.0000	57.3064

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	1.5080					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.4241					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	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
Landscaping	0.9658	0.3629	31.2694	1.6400e-003		0.1706	0.1706		0.1706	0.1706		55.9182	55.9182	0.0555		57.3064
Total	**10.8979**	**0.3629**	**31.2694**	**1.6400e-003**		**0.1706**	**0.1706**		**0.1706**	**0.1706**	**0.0000**	**55.9182**	**55.9182**	**0.0555**	**0.0000**	**57.3064**

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	1.5080					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.4241					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	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
Landscaping	0.9658	0.3629	31.2694	1.6400e-003		0.1706	0.1706		0.1706	0.1706		55.9182	55.9182	0.0555		57.3064
Total	**10.8979**	**0.3629**	**31.2694**	**1.6400e-003**		**0.1706**	**0.1706**		**0.1706**	**0.1706**	**0.0000**	**55.9182**	**55.9182**	**0.0555**	**0.0000**	**57.3064**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

10500 International - Phase 1

Alameda County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	220.00	Space	0.00	88,000.00	0
Parking Lot	50.00	Space	0.45	20,000.00	0
Retirement Community	376.00	Dwelling Unit	75.20	376,000.00	1075
Strip Mall	15.86	1000sqft	0.36	15,860.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project description

Land Use - Site plan

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	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/day					
Area	10.8979	0.3629	31.2694	1.6400e-003		0.1706	0.1706		0.1706	0.1706	0.0000	55.9182	55.9182	0.0555	0.0000	57.3064
Energy	0.3155	2.6974	1.1560	0.0172		0.2180	0.2180		0.2180	0.2180		3,441.9647	3,441.9647	0.0660	0.0631	3,462.4185
Mobile	1.6918	10.6607	19.6909	0.0579	4.3922	0.0827	4.4748	1.1773	0.0781	1.2554		5,861.8684	5,861.8684	0.2957		5,869.2614
Total	**12.9052**	**13.7209**	**52.1164**	**0.0767**	**4.3922**	**0.4713**	**4.8634**	**1.1773**	**0.4667**	**1.6440**	**0.0000**	**9,359.7513**	**9,359.7513**	**0.4172**	**0.0631**	**9,388.9863**

Mitigated Operational

	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/day					
Area	10.8979	0.3629	31.2694	1.6400e-003		0.1706	0.1706		0.1706	0.1706	0.0000	55.9182	55.9182	0.0555	0.0000	57.3064
Energy	0.3155	2.6974	1.1560	0.0172		0.2180	0.2180		0.2180	0.2180		3,441.9647	3,441.9647	0.0660	0.0631	3,462.4185
Mobile	1.4961	8.7849	15.5040	0.0413	3.0130	0.0591	3.0721	0.8076	0.0559	0.8635		4,185.7706	4,185.7706	0.2447		4,191.8876
Total	**12.7095**	**11.8452**	**47.9294**	**0.0602**	**3.0130**	**0.4477**	**3.4607**	**0.8076**	**0.4445**	**1.2521**	**0.0000**	**7,683.6535**	**7,683.6535**	**0.3662**	**0.0631**	**7,711.6126**

	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	**1.52**	**13.67**	**8.03**	**21.58**	**31.40**	**5.00**	**28.84**	**31.40**	**4.77**	**23.84**	**0.00**	**17.91**	**17.91**	**12.23**	**0.00**	**17.87**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Pedestrian Network

	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/day					
Mitigated	1.4961	8.7849	15.5040	0.0413	3.0130	0.0591	3.0721	0.8076	0.0559	0.8635		4,185.7706	4,185.7706	0.2447		4,191.8876
Unmitigated	1.6918	10.6607	19.6909	0.0579	4.3922	0.0827	4.4748	1.1773	0.0781	1.2554		5,861.8684	5,861.8684	0.2957		5,869.2614

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Retirement Community	891.12	891.12	891.12	2,058,137	1,411,882
Strip Mall	0.00	0.00	0.00		
Total	891.12	891.12	891.12	2,058,137	1,411,882

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Retirement Community	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.556416	0.041967	0.190895	0.111485	0.018156	0.005234	0.022193	0.041963	0.002079	0.002948	0.005586	0.000300	0.000779

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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/day					
NaturalGas Mitigated	0.3155	2.6974	1.1560	0.0172		0.2180	0.2180		0.2180	0.2180		3,441.9647	3,441.9647	0.0660	0.0631	3,462.4185
NaturalGas Unmitigated	0.3155	2.6974	1.1560	0.0172		0.2180	0.2180		0.2180	0.2180		3,441.9647	3,441.9647	0.0660	0.0631	3,462.4185

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
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
Retirement Community	29056	0.3134	2.6777	1.1395	0.0171		0.2165	0.2165		0.2165	0.2165		3,418.3472	3,418.3472	0.0655	0.0627	3,438.6607
Strip Mall	200.748	2.1600e-003	0.0197	0.0165	1.2000e-004		1.5000e-003	1.5000e-003		1.5000e-003	1.5000e-003		23.6175	23.6175	4.5000e-004	4.3000e-004	23.7578
Enclosed Parking with Elevator	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		**0.3155**	**2.6974**	**1.1560**	**0.0172**		**0.2180**	**0.2180**		**0.2180**	**0.2180**		**3,441.9647**	**3,441.9647**	**0.0660**	**0.0631**	**3,462.4185**

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
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
Retirement Community	29.056	0.3134	2.6777	1.1395	0.0171		0.2165	0.2165		0.2165	0.2165		3,418.3472	3,418.3472	0.0655	0.0627	3,438.6607
Strip Mall	0.200748	2.1600e-003	0.0197	0.0165	1.2000e-004		1.5000e-003	1.5000e-003		1.5000e-003	1.5000e-003		23.6175	23.6175	4.5000e-004	4.3000e-004	23.7578
Enclosed Parking with Elevator	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		**0.3155**	**2.6974**	**1.1560**	**0.0172**		**0.2180**	**0.2180**		**0.2180**	**0.2180**		**3,441.9647**	**3,441.9647**	**0.0660**	**0.0631**	**3,462.4185**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	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/day					
Mitigated	10.8979	0.3629	31.2694	1.6400e-003		0.1706	0.1706		0.1706	0.1706	0.0000	55.9182	55.9182	0.0555	0.0000	57.3064
Unmitigated	10.8979	0.3629	31.2694	1.6400e-003		0.1706	0.1706		0.1706	0.1706	0.0000	55.9182	55.9182	0.0555	0.0000	57.3064

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	1.5080					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.4241					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	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
Landscaping	0.9658	0.3629	31.2694	1.6400e-003		0.1706	0.1706		0.1706	0.1706		55.9182	55.9182	0.0555		57.3064
Total	**10.8979**	**0.3629**	**31.2694**	**1.6400e-003**		**0.1706**	**0.1706**		**0.1706**	**0.1706**	**0.0000**	**55.9182**	**55.9182**	**0.0555**	**0.0000**	**57.3064**

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	1.5080					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.4241					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	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
Landscaping	0.9658	0.3629	31.2694	1.6400e-003		0.1706	0.1706		0.1706	0.1706		55.9182	55.9182	0.0555		57.3064
Total	**10.8979**	**0.3629**	**31.2694**	**1.6400e-003**		**0.1706**	**0.1706**		**0.1706**	**0.1706**	**0.0000**	**55.9182**	**55.9182**	**0.0555**	**0.0000**	**57.3064**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

10500 International - Phase 2

Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Retirement Community	153.00	Dwelling Unit	1.45	153,000.00	438
Enclosed Parking with Elevator	114.00	Space	0.00	45,600.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project Description

Land Use - Site plan

Vehicle Trips - Traffic Study

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	18.00
tblConstructionPhase	NumDays	200.00	320.00
tblConstructionPhase	NumDays	10.00	18.00
tblConstructionPhase	PhaseEndDate	5/28/2020	4/13/2020
tblConstructionPhase	PhaseEndDate	4/8/2020	2/21/2020
tblConstructionPhase	PhaseEndDate	5/4/2020	3/18/2020

tblConstructionPhase	PhaseStartDate	5/5/2020	3/19/2020
tblConstructionPhase	PhaseStartDate	1/17/2019	12/3/2018
tblConstructionPhase	PhaseStartDate	4/9/2020	2/22/2020
tblFireplaces	NumberGas	22.95	0.00
tblFireplaces	NumberNoFireplace	6.12	153.00
tblFireplaces	NumberWood	26.01	0.00
tblLandUse	LotAcreage	30.60	1.45
tblLandUse	LotAcreage	1.03	0.00
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	2.03	2.37
tblVehicleTrips	SU_TR	1.95	2.37
tblVehicleTrips	WD_TR	2.40	2.37
tblWoodstoves	NumberCatalytic	3.06	0.00
tblWoodstoves	NumberNoncatalytic	3.06	0.00

2.0 Emissions Summary

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	tons/yr										MT/yr					
2018	0.0341	0.2214	0.1979	4.1000e-004	0.0124	0.0114	0.0238	3.3300e-003	0.0110	0.0144	0.0000	36.2233	36.2233	4.6400e-003	0.0000	36.3394
2019	0.3743	2.5346	2.3396	5.1000e-003	0.1537	0.1230	0.2767	0.0414	0.1188	0.1601	0.0000	444.4367	444.4367	0.0546	0.0000	445.8005
2020	1.1463	0.4329	0.4318	9.1000e-004	0.0252	0.0208	0.0459	6.7600e-003	0.0199	0.0266	0.0000	79.1357	79.1357	0.0111	0.0000	79.4142
Total	**1.5547**	**3.1889**	**2.9694**	**6.4200e-003**	**0.1912**	**0.1552**	**0.3464**	**0.0515**	**0.1497**	**0.2011**	**0.0000**	**559.7958**	**559.7958**	**0.0703**	**0.0000**	**561.5541**

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					
2018	0.0341	0.2214	0.1979	4.1000e-004	0.0124	0.0114	0.0238	3.3300e-003	0.0110	0.0144	0.0000	36.2233	36.2233	4.6400e-003	0.0000	36.3394
2019	0.3743	2.5346	2.3396	5.1000e-003	0.1537	0.1230	0.2767	0.0414	0.1188	0.1601	0.0000	444.4365	444.4365	0.0546	0.0000	445.8002
2020	1.1463	0.4329	0.4318	9.1000e-004	0.0252	0.0208	0.0459	6.7600e-003	0.0199	0.0266	0.0000	79.1357	79.1357	0.0111	0.0000	79.4142
Total	**1.5547**	**3.1889**	**2.9694**	**6.4200e-003**	**0.1912**	**0.1552**	**0.3464**	**0.0515**	**0.1497**	**0.2011**	**0.0000**	**559.7954**	**559.7954**	**0.0703**	**0.0000**	**561.5538**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	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					
Area	0.7440	0.0132	1.1409	6.0000e-005		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	1.8577	1.8577	1.8100e-003	0.0000	1.9031
Energy	0.0233	0.1989	0.0846	1.2700e-003		0.0161	0.0161		0.0161	0.0161	0.0000	528.6424	528.6424	0.0179	7.0100e-003	531.1799
Mobile	0.1145	0.7369	1.2569	4.2500e-003	0.3132	5.1500e-003	0.3184	0.0842	4.8600e-003	0.0891	0.0000	390.8282	390.8282	0.0179	0.0000	391.2761
Waste						0.0000	0.0000		0.0000	0.0000	14.2865	0.0000	14.2865	0.8443	0.0000	35.3942
Water						0.0000	0.0000		0.0000	0.0000	3.1626	22.0906	25.2532	0.3258	7.8800e-003	35.7460
Total	**0.8817**	**0.9489**	**2.4824**	**5.5800e-003**	**0.3132**	**0.0275**	**0.3407**	**0.0842**	**0.0272**	**0.1114**	**17.4491**	**943.4189**	**960.8680**	**1.2078**	**0.0149**	**995.4993**

Mitigated Operational

	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					
Area	0.7440	0.0132	1.1409	6.0000e-005		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	1.8577	1.8577	1.8100e-003	0.0000	1.9031
Energy	0.0233	0.1989	0.0846	1.2700e-003		0.0161	0.0161		0.0161	0.0161	0.0000	528.6424	528.6424	0.0179	7.0100e-003	531.1799
Mobile	0.1015	0.6156	0.9761	3.0400e-003	0.2149	3.6800e-003	0.2186	0.0578	3.4700e-003	0.0612	0.0000	280.1749	280.1749	0.0147	0.0000	280.5432
Waste						0.0000	0.0000		0.0000	0.0000	14.2865	0.0000	14.2865	0.8443	0.0000	35.3942
Water						0.0000	0.0000		0.0000	0.0000	3.1626	22.0906	25.2532	0.3258	7.8800e-003	35.7460
Total	**0.8687**	**0.8276**	**2.2016**	**4.3700e-003**	**0.2149**	**0.0260**	**0.2409**	**0.0578**	**0.0258**	**0.0836**	**17.4491**	**832.7656**	**850.2147**	**1.2046**	**0.0149**	**884.7664**

	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	**1.48**	**12.78**	**11.31**	**21.68**	**31.40**	**5.35**	**29.30**	**31.40**	**5.11**	**24.97**	**0.00**	**11.73**	**11.52**	**0.26**	**0.00**	**11.12**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	12/3/2018	2/21/2020	5	320	
2	Paving	Paving	2/22/2020	3/18/2020	5	18	
3	Architectural Coating	Architectural Coating	3/19/2020	4/13/2020	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 309,825; Residential Outdoor: 103,275; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
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
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Paving	Paving Equipment	1	8.00	132	0.36
Building Construction	Welders	3	8.00	46	0.45
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Architectural Coating	1	26.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	129.00	24.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Building Construction - 2018

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	tons/yr										MT/yr					
Off-Road	0.0272	0.1830	0.1457	2.3000e-004		0.0111	0.0111		0.0107	0.0107	0.0000	19.3446	19.3446	3.8900e-003	0.0000	19.4420

Total	**0.0272**	**0.1830**	**0.1457**	**2.3000e-004**		**0.0111**	**0.0111**		**0.0107**	**0.0107**	**0.0000**	**19.3446**	**19.3446**	**3.8900e-003**	**0.0000**	**19.4420**

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	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	1.2500e-003	0.0340	7.7600e-003	7.0000e-005	1.6500e-003	2.4000e-004	1.9000e-003	4.8000e-004	2.3000e-004	7.1000e-004	0.0000	6.7587	6.7587	4.3000e-004	0.0000	6.7695
Worker	5.6800e-003	4.4600e-003	0.0445	1.1000e-004	0.0107	8.0000e-005	0.0108	2.8500e-003	7.0000e-005	2.9200e-003	0.0000	10.1200	10.1200	3.2000e-004	0.0000	10.1279
Total	**6.9300e-003**	**0.0384**	**0.0522**	**1.8000e-004**	**0.0124**	**3.2000e-004**	**0.0127**	**3.3300e-003**	**3.0000e-004**	**3.6300e-003**	**0.0000**	**16.8786**	**16.8786**	**7.5000e-004**	**0.0000**	**16.8974**

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/yr										MT/yr					
Off-Road	0.0272	0.1830	0.1457	2.3000e-004		0.0111	0.0111		0.0107	0.0107	0.0000	19.3446	19.3446	3.8900e-003	0.0000	19.4420
Total	**0.0272**	**0.1830**	**0.1457**	**2.3000e-004**		**0.0111**	**0.0111**		**0.0107**	**0.0107**	**0.0000**	**19.3446**	**19.3446**	**3.8900e-003**	**0.0000**	**19.4420**

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	tons/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	1.2500e-003	0.0340	7.7600e-003	7.0000e-005	1.6500e-003	2.4000e-004	1.9000e-003	4.8000e-004	2.3000e-004	7.1000e-004	0.0000	6.7587	6.7587	4.3000e-004	0.0000	6.7695
Worker	5.6800e-003	4.4600e-003	0.0445	1.1000e-004	0.0107	8.0000e-005	0.0108	2.8500e-003	7.0000e-005	2.9200e-003	0.0000	10.1200	10.1200	3.2000e-004	0.0000	10.1279
Total	**6.9300e-003**	**0.0384**	**0.0522**	**1.8000e-004**	**0.0124**	**3.2000e-004**	**0.0127**	**3.3300e-003**	**3.0000e-004**	**3.6300e-003**	**0.0000**	**16.8786**	**16.8786**	**7.5000e-004**	**0.0000**	**16.8974**

3.2 Building Construction - 2019

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	tons/yr										MT/yr					
Off-Road	0.2965	2.0854	1.7601	2.8800e-003		0.1195	0.1195		0.1154	0.1154	0.0000	238.9088	238.9088	0.0459	0.0000	240.0570
Total	**0.2965**	**2.0854**	**1.7601**	**2.8800e-003**		**0.1195**	**0.1195**		**0.1154**	**0.1154**	**0.0000**	**238.9088**	**238.9088**	**0.0459**	**0.0000**	**240.0570**

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	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	0.0141	0.4006	0.0886	8.7000e-004	0.0206	2.5600e-003	0.0231	5.9500e-003	2.4500e-003	8.4000e-003	0.0000	83.4286	83.4286	5.1400e-003	0.0000	83.5572
Worker	0.0637	0.0486	0.4910	1.3500e-003	0.1331	9.5000e-004	0.1341	0.0354	8.7000e-004	0.0363	0.0000	122.0993	122.0993	3.4800e-003	0.0000	122.1863
Total	**0.0778**	**0.4492**	**0.5796**	**2.2200e-003**	**0.1537**	**3.5100e-003**	**0.1572**	**0.0414**	**3.3200e-003**	**0.0447**	**0.0000**	**205.5279**	**205.5279**	**8.6200e-003**	**0.0000**	**205.7435**

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/yr										MT/yr					
Off-Road	0.2965	2.0854	1.7601	2.8800e-003		0.1195	0.1195		0.1154	0.1154	0.0000	238.9086	238.9086	0.0459	0.0000	240.0568
Total	**0.2965**	**2.0854**	**1.7601**	**2.8800e-003**		**0.1195**	**0.1195**		**0.1154**	**0.1154**	**0.0000**	**238.9086**	**238.9086**	**0.0459**	**0.0000**	**240.0568**

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	tons/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	0.0141	0.4006	0.0886	8.7000e-004	0.0206	2.5600e-003	0.0231	5.9500e-003	2.4500e-003	8.4000e-003	0.0000	83.4286	83.4286	5.1400e-003	0.0000	83.5572
Worker	0.0637	0.0486	0.4910	1.3500e-003	0.1331	9.5000e-004	0.1341	0.0354	8.7000e-004	0.0363	0.0000	122.0993	122.0993	3.4800e-003	0.0000	122.1863
Total	**0.0778**	**0.4492**	**0.5796**	**2.2200e-003**	**0.1537**	**3.5100e-003**	**0.1572**	**0.0414**	**3.3200e-003**	**0.0447**	**0.0000**	**205.5279**	**205.5279**	**8.6200e-003**	**0.0000**	**205.7435**

3.2 Building Construction - 2020

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	tons/yr										MT/yr					
Off-Road	0.0386	0.2810	0.2506	4.2000e-004		0.0151	0.0151		0.0146	0.0146	0.0000	34.4930	34.4930	6.4000e-003	0.0000	34.6531
Total	**0.0386**	**0.2810**	**0.2506**	**4.2000e-004**		**0.0151**	**0.0151**		**0.0146**	**0.0146**	**0.0000**	**34.4930**	**34.4930**	**6.4000e-003**	**0.0000**	**34.6531**

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	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	1.7100e-003	0.0536	0.0116	1.3000e-004	2.9900e-003	2.5000e-004	3.2400e-003	8.7000e-004	2.4000e-004	1.1000e-003	0.0000	12.0617	12.0617	6.9000e-004	0.0000	12.0790
Worker	8.4800e-003	6.2500e-003	0.0641	1.9000e-004	0.0194	1.3000e-004	0.0195	5.1600e-003	1.2000e-004	5.2800e-003	0.0000	17.2270	17.2270	4.4000e-004	0.0000	17.2381
Total	**0.0102**	**0.0599**	**0.0757**	**3.2000e-004**	**0.0224**	**3.8000e-004**	**0.0228**	**6.0300e-003**	**3.6000e-004**	**6.3800e-003**	**0.0000**	**29.2887**	**29.2887**	**1.1300e-003**	**0.0000**	**29.3171**

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/yr										MT/yr					
Off-Road	0.0386	0.2810	0.2506	4.2000e-004		0.0151	0.0151		0.0146	0.0146	0.0000	34.4930	34.4930	6.4000e-003	0.0000	34.6530
Total	**0.0386**	**0.2810**	**0.2506**	**4.2000e-004**		**0.0151**	**0.0151**		**0.0146**	**0.0146**	**0.0000**	**34.4930**	**34.4930**	**6.4000e-003**	**0.0000**	**34.6530**

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	tons/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	1.7100e-003	0.0536	0.0116	1.3000e-004	2.9900e-003	2.5000e-004	3.2400e-003	8.7000e-004	2.4000e-004	1.1000e-003	0.0000	12.0617	12.0617	6.9000e-004	0.0000	12.0790
Worker	8.4800e-003	6.2500e-003	0.0641	1.9000e-004	0.0194	1.3000e-004	0.0195	5.1600e-003	1.2000e-004	5.2800e-003	0.0000	17.2270	17.2270	4.4000e-004	0.0000	17.2381
Total	**0.0102**	**0.0599**	**0.0757**	**3.2000e-004**	**0.0224**	**3.8000e-004**	**0.0228**	**6.0300e-003**	**3.6000e-004**	**6.3800e-003**	**0.0000**	**29.2887**	**29.2887**	**1.1300e-003**	**0.0000**	**29.3171**

3.3 Paving - 2020

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	tons/yr										MT/yr					
Off-Road	7.5600e-003	0.0761	0.0799	1.2000e-004		4.2300e-003	4.2300e-003		3.9000e-003	3.9000e-003	0.0000	10.5891	10.5891	3.3600e-003	0.0000	10.6731
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.5600e-003**	**0.0761**	**0.0799**	**1.2000e-004**		**4.2300e-003**	**4.2300e-003**		**3.9000e-003**	**3.9000e-003**	**0.0000**	**10.5891**	**10.5891**	**3.3600e-003**	**0.0000**	**10.6731**

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	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-004	3.0000e-004	3.0600e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.8223	0.8223	2.0000e-005	0.0000	0.8229
Total	**4.0000e-004**	**3.0000e-004**	**3.0600e-003**	**1.0000e-005**	**9.3000e-004**	**1.0000e-005**	**9.3000e-004**	**2.5000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8223**	**0.8223**	**2.0000e-005**	**0.0000**	**0.8229**

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/yr										MT/yr					
Off-Road	7.5600e-003	0.0761	0.0799	1.2000e-004		4.2300e-003	4.2300e-003		3.9000e-003	3.9000e-003	0.0000	10.5891	10.5891	3.3600e-003	0.0000	10.6730
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.5600e-003**	**0.0761**	**0.0799**	**1.2000e-004**		**4.2300e-003**	**4.2300e-003**		**3.9000e-003**	**3.9000e-003**	**0.0000**	**10.5891**	**10.5891**	**3.3600e-003**	**0.0000**	**10.6730**

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	tons/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	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-004	3.0000e-004	3.0600e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.8223	0.8223	2.0000e-005	0.0000	0.8229
Total	**4.0000e-004**	**3.0000e-004**	**3.0600e-003**	**1.0000e-005**	**9.3000e-004**	**1.0000e-005**	**9.3000e-004**	**2.5000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.8223**	**0.8223**	**2.0000e-005**	**0.0000**	**0.8229**

3.4 Architectural Coating - 2020

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	tons/yr										MT/yr					
Archit. Coating	1.0865					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1800e-003	0.0152	0.0165	3.0000e-005		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003	0.0000	2.2979	2.2979	1.8000e-004	0.0000	2.3024
Total	**1.0887**	**0.0152**	**0.0165**	**3.0000e-005**		**1.0000e-003**	**1.0000e-003**		**1.0000e-003**	**1.0000e-003**	**0.0000**	**2.2979**	**2.2979**	**1.8000e-004**	**0.0000**	**2.3024**

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	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	8.1000e-004	6.0000e-004	6.1200e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.6447	1.6447	4.0000e-005	0.0000	1.6457
Total	**8.1000e-004**	**6.0000e-004**	**6.1200e-003**	**2.0000e-005**	**1.8500e-003**	**1.0000e-005**	**1.8600e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.6447**	**1.6447**	**4.0000e-005**	**0.0000**	**1.6457**

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/yr										MT/yr					
Archit. Coating	1.0865					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1800e-003	0.0152	0.0165	3.0000e-005		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003	0.0000	2.2979	2.2979	1.8000e-004	0.0000	2.3024

Total	**1.0887**	**0.0152**	**0.0165**	**3.0000e-005**		**1.0000e-003**	**1.0000e-003**		**1.0000e-003**	**1.0000e-003**	**0.0000**	**2.2979**	**2.2979**	**1.8000e-004**	**0.0000**	**2.3024**

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	tons/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	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	8.1000e-004	6.0000e-004	6.1200e-003	2.0000e-005	1.8500e-003	1.0000e-005	1.8600e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.6447	1.6447	4.0000e-005	0.0000	1.6457
Total	**8.1000e-004**	**6.0000e-004**	**6.1200e-003**	**2.0000e-005**	**1.8500e-003**	**1.0000e-005**	**1.8600e-003**	**4.9000e-004**	**1.0000e-005**	**5.0000e-004**	**0.0000**	**1.6447**	**1.6447**	**4.0000e-005**	**0.0000**	**1.6457**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Pedestrian Network

	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					
Mitigated	0.1015	0.6156	0.9761	3.0400e-003	0.2149	3.6800e-003	0.2186	0.0578	3.4700e-003	0.0612	0.0000	280.1749	280.1749	0.0147	0.0000	280.5432
Unmitigated	0.1145	0.7369	1.2569	4.2500e-003	0.3132	5.1500e-003	0.3184	0.0842	4.8600e-003	0.0891	0.0000	390.8282	390.8282	0.0179	0.0000	391.2761

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Retirement Community	362.61	362.61	362.61	837,487	574,516
Total	362.61	362.61	362.61	837,487	574,516

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Retirement Community	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.558186	0.040947	0.190770	0.110456	0.017401	0.005228	0.022658	0.042795	0.002118	0.002805	0.005569	0.000308	0.000759

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	298.3506	298.3506	0.0135	2.7900e-003	299.5197
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	298.3506	298.3506	0.0135	2.7900e-003	299.5197

NaturalGas Mitigated	0.0233	0.1989	0.0846	1.2700e-003		0.0161	0.0161		0.0161	0.0161	0.0000	230.2917	230.2917	4.4100e-003	4.2200e-003	231.6603
NaturalGas Unmitigated	0.0233	0.1989	0.0846	1.2700e-003		0.0161	0.0161		0.0161	0.0161	0.0000	230.2917	230.2917	4.4100e-003	4.2200e-003	231.6603

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
Retirement Community	4.3155e+006	0.0233	0.1989	0.0846	1.2700e-003		0.0161	0.0161		0.0161	0.0161	0.0000	230.2917	230.2917	4.4100e-003	4.2200e-003	231.6603
Enclosed Parking with Elevator	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		**0.0233**	**0.1989**	**0.0846**	**1.2700e-003**		**0.0161**	**0.0161**		**0.0161**	**0.0161**	**0.0000**	**230.2917**	**230.2917**	**4.4100e-003**	**4.2200e-003**	**231.6603**

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	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
Retirement Community	4.3155e+006	0.0233	0.1989	0.0846	1.2700e-003		0.0161	0.0161		0.0161	0.0161	0.0000	230.2917	230.2917	4.4100e-003	4.2200e-003	231.6603
Total		**0.0233**	**0.1989**	**0.0846**	**1.2700e-003**		**0.0161**	**0.0161**		**0.0161**	**0.0161**	**0.0000**	**230.2917**	**230.2917**	**4.4100e-003**	**4.2200e-003**	**231.6603**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	307344	89.4099	4.0400e-003	8.4000e-004	89.7602
Retirement Community	718228	208.9407	9.4500e-003	1.9500e-003	209.7594
Total		**298.3506**	**0.0135**	**2.7900e-003**	**299.5197**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	307344	89.4099	4.0400e-003	8.4000e-004	89.7602
Retirement Community	718228	208.9407	9.4500e-003	1.9500e-003	209.7594
Total		**298.3506**	**0.0135**	**2.7900e-003**	**299.5197**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	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					
Mitigated	0.7440	0.0132	1.1409	6.0000e-005		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	1.8577	1.8577	1.8100e-003	0.0000	1.9031
Unmitigated	0.7440	0.0132	1.1409	6.0000e-005		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	1.8577	1.8577	1.8100e-003	0.0000	1.9031

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	tons/yr										MT/yr					
Architectural Coating	0.1087					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	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
Landscaping	0.0348	0.0132	1.1409	6.0000e-005		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	1.8577	1.8577	1.8100e-003	0.0000	1.9031
Total	**0.7440**	**0.0132**	**1.1409**	**6.0000e-005**		**6.2700e-003**	**6.2700e-003**		**6.2700e-003**	**6.2700e-003**	**0.0000**	**1.8577**	**1.8577**	**1.8100e-003**	**0.0000**	**1.9031**

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	tons/yr										MT/yr					
Architectural Coating	0.1087					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Hearth	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
Landscaping	0.0348	0.0132	1.1409	6.0000e-005		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	1.8577	1.8577	1.8100e-003	0.0000	1.9031
Total	**0.7440**	**0.0132**	**1.1409**	**6.0000e-005**		**6.2700e-003**	**6.2700e-003**		**6.2700e-003**	**6.2700e-003**	**0.0000**	**1.8577**	**1.8577**	**1.8100e-003**	**0.0000**	**1.9031**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	25.2532	0.3258	7.8800e-003	35.7460
Unmitigated	25.2532	0.3258	7.8800e-003	35.7460

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	9.96857 / 6.28453	25.2532	0.3258	7.8800e-003	35.7460
Total		**25.2532**	**0.3258**	**7.8800e-003**	**35.7460**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	9.96857 / 6.28453	25.2532	0.3258	7.8800e-003	35.7460
Total		**25.2532**	**0.3258**	**7.8800e-003**	**35.7460**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	14.2865	0.8443	0.0000	35.3942
Unmitigated	14.2865	0.8443	0.0000	35.3942

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	70.38	14.2865	0.8443	0.0000	35.3942
Total		**14.2865**	**0.8443**	**0.0000**	**35.3942**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	70.38	14.2865	0.8443	0.0000	35.3942
Total		**14.2865**	**0.8443**	**0.0000**	**35.3942**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

10500 International - Buildout

Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	327.00	Space	0.00	130,800.00	0
Parking Lot	50.00	Space	0.45	20,000.00	0
Retirement Community	529.00	Dwelling Unit	3.09	448,833.00	1513
Strip Mall	15.86	1000sqft	0.36	15,856.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2020 buildout

Land Use - Site Plan

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	1,001.10	741.44
tblEnergyUse	LightingElect	5.00	0.00
tblEnergyUse	NT24E	3,418.36	3,277.06
tblEnergyUse	NT24E	3.36	0.00
tblEnergyUse	T24E	274.84	502.89

tblEnergyUse	T24E	2.35	0.00
tblEnergyUse	T24NG	25,590.91	8,824.58
tblEnergyUse	T24NG	3.92	0.00
tblLandUse	BuildingSpaceSquareFeet	529,000.00	448,833.00
tblLandUse	BuildingSpaceSquareFeet	15,860.00	15,856.00
tblLandUse	LandUseSquareFeet	529,000.00	448,833.00
tblLandUse	LandUseSquareFeet	15,860.00	15,856.00
tblLandUse	LotAcreage	2.94	0.00
tblLandUse	LotAcreage	105.80	3.09
tblProjectCharacteristics	OperationalYear	2018	2020
tblSolidWaste	SolidWasteGenerationRate	16.65	0.00
tblVehicleTrips	ST_TR	2.03	2.37
tblVehicleTrips	ST_TR	42.04	0.00
tblVehicleTrips	SU_TR	1.95	2.37
tblVehicleTrips	SU_TR	20.43	0.00
tblVehicleTrips	WD_TR	2.40	2.37
tblVehicleTrips	WD_TR	44.32	0.00
tblWater	IndoorWaterUseRate	1,174,790.19	0.00
tblWater	OutdoorWaterUseRate	720,032.70	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	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					
Area	3.4929	0.0737	5.6253	3.5500e-003		0.2620	0.2620		0.2620	0.2620	24.1170	16.3292	40.4461			
Energy	0.0327	0.2794	0.1191	1.7800e-003		0.0226	0.0226		0.0226	0.0226	0.0000	1,280.9172	1,280.9172			
Mobile	0.3959	2.5478	4.3457	0.0147	1.0831	0.0178	1.1008	0.2912	0.0168	0.3079	0.0000	1,351.2950	1,351.2950			
Waste						0.0000	0.0000		0.0000	0.0000	49.3958	0.0000	49.3958			
Water						0.0000	0.0000		0.0000	0.0000	10.9346	76.3786	87.3132			
Total	**3.9214**	**2.9008**	**10.0901**	**0.0200**	**1.0831**	**0.3024**	**1.3854**	**0.2912**	**0.3014**	**0.5925**	**84.4474**	**2,724.9199**	**2,809.3673**			

Mitigated Operational

	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					
Area	2.2723	0.0456	3.9446	2.1000e-004		0.0217	0.0217		0.0217	0.0217						
Energy	0.0327	0.2794	0.1191	1.7800e-003		0.0226	0.0226		0.0226	0.0226						
Mobile	0.3509	2.1284	3.3748	0.0105	0.7430	0.0127	0.7557	0.1997	0.0120	0.2117						
Waste						0.0000	0.0000		0.0000	0.0000						
Water						0.0000	0.0000		0.0000	0.0000						
Total	**2.6559**	**2.4534**	**7.4385**	**0.0125**	**0.7430**	**0.0570**	**0.8000**	**0.1997**	**0.0563**	**0.2560**						

	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	**32.27**	**15.42**	**26.28**	**37.48**	**31.40**	**81.15**	**42.26**	**31.40**	**81.33**	**56.79**						

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Pedestrian Network

	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					
Mitigated	0.3509	2.1284	3.3748	0.0105	0.7430	0.0127	0.7557	0.1997	0.0120	0.2117						
Unmitigated	0.3959	2.5478	4.3457	0.0147	1.0831	0.0178	1.1008	0.2912	0.0168	0.3079						

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Retirement Community	1,253.73	1,253.73	1253.73	2,895,624	1,986,398
Strip Mall	0.00	0.00	0.00		
Total	1,253.73	1,253.73	1,253.73	2,895,624	1,986,398

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Retirement Community	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.558186	0.040947	0.190770	0.110456	0.017401	0.005228	0.022658	0.042795	0.002118	0.002805	0.005569	0.000308	0.000759

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000						
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						
NaturalGas Mitigated	0.0327	0.2794	0.1191	1.7800e-003		0.0226	0.0226		0.0226	0.0226						
NaturalGas Unmitigated	0.0327	0.2794	0.1191	1.7800e-003		0.0226	0.0226		0.0226	0.0226						

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	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						
Retirement Community	6.05154e+006	0.0326	0.2789	0.1187	1.7800e-003		0.0225	0.0225		0.0225	0.0225						
Strip Mall	11099.2	6.0000e-005	5.4000e-004	4.6000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005						
Total		**0.0327**	**0.2794**	**0.1191**	**1.7800e-003**		**0.0226**	**0.0226**		**0.0226**	**0.0226**						

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Retirement Community	6.05154e+006	0.0326	0.2789	0.1187	1.7800e-003		0.0225	0.0225		0.0225	0.0225						
Strip Mall	11099.2	6.0000e-005	5.4000e-004	4.6000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005						
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Total		**0.0327**	**0.2794**	**0.1191**	**1.7800e-003**		**0.0226**	**0.0226**		**0.0226**	**0.0226**						

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	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					
Mitigated	2.2723	0.0456	3.9446	2.1000e-004		0.0217	0.0217		0.0217	0.0217						
Unmitigated	3.4929	0.0737	5.6253	3.5500e-003		0.2620	0.2620		0.2620	0.2620						

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	tons/yr										MT/yr					
Architectural Coating	0.3274					0.0000	0.0000		0.0000	0.0000						
Consumer Products	1.8246					0.0000	0.0000		0.0000	0.0000						
Hearth	1.2206	0.0281	1.6807	3.3400e-003		0.2403	0.2403		0.2403	0.2403						
Landscaping	0.1204	0.0456	3.9446	2.1000e-004		0.0217	0.0217		0.0217	0.0217						
Total	**3.4929**	**0.0737**	**5.6253**	**3.5500e-003**		**0.2620**	**0.2620**		**0.2620**	**0.2620**						

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	tons/yr										MT/yr					
Architectural Coating	0.3274					0.0000	0.0000		0.0000	0.0000						
Consumer Products	1.8246					0.0000	0.0000		0.0000	0.0000						

Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Landscaping	0.1204	0.0456	3.9446	2.1000e-004		0.0217	0.0217		0.0217	0.0217						
Total	**2.2723**	**0.0456**	**3.9446**	**2.1000e-004**		**0.0217**	**0.0217**		**0.0217**	**0.0217**						

7.0 Water Detail

10500 International - Buildout

Alameda County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	327.00	Space	0.00	130,800.00	0
Parking Lot	50.00	Space	0.45	20,000.00	0
Retirement Community	529.00	Dwelling Unit	3.09	448,833.00	1513
Strip Mall	15.86	1000sqft	0.36	15,856.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project Description

Land Use - Site Plan

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

2.2 Overall Operational

Unmitigated Operational

	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/day					
Area	13.1287	0.5068	43.8286	2.3100e-003		0.2409	0.2409		0.2409	0.2409						
Energy	0.4430	3.7870	1.6196	0.0242		0.3061	0.3061		0.3061	0.3061						
Mobile	2.1336	11.8671	20.8792	0.0806	6.1767	0.0741	6.2507	1.6550	0.0696	1.7246						
Total	**15.7054**	**16.1609**	**66.3274**	**0.1070**	**6.1767**	**0.6211**	**6.7978**	**1.6550**	**0.6166**	**2.2716**						

Mitigated Operational

	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/day					
Area	13.1287	0.5068	43.8286	2.3100e-003		0.2409	0.2409		0.2409	0.2409						
Energy	0.4430	3.7870	1.6196	0.0242		0.3061	0.3061		0.3061	0.3061						
Mobile	1.9181	10.1067	15.7288	0.0577	4.2372	0.0532	4.2904	1.1353	0.0500	1.1853						
Total	**15.4899**	**14.4005**	**61.1771**	**0.0842**	**4.2372**	**0.6002**	**4.8374**	**1.1353**	**0.5970**	**1.7323**						

	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	**1.37**	**10.89**	**7.77**	**21.33**	**31.40**	**3.36**	**28.84**	**31.40**	**3.19**	**23.74**						

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Pedestrian Network

	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/day					
Mitigated	1.9181	10.1067	15.7288	0.0577	4.2372	0.0532	4.2904	1.1353	0.0500	1.1853						
Unmitigated	2.1336	11.8671	20.8792	0.0806	6.1767	0.0741	6.2507	1.6550	0.0696	1.7246						

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Retirement Community	1,253.73	1,253.73	1253.73	2,895,624	1,986,398
Strip Mall	0.00	0.00	0.00		
Total	1,253.73	1,253.73	1,253.73	2,895,624	1,986,398

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Retirement Community	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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/day					
NaturalGas Mitigated	0.4430	3.7870	1.6196	0.0242		0.3061	0.3061		0.3061	0.3061						
NaturalGas Unmitigated	0.4430	3.7870	1.6196	0.0242		0.3061	0.3061		0.3061	0.3061						

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Retirement Community	40879.3	0.4409	3.7673	1.6031	0.0241		0.3046	0.3046		0.3046	0.3046						
Strip Mall	200.698	2.1600e-003	0.0197	0.0165	1.2000e-004		1.5000e-003	1.5000e-003		1.5000e-003	1.5000e-003						
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Total		**0.4430**	**3.7870**	**1.6196**	**0.0242**		**0.3061**	**0.3061**		**0.3061**	**0.3061**						

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Retirement Community	40.8793	0.4409	3.7673	1.6031	0.0241		0.3046	0.3046		0.3046	0.3046						
Strip Mall	0.200698	2.1600e-003	0.0197	0.0165	1.2000e-004		1.5000e-003	1.5000e-003		1.5000e-003	1.5000e-003						
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Total		**0.4430**	**3.7870**	**1.6196**	**0.0242**		**0.3061**	**0.3061**		**0.3061**	**0.3061**						

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	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/day					
Mitigated	13.1287	0.5068	43.8286	2.3100e-003		0.2409	0.2409		0.2409	0.2409						
Unmitigated	13.1287	0.5068	43.8286	2.3100e-003		0.2409	0.2409		0.2409	0.2409						

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	1.7938					0.0000	0.0000		0.0000	0.0000						
Consumer Products	9.9978					0.0000	0.0000		0.0000	0.0000						
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Landscaping	1.3372	0.5068	43.8286	2.3100e-003		0.2409	0.2409		0.2409	0.2409						
Total	**13.1287**	**0.5068**	**43.8286**	**2.3100e-003**		**0.2409**	**0.2409**		**0.2409**	**0.2409**						

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	1.7938					0.0000	0.0000		0.0000	0.0000						
Consumer Products	9.9978					0.0000	0.0000		0.0000	0.0000						
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
Landscaping	1.3372	0.5068	43.8286	2.3100e-003		0.2409	0.2409		0.2409	0.2409						
Total	**13.1287**	**0.5068**	**43.8286**	**2.3100e-003**		**0.2409**	**0.2409**		**0.2409**	**0.2409**						

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

10500 International - Buildout

Alameda County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	327.00	Space	0.00	130,800.00	0
Parking Lot	50.00	Space	0.45	20,000.00	0
Retirement Community	529.00	Dwelling Unit	3.09	448,833.00	1513
Strip Mall	15.86	1000sqft	0.36	15,856.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project Description

Land Use - Site Plan

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	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/day					
Area	13.1287	0.5068	43.8286	2.3100e-003		0.2409	0.2409		0.2409	0.2409	0.0000	78.6702	78.6702	0.0769	0.0000	80.5916
Energy	0.4430	3.7870	1.6196	0.0242		0.3061	0.3061		0.3061	0.3061		4,832.9351	4,832.9351	0.0926	0.0886	4,861.6548
Mobile	1.8415	12.2935	21.2509	0.0755	6.1767	0.0747	6.2514	1.6550	0.0703	1.7252		7,671.5697	7,671.5697	0.3444		7,680.1783
Total	**15.4133**	**16.5873**	**66.6991**	**0.1020**	**6.1767**	**0.6218**	**6.7984**	**1.6550**	**0.6173**	**2.2723**	**0.0000**	**12,583.1750**	**12,583.1750**	**0.5138**	**0.0886**	**12,622.4248**

Mitigated Operational

	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/day					
Area	13.1287	0.5068	43.8286	2.3100e-003		0.2409	0.2409		0.2409	0.2409	0.0000	78.6702	78.6702	0.0769	0.0000	80.5916
Energy	0.4430	3.7870	1.6196	0.0242		0.3061	0.3061		0.3061	0.3061		4,832.9351	4,832.9351	0.0926	0.0886	4,861.6548
Mobile	1.6293	10.3656	16.6600	0.0540	4.2372	0.0539	4.2911	1.1353	0.0506	1.1859		5,492.3825	5,492.3825	0.2851		5,499.5104
Total	**15.2011**	**14.6594**	**62.1082**	**0.0805**	**4.2372**	**0.6009**	**4.8381**	**1.1353**	**0.5976**	**1.7330**	**0.0000**	**10,403.9877**	**10,403.9877**	**0.4546**	**0.0886**	**10,441.7568**

	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	**1.38**	**11.62**	**6.88**	**21.07**	**31.40**	**3.36**	**28.84**	**31.40**	**3.18**	**23.73**	**0.00**	**17.32**	**17.32**	**11.53**	**0.00**	**17.28**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Pedestrian Network

	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/day					
Mitigated	1.6293	10.3656	16.6600	0.0540	4.2372	0.0539	4.2911	1.1353	0.0506	1.1859		5,492.3825	5,492.3825	0.2851		5,499.5104
Unmitigated	1.8415	12.2935	21.2509	0.0755	6.1767	0.0747	6.2514	1.6550	0.0703	1.7252		7,671.5697	7,671.5697	0.3444		7,680.1783

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Retirement Community	1,253.73	1,253.73	1253.73	2,895,624	1,986,398
Strip Mall	0.00	0.00	0.00		
Total	1,253.73	1,253.73	1,253.73	2,895,624	1,986,398

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Retirement Community	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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/day					
NaturalGas Mitigated	0.4430	3.7870	1.6196	0.0242		0.3061	0.3061		0.3061	0.3061		4,832.9351	4,832.9351	0.0926	0.0886	4,861.6548
NaturalGas Unmitigated	0.4430	3.7870	1.6196	0.0242		0.3061	0.3061		0.3061	0.3061		4,832.9351	4,832.9351	0.0926	0.0886	4,861.6548

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
Enclosed Parking with Elevator	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
Retirement Community	40879.3	0.4409	3.7673	1.6031	0.0241		0.3046	0.3046		0.3046	0.3046		4,809.3236	4,809.3236	0.0922	0.0882	4,837.9030
Strip Mall	200.698	2.1600e-003	0.0197	0.0165	1.2000e-004		1.5000e-003	1.5000e-003		1.5000e-003	1.5000e-003		23.6115	23.6115	4.5000e-004	4.3000e-004	23.7518
Total		**0.4430**	**3.7870**	**1.6196**	**0.0242**		**0.3061**	**0.3061**		**0.3061**	**0.3061**		**4,832.9351**	**4,832.9351**	**0.0926**	**0.0886**	**4,861.6548**

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
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
Retirement Community	40.8793	0.4409	3.7673	1.6031	0.0241		0.3046	0.3046		0.3046	0.3046		4,809.3236	4,809.3236	0.0922	0.0882	4,837.9030
Strip Mall	0.200698	2.1600e-003	0.0197	0.0165	1.2000e-004		1.5000e-003	1.5000e-003		1.5000e-003	1.5000e-003		23.6115	23.6115	4.5000e-004	4.3000e-004	23.7518
Enclosed Parking with Elevator	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		**0.4430**	**3.7870**	**1.6196**	**0.0242**		**0.3061**	**0.3061**		**0.3061**	**0.3061**		**4,832.9351**	**4,832.9351**	**0.0926**	**0.0886**	**4,861.6548**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	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/day					
Mitigated	13.1287	0.5068	43.8286	2.3100e-003		0.2409	0.2409		0.2409	0.2409	0.0000	78.6702	78.6702	0.0769	0.0000	80.5916
Unmitigated	13.1287	0.5068	43.8286	2.3100e-003		0.2409	0.2409		0.2409	0.2409	0.0000	78.6702	78.6702	0.0769	0.0000	80.5916

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	1.7938					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.9978					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	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
Landscaping	1.3372	0.5068	43.8286	2.3100e-003		0.2409	0.2409		0.2409	0.2409		78.6702	78.6702	0.0769		80.5916
Total	**13.1287**	**0.5068**	**43.8286**	**2.3100e-003**		**0.2409**	**0.2409**		**0.2409**	**0.2409**	**0.0000**	**78.6702**	**78.6702**	**0.0769**	**0.0000**	**80.5916**

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	1.7938					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.9978					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	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
Landscaping	1.3372	0.5068	43.8286	2.3100e-003		0.2409	0.2409		0.2409	0.2409		78.6702	78.6702	0.0769		80.5916
Total	**13.1287**	**0.5068**	**43.8286**	**2.3100e-003**		**0.2409**	**0.2409**		**0.2409**	**0.2409**	**0.0000**	**78.6702**	**78.6702**	**0.0769**	**0.0000**	**80.5916**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

10500 International - Buildout- GHG

Alameda County, Annual

SB 226 Compliant Results
Cars and light duty truck emisssions removed

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	327.00	Space	0.00	130,800.00	0
Parking Lot	50.00	Space	0.45	20,000.00	0
Retirement Community	529.00	Dwelling Unit	3.09	448,833.00	1513
Strip Mall	15.86	1000sqft	0.36	15,856.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2020 buildout

Land Use - Site Plan

Construction Phase - operational only

Off-road Equipment - operational only

Trips and VMT - operational only

Vehicle Trips - Traffic study

Woodstoves - No fireplaces

Energy Use - Commercial is existing use. Used energy use for mid-rise apartments.

Water And Wastewater - Commercial is existing use Solid Waste - Commercial is existing use

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation -

Fleet Mix - SB227 exempts passenger vehicles (cars and light duty trucks)

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	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					
Area											24.1170	16.3292	40.4461	0.0450	1.5800e-003	42.0433
Energy											0.0000	1,280.3226	1,280.3226	0.0495	0.0149	1,285.9930
Mobile											0.0000	418.4085	418.4085	0.0377	0.0000	419.3511
Waste											52.7756	0.0000	52.7756	3.1190	0.0000	130.7494
Water											11.3073	78.9610	90.2683	1.1649	0.0282	127.7839
Total											**88.1999**	**1,794.0212**	**1,882.2211**	**4.4161**	**0.0446**	**2,005.9206**

Mitigated Operational

	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					
Area											0.0000	6.4232	6.4232	6.2800e-003	0.0000	6.5800
Energy											0.0000	1,280.3226	1,280.3226	0.0495	0.0149	1,285.9930
Mobile											0.0000	319.0896	319.0896	0.0328	0.0000	319.9088
Waste											52.7756	0.0000	52.7756	3.1190	0.0000	130.7494
Water											9.0459	66.3459	75.3918	0.9321	0.0226	105.4167
Total											**61.8215**	**1,672.1813**	**1,734.0027**	**4.1396**	**0.0374**	**1,848.6479**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**29.91**	**6.79**	**7.87**	**6.26**	**16.09**	**7.84**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Pedestrian Network

	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					
Mitigated											0.0000	319.0896	319.0896	0.0328	0.0000	319.9088
Unmitigated											0.0000	418.4085	418.4085	0.0377	0.0000	419.3511

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Retirement Community	1,253.73	1,253.73	1253.73	2,895,624	1,986,398
Strip Mall	0.00	0.00	0.00		
Total	1,253.73	1,253.73	1,253.73	2,895,624	1,986,398

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

Retirement Community	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.558186	0.040947	0.190770	0.110456	0.017401	0.005228	0.022658	0.042795	0.002118	0.002805	0.005569	0.000308	0.000759

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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					
Electricity Mitigated											0.0000	957.3918	957.3918	0.0433	8.9600e-003	961.1431
Electricity Unmitigated											0.0000	957.3918	957.3918	0.0433	8.9600e-003	961.1431
NaturalGas Mitigated											0.0000	322.9309	322.9309	6.1900e-003	5.9200e-003	324.8499
NaturalGas Unmitigated											0.0000	322.9309	322.9309	6.1900e-003	5.9200e-003	324.8499

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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

Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0											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
Retirement Community	6.0515e+006											0.0000	322.9309	322.9309	6.1900e-003	5.9200e-003	324.8499
Strip Mall	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total												**0.0000**	**322.9309**	**322.9309**	**6.1900e-003**	**5.9200e-003**	**324.8499**

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0											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
Retirement Community	6.0515e+006											0.0000	322.9309	322.9309	6.1900e-003	5.9200e-003	324.8499
Strip Mall	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total												**0.0000**	**322.9309**	**322.9309**	**6.1900e-003**	**5.9200e-003**	**324.8499**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			

Enclosed Parking with Elevator	881592	256.4652	0.0116	2.4000e-003	257.4701
Parking Lot	17600	5.1200	2.3000e-004	5.0000e-005	5.1401
Retirement Community	2.39182e+006	695.8065	0.0315	6.5100e-003	698.5329
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**957.3918**	**0.0433**	**8.9600e-003**	**961.1431**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	881592	256.4652	0.0116	2.4000e-003	257.4701
Parking Lot	17600	5.1200	2.3000e-004	5.0000e-005	5.1401
Retirement Community	2.39182e+006	695.8065	0.0315	6.5100e-003	698.5329
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**957.3918**	**0.0433**	**8.9600e-003**	**961.1431**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	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					
Mitigated											0.0000	6.4232	6.4232	6.2800e-003	0.0000	6.5800
Unmitigated											24.1170	16.3292	40.4461	0.0450	1.5800e-003	42.0433

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	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth											24.1170	9.9060	34.0230	0.0388	1.5800e-003	35.4633
Landscaping											0.0000	6.4232	6.4232	6.2800e-003	0.0000	6.5800
Total											**24.1170**	**16.3292**	**40.4461**	**0.0450**	**1.5800e-003**	**42.0433**

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	tons/yr										MT/yr					
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Hearth											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping											0.0000	6.4232	6.4232	6.2800e-003	0.0000	6.5800
Total											**0.0000**	**6.4232**	**6.4232**	**6.2800e-003**	**0.0000**	**6.5800**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	75.3918	0.9321	0.0226	105.4167
Unmitigated	90.2683	1.1649	0.0282	127.7839

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	34.4665 / 21.7289	87.3132	1.1265	0.0272	123.5923

Strip Mall	1.17479 / 0.720033	2.9551	0.0384	9.3000e-004	4.1916
Total		**90.2683**	**1.1649**	**0.0282**	**127.7839**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	27.5732 / 20.4034	72.9258	0.9014	0.0218	101.9611
Strip Mall	0.939832 / 0.676111	2.4660	0.0307	7.4000e-004	3.4556
Total		**75.3918**	**0.9321**	**0.0226**	**105.4167**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	52.7756	3.1190	0.0000	130.7494
Unmitigated	52.7756	3.1190	0.0000	130.7494

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	243.34	49.3958	2.9192	0.0000	122.3761
Strip Mall	16.65	3.3798	0.1997	0.0000	8.3733
Total		**52.7756**	**3.1190**	**0.0000**	**130.7494**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	243.34	49.3958	2.9192	0.0000	122.3761
Strip Mall	16.65	3.3798	0.1997	0.0000	8.3733
Total		**52.7756**	**3.1190**	**0.0000**	**130.7494**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Vegetation

10500 International - Buildout- GHG (Includes all vehicle type emissions)

Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	327.00	Space	0.00	130,800.00	0
Parking Lot	50.00	Space	0.45	20,000.00	0
Retirement Community	529.00	Dwelling Unit	3.09	448,833.00	1513
Strip Mall	15.86	1000sqft	0.36	15,856.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2020 buildout

Land Use - Site Plan

Construction Phase - operational only

Off-road Equipment - operational only

Trips and VMT - operational only

Vehicle Trips - Traffic study

Woodstoves - No fireplaces

Energy Use - Commercial is existing use. Used energy use for mid-rise apartments.

Water And Wastewater - Commercial is existing use

Solid Waste - Commercial is existing use

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	1,001.10	741.44
tblEnergyUse	LightingElect	5.00	0.00
tblEnergyUse	NT24E	3,418.36	3,277.06
tblEnergyUse	NT24E	3.36	0.00
tblEnergyUse	NT24NG	0.70	0.00
tblEnergyUse	T24E	274.84	502.89
tblEnergyUse	T24E	2.35	0.00
tblEnergyUse	T24NG	25,590.91	8,824.50
tblEnergyUse	T24NG	3.92	0.00
tblLandUse	BuildingSpaceSquareFeet	529,000.00	448,833.00
tblLandUse	BuildingSpaceSquareFeet	15,860.00	15,856.00
tblLandUse	LandUseSquareFeet	529,000.00	448,833.00
tblLandUse	LandUseSquareFeet	15,860.00	15,856.00
tblLandUse	LotAcreage	2.94	0.00
tblLandUse	LotAcreage	105.80	3.09
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	2.03	2.37
tblVehicleTrips	ST_TR	42.04	0.00
tblVehicleTrips	SU_TR	1.95	2.37
tblVehicleTrips	SU_TR	20.43	0.00
tblVehicleTrips	WD_TR	2.40	2.37
tblVehicleTrips	WD_TR	44.32	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	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					
Area											24.1170	16.3292	40.4461	0.0450	1.5800e-003	42.0433
Energy											0.0000	1,280.3226	1,280.3226	0.0495	0.0149	1,285.9930
Mobile											0.0000	1,351.2950	1,351.2950	0.0619	0.0000	1,352.8437
Waste											52.7756	0.0000	52.7756	3.1190	0.0000	130.7494
Water											11.3073	78.9610	90.2683	1.1649	0.0282	127.7839
Total											**88.1999**	**2,726.9077**	**2,815.1077**	**4.4404**	**0.0446**	**2,939.4132**

Mitigated Operational

	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					
Area											0.0000	6.4232	6.4232	6.2800e-003	0.0000	6.5800
Energy											0.0000	1,280.3226	1,280.3226	0.0495	0.0149	1,285.9930
Mobile											0.0000	968.7093	968.7093	0.0509	0.0000	969.9825
Waste											52.7756	0.0000	52.7756	3.1190	0.0000	130.7494
Water											9.0459	66.3459	75.3918	0.9321	0.0226	105.4167
Total											**61.8215**	**2,321.8010**	**2,383.6225**	**4.1577**	**0.0374**	**2,498.7216**

	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**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**29.91**	**14.86**	**15.33**	**6.36**	**16.09**	**14.99**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Pedestrian Network

	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					
Mitigated											0.0000	968.7093	968.7093	0.0509	0.0000	969.9825
Unmitigated											0.0000	1,351.2950	1,351.2950	0.0619	0.0000	1,352.8437

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Retirement Community	1,253.73	1,253.73	1253.73	2,895,624	1,986,398
Strip Mall	0.00	0.00	0.00		
Total	1,253.73	1,253.73	1,253.73	2,895,624	1,986,398

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Retirement Community	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.558186	0.040947	0.190770	0.110456	0.017401	0.005228	0.022658	0.042795	0.002118	0.002805	0.005569	0.000308	0.000759

ATTACHMENT H

CalEPA
California Environmental Protection Agency

Edmund G. Brown Jr.
Governor
Matthew Rodriquez
Secretary for Environmental Protection

February 10, 2016

Mr. Alexis M. Gevorgian
AMG & Associates, LLC
16633 Ventura Blvd., Suite 1014
Encino, California 91436

Dear Mr. Gevorgian:

This letter responds to Mr. Stuart Solomon's email of February 1, 2016, regarding whether the properties identified as 1424, 1500, 1510, 1520, 1528, 1536, 1538, 1544, 1548, 1550, 1560, and 1570 105th Avenue, 10550 International Boulevard, and 10500 International Boulevard in the City of Oakland are on the Cortese List.

The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List" after the Legislator who authored the legislation that enacted it in 1985. The list, or a site's presence on the list, has bearing on the local permitting process as well as on compliance with the California Environmental Quality Act. Because this statute was enacted over thirty years ago, some of the provisions refer to agency activities that were conducted many years ago and are no longer being implemented and in some cases the information to be included in the Cortese List does not exist. While the Government Code makes reference to the preparation of a "list," many changes have occurred related to web-based information access and this information is now available on the Internet sites of the responsible state agencies.

The State Water Resources Control Board (Water Board) maintains a listing of cease and desist orders issued after January 1, 1986, pursuant to Section 13301 of the Water Code, and all cleanup or abatement orders issued after January 1, 1986, pursuant to Section 13304 of the Water Code that concern the discharge of wastes that are hazardous materials. None of the identified properties are on that list.

The Water Board maintains a listing of solid waste disposal facilities from which there is or has been a migration of hazardous waste and for which a California regional water quality control board has notified the Department of Toxic Substances Control (DTSC) pursuant to subdivision (e) of Section 13273 of the Water Code. None of the identified properties are on that list.

The Water Board maintains a list of all underground storage tanks for which an unauthorized release report is filed pursuant to Section 25295 of the Health and Safety Code. The Water Board maintains this information in its GeoTracker database, including reports going back to fiscal year 1996-97. GeoTracker also contains other cleanup activities with Water Board oversight. According to the Water Board, only those sites specifically identified as being related

to an underground storage tank are considered on the Cortese List. Additionally, the current statutory language only provides for adding sites to the Cortese List, not removing them. The location with the address of 10500 International Boulevard is identified with an underground storage tank release and is considered on the Cortese List. The other addresses are not connected with an underground storage tank and therefore, according to the Water Board, are not on the Cortese List.

The Department of Toxic Substances Control (DTSC) maintains a list of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code. The hazardous waste facilities identified in this section are those where DTSC has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under Section 25187 of the Health and Safety Code, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment. None of the addresses listed are on this list.

DTSC is required to maintain a listing of other sites that are defined by specific sections of Health and Safety Code. They meet this requirement through a sub-list report from their cleanup site tracking system, EnviroStor, specifically for identifying those sites that are on the Cortese List. The DTSC maintains a specific webpage titled "DTSC's Hazardous Waste and Substances Site List - Site Cleanup (Cortese List)" that generates this listing from the current EnviroStor data. None of the addresses listed are on this list.

In summary, only the site at 10500 International Boulevard in the City of Oakland would be considered on the Cortese List.

If you should need additional information, please contact me at James.bohon@calepa.ca.gov or (916) 322- 7188.

Sincerely,

Jim Bohon
Assistant Secretary for Local Program Coordination and Emergency Response

cc: Mr. Stewart Solomon
Phase-1 Environmental Services
5216 Harwood Road
San Jose, California 95124

Mr. Peterson Z. Vollmann, Planner III
City of Oakland Planning Department
250 Frank H. Ogawa Plaza, Suite 2114
Oakland, California 94612