APPENDIX I
Alternatives Analysis

LEGEND:

- ALIGNMENT
- INTERCEPTOR
- OPEN CHANNEL

0 1200' 2400' 3600'
GRAPHIC SCALE

N

AREA LOCATION
CALIFORNIA

LA COUNTY TUJUNGA WASH CHANNEL

METROLINK RAIL

HASKELL AVE
SEPULVEDA BLVD
KESTER AVE
VAN NUYS BLVD
HAZELTINE AVE
WOODMAN AVE
FULTON AVE
COLDWATER CANYON AVE
WHITSETT AVE
COLFAX AVE
LANKERSHIM BLVD
TUJUNGA AVE
VINELAND AVE
CAHUENGA BLVD

VANOWEN ST
VICTORY BLVD
OXNARD ST
BURBANK BLVD
MAGNOLIA BLVD

FIRMAMENT AVE

DCTWRP Junction Structure

ORANGE BUSWAY
CHANDLER BLVD
ORANGE BUSWAY

405
170
101

LAUREL CANYON BLVD
MTA RED LINE
CENTRAL BRANCH TUJUNGA WASH

RIVERSIDE DRIVE
CAMARILLO ST
LA RIVER
LA COUNTY TUJUNGA WASH CHANNEL
MOORPARK ST
VENTURA BLVD

LA SANITATION
EWVIS PLANNING STUDY

INITIAL ALIGNMENT ALTERNATIVES

FIGURE
1.2

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

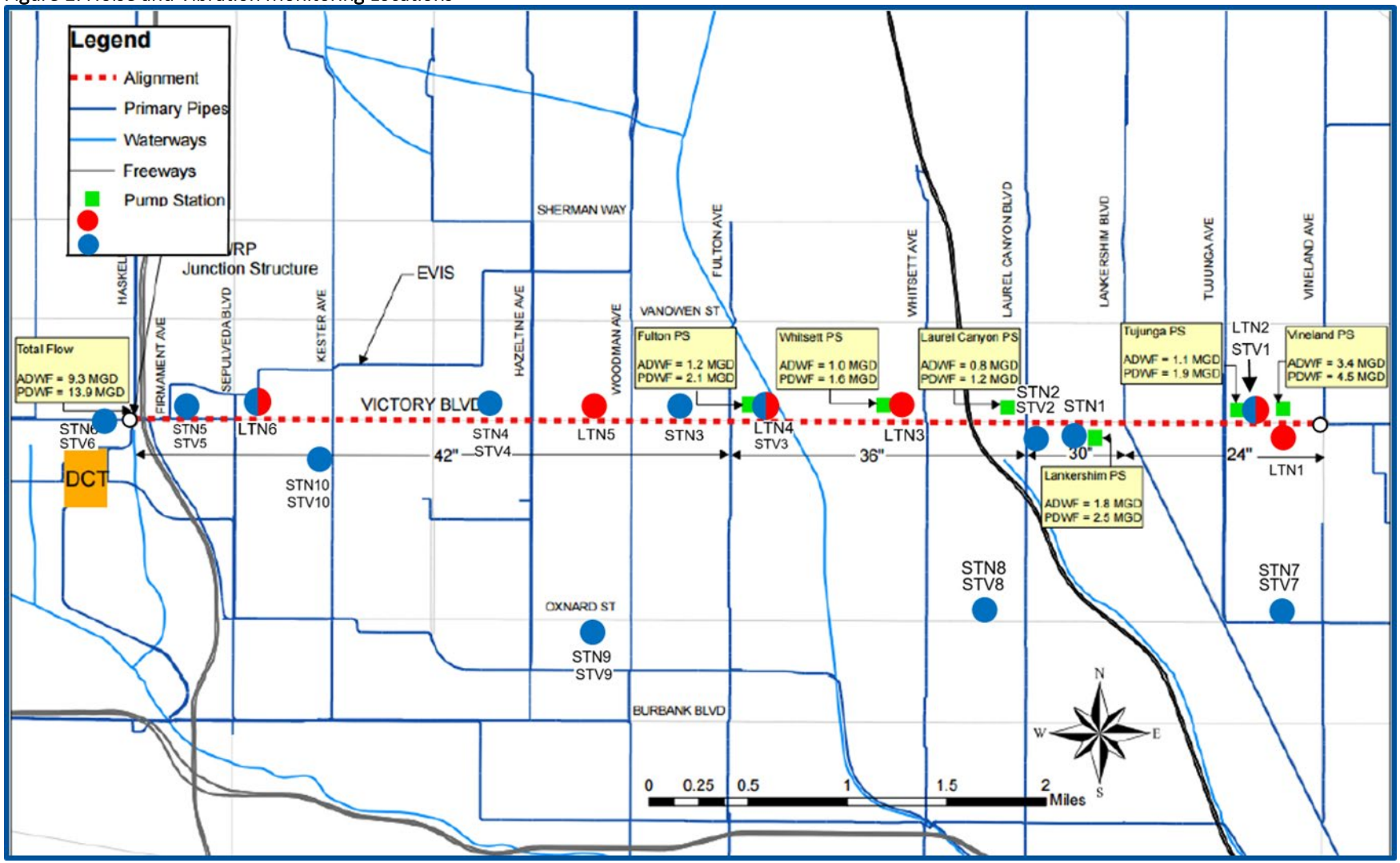
Source: AGI 2019

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
SNT8	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

	Peak Day Emissions (lb/day) - Residential Receptor				*Peak Day Emissions (lb/day) - Offsite worker receptor*			
Year	**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

	Peak Day Emissions (lb/day) - Residential Receptor				*Peak Day Emissions (lb/day) - Offsite worker receptor*			
Year	**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).	30

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**