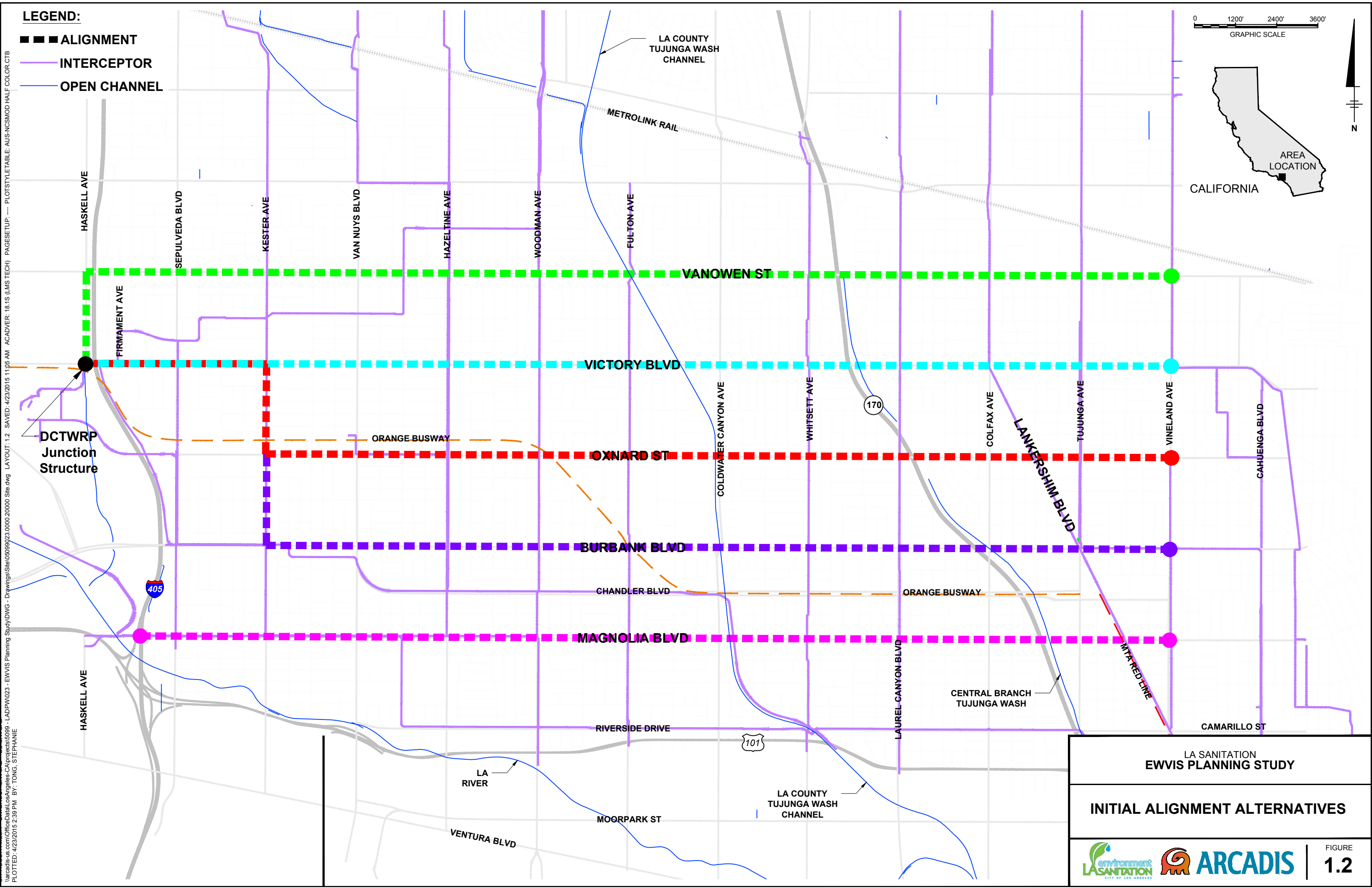


APPENDIX I

Alternatives Analysis



\\arcadis-us.com\OfficeData\LosAngeles\CA\Projects\5069 - LADPW023 - EWWIS Planning Study\DWG - Drawings\Site\0509023.0000.20000 Site.dwg LAYOUT: 1.2 SAVED: 4/23/2015 11:05 AM ACADVER: 18.1S (LMS TECH) PAGES: 1 OF 1 PLOTSTYLETABLE: AUSNCSMOD HALF COLOR.CTB PLOTTED: 4/23/2015 2:39 PM BY: TONG, STEPHANIE

Alternative 2: Oxnard Alignment

Noise and vibration was also surveyed on the alternative alignment along Oxnard Street and Kester Avenue. Short-term Noise Monitors (STN7, STN8, STN9, and STN10), and Short-term Vibration Monitors (STV7, STV8, STV9, and STV10) are representative of the noise and vibration at sensitive locations along the Alternative 2: Oxnard Alignment (see Figure 1 for location of measurements). As detailed in Table 1 and summarized in Table 2 below, at STN7, the measured Leq ranged from 69.4 and 71.1 dBA. At STN8, the measured Leq ranged from 71.6 and 74.1 dBA. At the short-term noise measurement location STN9, the measured Leq ranged from 71.1 and 75.0 dBA. At STN10, the measured Leq ranged from 69.8 and 71.1 dBA. The major contributing noise sources are vehicular traffic and community activity.

Table 1: Short-Term Noise Monitoring

Receptor	Location	Date	Time	Lmax, dBA	Lmin, dBA	Leq, dBA	Noise Sources
STN7	11251 Oxnard St, North Hollywood, CA 91606	2/11/2019	AM 10:37 - 11:07 AM	81.4	42.1	70.5	Vehicular traffic, community noise, wildlife
			MD 12:14 - 12:38 PM	82.9	43.9	69.4	Vehicular traffic, community noise, wildlife
		2/12/2019	PM 2:09 - 2:32 PM	81.1	49.4	71.1	Vehicular traffic, community noise, wildlife
STN8	12217 Oxnard St, North Hollywood, CA 91606	2/11/2019	AM 10:51 - 11:01 AM	86.9	56.0	74.1	Vehicular traffic, community noise, helicopter
			MD 12:19 - 12:31 PM	92.2	55.4	73.8	Vehicular traffic, community noise, motorcycle, wildlife
		2/12/2019	PM 2:15 - 2:26 PM	86.7	56.4	71.6	Vehicular traffic, community noise
STN9	13822 Oxnard St, Van Nuys, CA 91401	2/11/2019	AM 11:14 - 11:56 AM	83.8	47.3	73.9	Vehicular traffic, community noise, wildlife
			MD 12:57 - 1:24 PM	86.0	51.6	73.6	Vehicular traffic, community noise, wildlife
		2/12/2019	PM 2:49 - 3:00 PM	88.2	52.5	75.0	Vehicular traffic
STN10	14853 Friar St, Van Nuys, CA 91411	2/11/2019	AM 11:35 - 11:46 AM	85.3	52.6	71.1	Vehicular traffic, community noise
			MD 1:07 - 1:17 PM	80.3	50.3	69.8	Vehicular traffic, community noise
		2/12/2019	PM 3:11 - 3:22 PM	81.1	49.4	71.1	Vehicular traffic, community noise, construction, siren

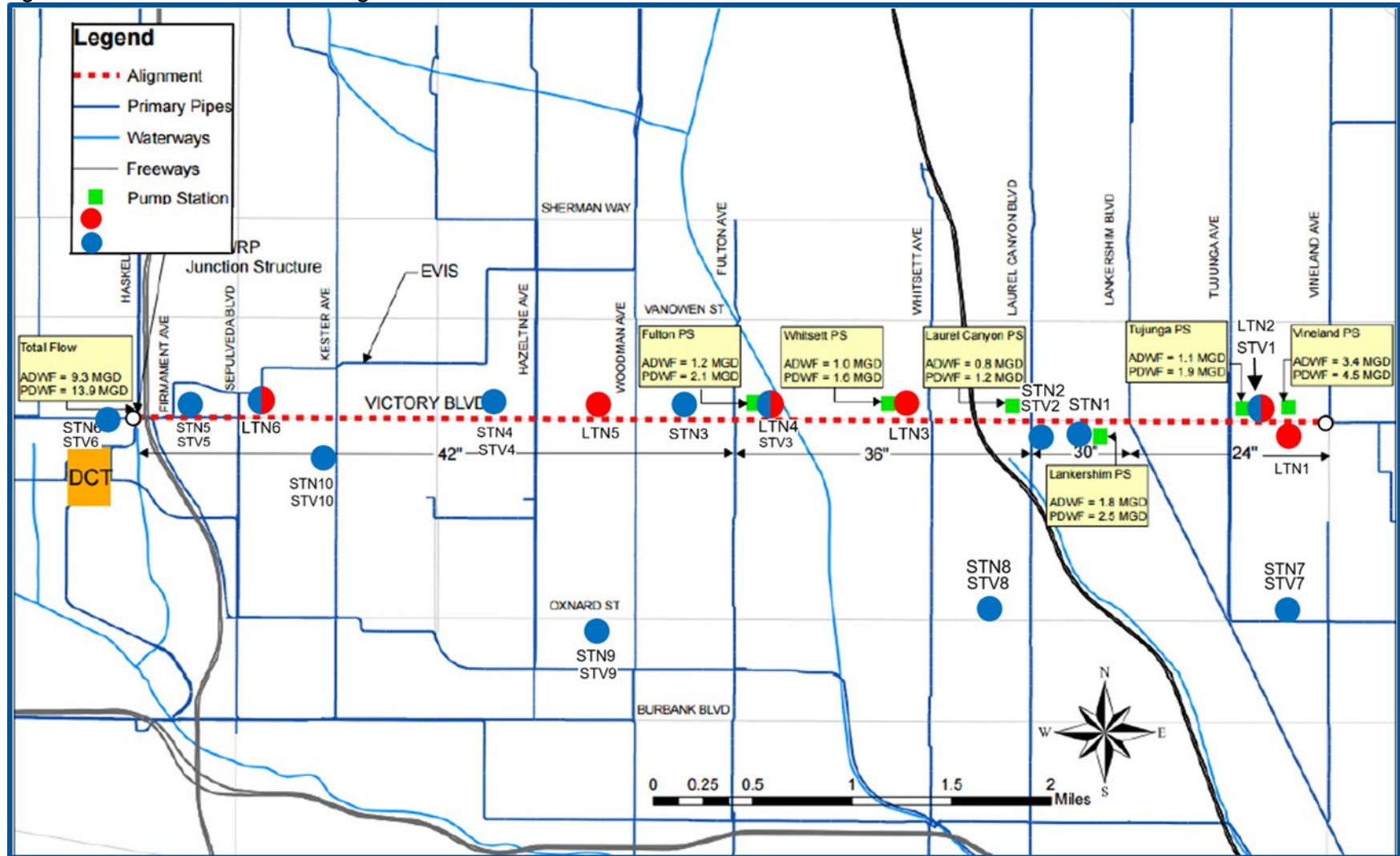
Source: AGI 2019

Table 2: Summary of Existing Noise Measurements along Oxnard Street Alignment

Representative Receptor	Location	Existing Daytime Ambient Range, dBA
STN7	11251 Oxnard St, North Hollywood, CA 91606	69.4 – 71.1
STN8	12217 Oxnard St, North Hollywood, CA 91606	71.6 – 74.1
STN9	13822 Oxnard St, Van Nuys, CA 91401	73.6 – 75.0
STN10	14853 Friar St, Van Nuys, CA 91411	69.8 – 71.1

Source: AGI 2019

Figure 1: Noise and Vibration Monitoring Locations



As detailed in Table 3 below, during the existing vibration measurements representative of the construction hours (9:00 AM to 3:30 PM), the short-term vibration monitor (STV7) experienced a PPV between 0.002 and 0.024 inches per second and the RMS between 67.8 and 87.6 VdB. At SV8, the measured PPV ranged between 0.003 and 0.009 inches per second and the RMS ranged between 69.1 and 78.7 VdB. At ST9, the measured PPV ranged between 0.003 and 0.026 inches per second and the RMS ranged between 69.3 and 88.3 VdB. At ST10, the measured PPV ranged between 0.003 and 0.009 inches per second and the RMS ranged between 68.5 and 78.6 VdB. The major contributing vibration sources are vehicular traffic and community activity.

Table 3: Short-Term Vibration Monitoring - PPV

Receptor	Location	Date	Time		PPV Max, in/sec	PPV Min, in/sec	Vibration Sources
STV7	11251 Oxnard St, North Hollywood, CA 91606	2/11/2019	AM	10:37 - 11:07 AM	0.023	0.006	Vehicular traffic, community activity
			MD	12:14 - 12:38 PM	0.024	0.007	Vehicular traffic, community activity
		2/12/2019	PM	2:09 - 2:32 PM	0.007	0.002	Vehicular traffic, community activity
STV8	12217 Oxnard St, North Hollywood, CA 91606	2/11/2019	AM	10:51 - 11:01 AM	0.008	0.003	Vehicular traffic, community activity
			MD	12:19 - 12:31 PM	0.008	0.003	Vehicular traffic, community activity, motorcycle
		2/12/2019	PM	2:15 - 2:26 PM	0.009	0.003	Vehicular traffic, community activity
STV9	13822 Oxnard St, Van Nuys, CA 91401	2/11/2019	AM	11:14 - 11:56 AM	0.026	0.005	Vehicular traffic, community activity
			MD	12:57 - 1:24 PM	0.025	0.006	Vehicular traffic, community activity
		2/12/2019	PM	2:49 - 3:00 PM	0.009	0.003	Vehicular traffic
STV10	14853 Friar St, Van Nuys, CA 91411	2/11/2019	AM	11:35 - 11:46 AM	0.007	0.003	Vehicular traffic, community activity
			MD	1:07 - 1:17 PM	0.006	0.003	Vehicular traffic, community activity
		2/12/2019	PM	3:11 - 3:22 PM	0.009	0.003	Vehicular traffic, community activity

Source: AGI 2019

Table 1.
Peak Daily Construction Emissions Without Mitigation - Alternative 3

Source Category	PM10 total (lb/day)	PM2.5 total (lb/day)	NOX (lb/day)	SOX (lb/day)	CO (lb/day)	VOC (lb/day)
2021						
Offroad Construction Equipment	10.4	12.7	292.3	0.5	297.4	35.7
Onroad Construction Vehicles	15.4	6.4	77.1	0.3	28.4	4.4
Fugitive Emissions	26.6	2.8	0.0	0.0	0.0	0.1
Total Construction Year 2021	52.4	21.8	369.5	0.8	325.9	40.2
CEQA Impacts						
Significance Threshold	150	55	100	150	550	75
Significant?	No	No	Yes	No	No	No
2022						
Offroad Construction Equipment	13.2	12.7	290.1	0.5	293.0	34.3
Onroad Construction Vehicles	23.0	8.9	109.6	0.3	33.7	6.2
Fugitive Emissions	26.4	3.5	0.0	0.0	0.0	0.1
Total Construction Year 2022	62.6	25.1	399.7	0.8	326.7	40.7
CEQA Impacts						
Significance Threshold	150	55	100	150	550	75
Significant?	No	No	Yes	No	No	No
2023						
Offroad Construction Equipment	10.0	9.2	211.4	0.4	219.0	26.2
Onroad Construction Vehicles	15.8	5.7	69.3	0.2	24.2	4.0
Fugitive Emissions	24.4	3.7	0.0	0.0	0.0	0.0
Total Construction Year 2023	50.2	18.7	280.7	0.6	243.2	30.2
CEQA Impacts						
Significance Threshold	150	55	100	150	550	75
Significant?	No	No	Yes	No	No	No
2024						
Offroad Construction Equipment	6.9	6.3	145.1	0.3	148.4	17.7
Onroad Construction Vehicles	10.2	3.7	45.3	0.1	16.1	2.6
Fugitive Emissions	8.9	1.4	0.0	0.0	0.0	0.1
Total Construction Year 2023	26.0	11.4	190.4	0.4	164.5	20.3
CEQA Impacts						
Significance Threshold	150	55	100	150	550	75
Significant?	No	No	Yes	No	No	No

Notes and Assumptions:

Onroad Construction Vehicle emissions include exhaust, road dust, tire wear and brake wear emissions.

Fugitive emissions include construction dust.

Emissions might not add precisely due to rounding.

Table 2.
Peak Daily Construction Emissions With Mitigation - Alternative 3

Source Category	PM10 total (lb/day)	PM2.5 total (lb/day)	NOX (lb/day)	SOX (lb/day)	CO (lb/day)	VOC (lb/day)
2021						
Offroad Construction Equipment	6.4	8.6	204.6	0.5	316.0	12.1
Onroad Construction Vehicles	15.4	6.4	77.1	0.3	28.4	4.4
Fugitive Emissions	26.6	2.8	0.0	0.0	0.0	0.1
Total Construction Year 2021	48.4	17.7	281.8	0.8	344.4	16.6
CEQA Impacts						
Significance Threshold	150	55	100	150	550	75
Significant?	No	No	Yes	No	No	No
2022						
Offroad Construction Equipment	8.1	8.3	194.6	0.5	315.1	11.6
Onroad Construction Vehicles	23.0	8.9	109.6	0.3	33.7	6.2
Fugitive Emissions	26.4	3.5	0.0	0.0	0.0	0.1
Total Construction Year 2022	57.5	20.7	304.2	0.8	348.8	18.0
CEQA Impacts						
Significance Threshold	150	55	100	150	550	75
Significant?	No	No	Yes	No	No	No
2023						
Offroad Construction Equipment	6.3	6.3	149.6	0.4	232.3	8.9
Onroad Construction Vehicles	15.8	5.7	69.3	0.2	24.2	4.0
Fugitive Emissions	24.4	3.7	0.0	0.0	0.0	0.0
Total Construction Year 2023	46.4	15.7	218.9	0.6	256.5	12.9
CEQA Impacts						
Significance Threshold	150	55	100	150	550	75
Significant?	No	No	Yes	No	No	No
2024						
Offroad Construction Equipment	4.3	4.3	102.8	0.3	158.0	6.1
Onroad Construction Vehicles	10.2	3.7	45.3	0.1	16.1	2.6
Fugitive Emissions	8.9	1.4	0.0	0.0	0.0	0.1
Total Construction Year 2023	23.5	9.4	148.1	0.4	174.1	8.7
CEQA Impacts						
Significance Threshold	150	55	100	150	550	75
Significant?	No	No	Yes	No	No	No

Notes and Assumptions:

Onroad Construction Vehicle emissions include exhaust, road dust, tire wear and brake wear emissions.

Fugitive emissions include construction dust.

Emissions might not add precisely due to rounding.

Mitigation:

Construction equipment engines: 50% Tier 3 50% Tier 4

Table 3.

Onsite Peak Daily Construction Emissions Without Mitigation - Alternative 3

Year	Peak Day Emissions (lb/day) - Residential Receptor				Peak Day Emissions (lb/day) - Offsite worker receptor			
	PM10	PM2.5	NO2	CO	PM10	PM2.5	NO2	CO
2021								
Total Onsite Emissions	21	9	137	144	21	9	137	144
LST Threshold	4	3	80	498	na	na	80	498
Significance Determination	Yes	Yes	Yes	No			Yes	No
2022								
Total Onsite Emissions	26	10	137	144	26	10	137	144
LST Threshold	4	3	80	498	na	na	80	498
Significance Determination	Yes	Yes	Yes	No			Yes	No
2023								
Total Onsite Emissions	22	8	110	117	22	8	110	117
LST Threshold	4	3	80	498	na	na	80	498
Significance Determination	Yes	Yes	Yes	No			Yes	No
2024								
Total Onsite Emissions	11	5	75	79	11	5	75	79
LST Threshold	4	3	80	498	na	na	80	498
Significance Determination	Yes	Yes	No	No			No	No

Notes:

PM10 and PM2.5 LST thresholds are relevant to sensitive receptors reasonably likely to be present for ≥24 hours. Since offsite worker receptors are not expected to be present for this duration, significance for particulates have been omitted for offsite worker receptors.

Project Size 1 acres

Closest residential land receptor: 25 meters

Source: GoogleEarth

Closest worker receptor: 25 meters

Source: GoogleEarth

SCAQMD Source Receptor Area

7

SCAQMD LST Thresholds, Appendix C Mass Lookup Tables

Table 4.

Onsite Peak Daily Construction Emissions With Mitigation - Alternative 3

Year	Peak Day Emissions (lb/day) - Residential Receptor				Peak Day Emissions (lb/day) - Offsite worker receptor			
	PM10	PM2.5	NO2	CO	PM10	PM2.5	NO2	CO
2021								
Total Onsite Emissions	19	7	96	153	19	7	96	153
LST Threshold	4	3	80	498	na	na	80	498
Significance Determination	Yes	Yes	Yes	No			Yes	No
2022								
Total Onsite Emissions	24	8	96	153	24	8	96	153
LST Threshold	4	3	80	498	na	na	80	498
Significance Determination	Yes	Yes	Yes	No			Yes	No
2023								
Total Onsite Emissions	21	6	79	124	21	6	79	124
LST Threshold	4	3	80	498	na	na	80	498
Significance Determination	Yes	Yes	No	No			No	No
2024								
Total Onsite Emissions	10	4	54	84	10	4	54	84
LST Threshold	4	3	80	498	na	na	80	498
Significance Determination	Yes	Yes	No	No			No	No

Notes:

PM10 and PM2.5 LST thresholds are relevant to sensitive receptors reasonably likely to be present for ≥24 hours. Since offsite worker receptors are not expected to be present for this duration, significance for particulates have been omitted for offsite worker receptors.

Project Size

1 acres

Closest residential land receptor:

25 meters

Source: GoogleEarth

Closest worker receptor:

25 meters

Source: GoogleEarth

SCAQMD Source Receptor Area

7

SCAQMD LST Thresholds, Appendix C Mass Lookup Tables

Mitigation:

Construction equipment engines: 50% Tier 3 50% Tier 4

Table 5.
Annual GHG Emissions Without Mitigation - Alternative 3

Source Category	CO2e (mty)
2021	
Offroad Construction Equipment	1,542.6
Onroad Construction Vehicles	1,052.3
Fugitive Emissions	0.0
Total Construction Year 2021	2,595
2022	
Offroad Construction Equipment	2,467.0
Onroad Construction Vehicles	1,791.4
Fugitive Emissions	0.0
Total Construction Year 2022	4,258
2023	
Offroad Construction Equipment	1,585.0
Onroad Construction Vehicles	1,071.9
Fugitive Emissions	0.0
Total Construction Year 2023	2,657
2024	
Offroad Construction Equipment	422.5
Onroad Construction Vehicles	307.4
Fugitive Emissions	0.0
Total Construction Year 2024	730
Amortized Construction	341
Operational Emissions	384
Total Annual Emissions	725
Significance Threshold	10,000
Significant?	No

Notes:

Construction emissions amortized over 30 years (life of project).

Table 6.

Construction Emissions Without Mitigation - Conformity Determination - Alternative 3

Source Category	PM10 total (ton/yr)	PM2.5 total (ton/yr)	NOX (ton/yr)	SOX (ton/yr)	CO (ton/yr)	VOC (ton/yr)
2021						
Offroad Construction Equipment	1	0	11	0	11	1
Onroad Construction Vehicles	1	0	3	0	1	0
Fugitive Emissions	1	0	0	0	0	0
Total Construction Year 2021	2	1	14	0	12	1
Conformity Determination						
De minimis Level	100	100	10	100	100	10
Significant?	No	No	Yes	No	No	No
2022						
Offroad Construction Equipment	1	1	17	0	17	2
Onroad Construction Vehicles	1	0	6	0	2	0
Fugitive Emissions	2	0	0	0	0	0
Total Construction Year 2022	4	1	23	0	19	2
Conformity Determination						
De minimis Level	100	100	10	100	100	10
Significant?	No	No	Yes	No	No	No
2023						
Offroad Construction Equipment	1	0	11	0	11	1
Onroad Construction Vehicles	1	0	3	0	1	0
Fugitive Emissions	1	0	0	0	0	0
Total Construction Year 2023	2	1	14	0	12	2
Conformity Determination						
De minimis Level	100	100	10	100	100	10
Significant?	No	No	Yes	No	No	No
2024						
Offroad Construction Equipment	0	0	3	0	3	0
Onroad Construction Vehicles	0	0	1	0	0	0
Fugitive Emissions	0	0	0	0	0	0
Total Construction Year 2023	0	0	4	0	3	0
Conformity Determination						
De minimis Level	100	100	10	100	100	10
Significant?	No	No	No	No	No	No

Deminimis thresholds available:

<https://www.epa.gov/general-conformity/de-minimis-tables>

Accessed: 3/2019.

Table 7.

Construction Emissions Without Mitigation - Conformity Determination - Alternative 3

Source Category	PM10 total (ton/yr)	PM2.5 total (ton/yr)	NOX (ton/yr)	SOX (ton/yr)	CO (ton/yr)	VOC (ton/yr)
2021						
Offroad Construction Equipment	0	0	7	0	1	0
Onroad Construction Vehicles	1	0	3	0	1	0
Fugitive Emissions	1	0	0	0	0	0
Total Construction Year 2021	2	1	11	0	1	1
Conformity Determination						
De minimis Level	100	100	10	100	100	10
Significant?	No	No	Yes	No	No	No
2022						
Offroad Construction Equipment	0	0	12	0	1	1
Onroad Construction Vehicles	1	0	6	0	1	0
Fugitive Emissions	2	0	0	0	0	0
Total Construction Year 2022	3	1	17	0	2	1
Conformity Determination						
De minimis Level	100	100	10	100	100	10
Significant?	No	No	Yes	No	No	No
2023						
Offroad Construction Equipment	0	0	8	0	1	0
Onroad Construction Vehicles	1	0	3	0	1	0
Fugitive Emissions	1	0	0	0	0	0
Total Construction Year 2023	2	1	11	0	1	1
Conformity Determination						
De minimis Level	100	100	10	100	100	10
Significant?	No	No	Yes	No	No	No
2024						
Offroad Construction Equipment	0	0	2	0	0	0
Onroad Construction Vehicles	0	0	1	0	0	0
Fugitive Emissions	0	0	0	0	0	0
Total Construction Year 2023	0	0	3	0	0	0
Conformity Determination						
De minimis Level	100	100	10	100	100	10
Significant?	No	No	No	No	No	No

