Notice of Construction (NOC) Worksheet

pscleanair.org
Puget Sound Clean Air Agency

Applicant: Cadman Materials	**NOC Number**: 11861
Project Location: 6431 NE 175th Street, Kenmore, WA 98115	**Registration Number**: 16101
Applicant Name and Phone: Christy McDonough, 425-698-3226	**NAICS: 324121**
Engineer: Brian Renninger	**Inspector**: Melissa McAfee

A. DESCRIPTION

For the Order of Approval:
Replacement of and changes to equipment at an existing Hot Mix Asphalt Plant. New equipment include: a drum dryer and related natural gas-fired burner (200 TPH Capacity, 100 MMBtu/hr), changes to the associated baghouse (68,600 acfm), and replacement of condensers on two hot asphaltic cement tanks (25,000 gal & 10,000 gal, 300 gpm). Existing equipment includes: a pugmill/weigh hopper for mixing dried aggregate with asphaltic cement, and a hot rock conveyor. Other existing equipment ducted to the baghouse include: the flight conveyor for loading two silos (150 ton each) for storing asphaltic concrete, and the truck loadout.

Additional Information (if needed):

Facility

This application was submitted as the result of receiving NOV 3-009870 which was issued in the field on March 6, 2019 for the dryer replacement, alterations to the baghouse, and replacement of the condensers.

Proposed Equipment/Activities

Note that existing equipment includes: a pugmill/weigh hopper for mixing dried aggregate with asphaltic cement, and a hot rock conveyor. Other existing equipment ducted to the baghouse include: the flight conveyor for loading two silos (150 ton each) for storing asphaltic concrete, and the truck loadout. The pugmill/weighopper and hot rock conveyor are not under review as part of this project. The flight conveyor to the two storage silos and truck loadout which duct emissions to the baghouse are subject to review and RACT due to the substantially altered control device.

The changes being reviewed for this order of approval have all already been completed. The changes include:

- April 2018 dryer shell replaced along with several "stages" Per application, H&R Mechanical 8' x 30' with a new Hauk Ecostar Burner ES 100 100 MMBtu/hr burner. This replacement of the dryer shell and burner is considered a new source per Agency Regulation I, Section 6.03(a).

- Substantial alterations were made to the facility baghouse in 2006 and 2016. The table below compares the baghouse after the two permitted installation NOC 939 & NOC 3536 as well as

changes made absent review. The items marked in blue are specifications included in either permit applications or other communications with the agency. Items marked in yellow are estimates based on the available parameters. The baghouse controls emissions from the drum dryer, the batch flight conveyor, the two asphaltic concrete storage silos, and emissions captured from the scavenger duct from the truck loadout. Note that the truck loadout scavenger duct was installed in 2010 when the Agency ruled that the addition did not constitute a substantial alteration to the baghouse. However, the substantial alteration of the baghouse draws all the listed sources into RACT review per WAC 173-400-114.

	NOC 939 4/2/1973	NOC 3536 6/1/1990	Date After 1/1/2006	Date After 3/1/2016
# bags	728	728	660	405
bag diameter (ft)		0.39	0.5	0.5
bag length (ft)		8.55	12	11.33
surface area of bag (ft2)	9.4	10.5	19.0	18.0
Total Area	6,857	7,620	12,570	7,290
Temperature (F)	250	210		250
Flow (acfm)	44,000	54,000	68,600	68,600
Air-to-cloth ratio	6.4	7.1	5.5	9.4

a. Blue indicates data provided in letter and supporting documents, and historical NOC applications.
b. Yellow indicates parameters estimated from given data.

- In April 2011 condensers were added to the control VOC emissions from the two asphaltic cement storage tanks. This addition by itself did not require new permits. In 2017 the condenser on the smaller tank was moved to the larger tank and a new condenser was installed on the smaller tank. The 2017 changes constituted replacement of a control device per WAC 173-400-114 which required permitting review. Under WAC 173-400-114 the contents of the tanks (which generate the emissions) are under review for RACT.

Permit History

- **939 Issued 4/4/1973**

NOC Description: Micropulse-aire WAG No. 13 baghouse with two Stansteel cyclones to control existing batch plant emissions.

Application Describes:

1. burner as "Gas-oil combination" and "Genco" No rating given.
2. baghouse as Micropulse-aire WAG#13 34' 6" x 12' 8" x 15' 6", 728 bags, reverse air pulse, 6857 ft2 nomex bags. 44,000 cfm at 250F.

3. fan as Argo #90 950 rpm, 200 hp.
4. stack as: 31" x 31" x 5', 250 F.
5. cyclone as: body dia 84", outlet diameter as 28" x 48", body height 110", inlet area 8 square feet.

- **NOC 1938 Issued 8/8/1979**

NOC Description: Installation of 2,500 CFM Fume Scavaging System to control emissions from existing Asphalt Batch Flight Conveyor and Two storage silos.

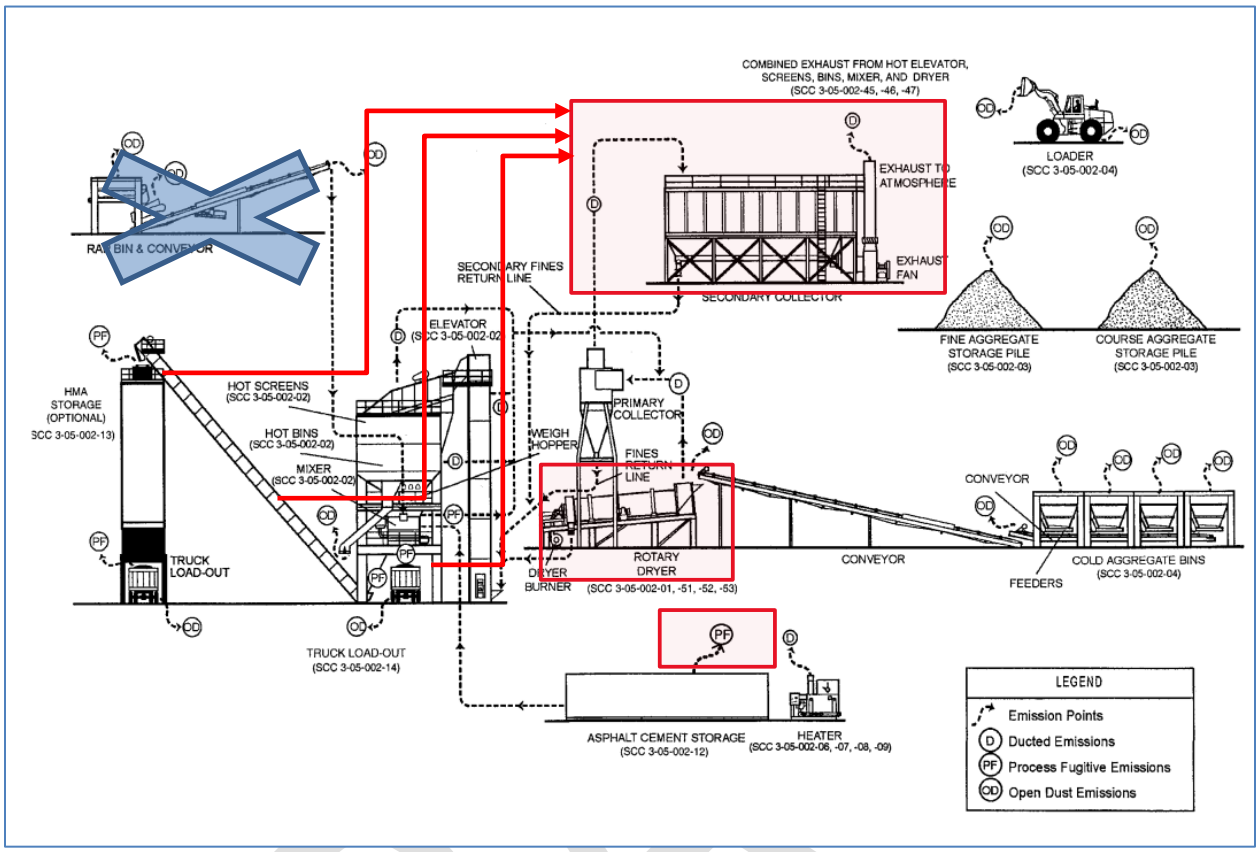
Application Description: 14' scavenger pipe - 32" x 42" exhaust stack.

- **NOC 3536 Issued 6/14/1990**

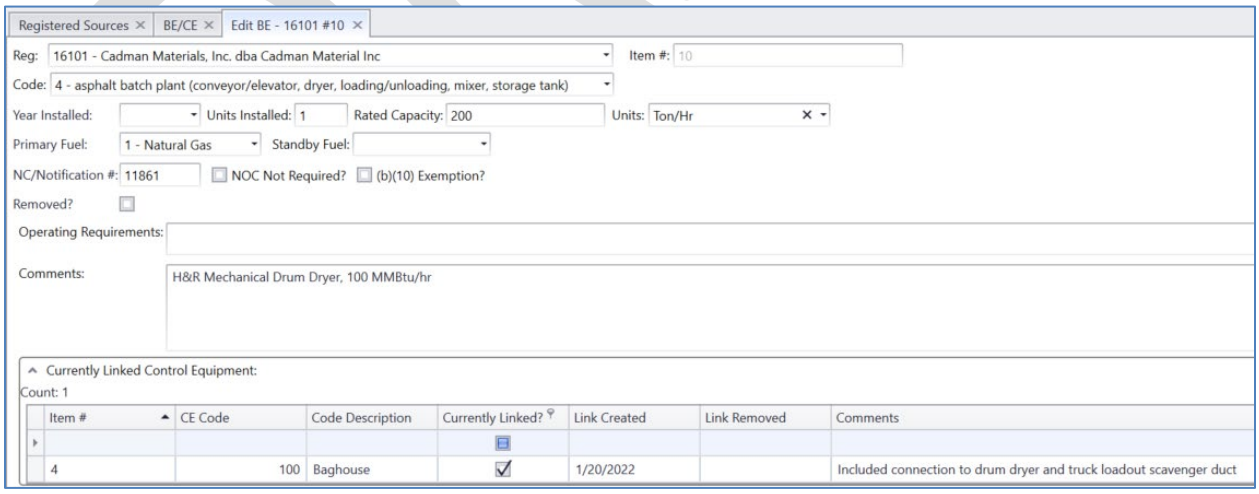
Application Description:

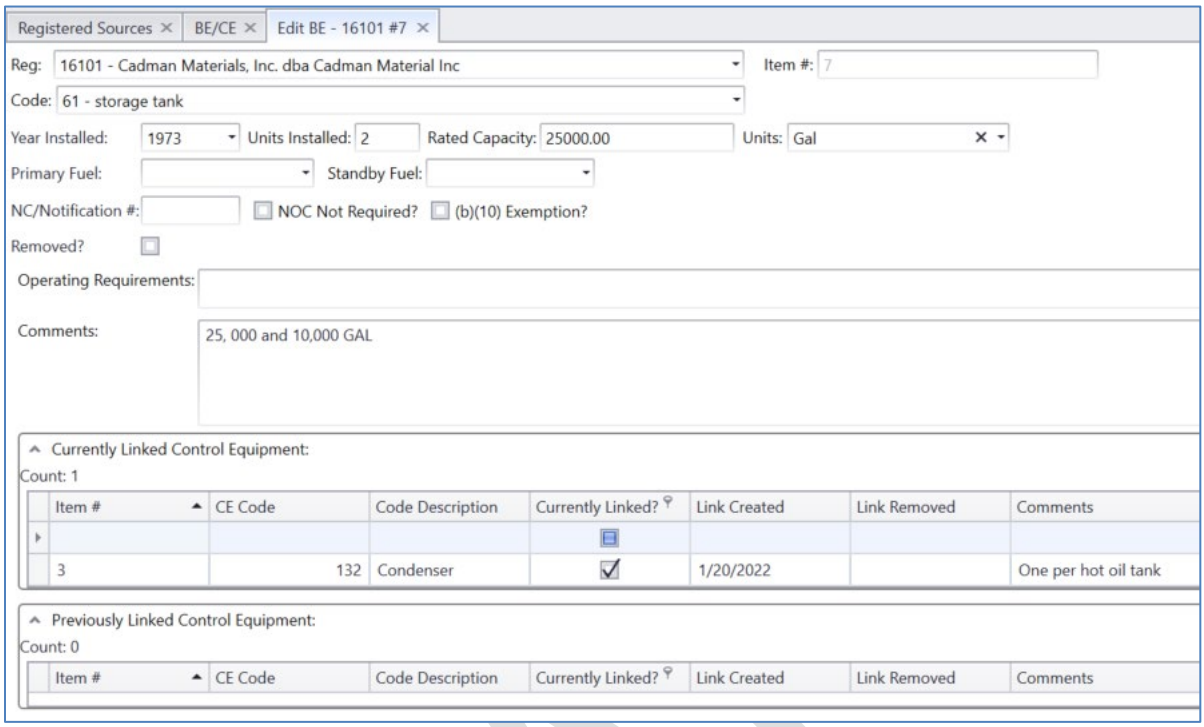
- For the processing of hydrocarbon contaminated soils in the existing hot mix asphalt plant
- Genco FP103 103 MMBtu/hr burner
- Standard Steel 200 TPH plant 1967

As the result of this application NOC 939, NOC 1938, and NOC 3536 will be cancelled and superseded. For the treatment of hydrocarbon contaminated soil reviewed in NOC 3536, the drum dryer that would have processed that soil has been replaced. To the best of the Agency's knowledge the prior dryer was never used to process contaminated soils and thus the project reviewed for NOC 3536 was never completed. The current application reviewing the new drum dryer (and burner) does not address contaminated soil and thus remediation of contaminated soil is not part of this application review and future processing of contaminated soil would have to undergo its own Notice of Construction application review. NOC 1938 was issued to add scavenger ducts to route emissions from the flight conveyor and storage silos through the baghouse. Because the substantial alteration of the baghouse affects these sources, NOC 1938 will be cancelled and superseded by this Order of Approval. The figure below (from EPA AP-42 Chapter 11.1) shows the general arrangement of a typical batch mix asphalt plant. The parts under review have been labeled in red. The parts which are not present at the plant have been crossed out in blue.



B. DATABASE INFORMATION





New NSPS due to this NOCOA?	**Yes**	**Applicable NSPS: 40 CFR 60 Subpart I**	**Delegated? Yes**
New NESHAP due to this NOCOA?	**No**	**Applicable NESHAP: NA**	**Delegated? NA**
New Synthetic Minor due to this NOCOA?	**No**		

Facility is subject to 40 CFR 60 Subpart I – the New Source Performance Standard For Asphalt Concrete Plants. The original plant was constructed prior to the promulgation date of 40 CFR 60 Subpart I (June 11, 1973) and therefore the rule did not apply to the facility. Over the years numerous changes and replacements were made to the facility leading to an investigation as to whether these changes in aggregate triggered the reconstruction provisions of the New Source Performance Standards in 40 CFR 60.15. On October 30, 2020, Cadman, "…decided to accept applicability of NSPS Subpart I requirements to the Kenmore plant in the future."

C. NOC FEES AND ANNUAL REGISTRATION FEES

NOC Fees:

Fees have been assessed in accordance with the fee schedule in Regulation I, Section 6.04. All fees must be paid prior to issuance of the final Order of Approval.

Fee Description	Cost	Amount Received (Date)
Filing Fee	$ 1,150	
Equipment (burner, dryer shell, baghouse, two condensers)	$ 3,000	
SEPA (DNS)	$ 800	
Refined dispersion analysis	$ 1,000	
Synthetic Minor	$ 2,000	
Filing received		$ 1,150 (7/1/2019)
Additional fee received		$ 6,800 (10/21/2021)
Total	**$ 0**	

Registration Fees:
Registration fees are assessed to the facility on an annual basis. Fees are assessed in accordance with Regulation I, Section 5.07.

Applicability		
Regulation I	Description	Note
5.03(a)(1)	Facilities subject to federal emission standards (Title 40 CFR)	
5.03(a)(2)	Federally enforceable emission limit	
5.03(a)(6)	Facilities with particulate control equipment (>= 2,000 cfm)	
5.03(a)(8)(A)	Facilities with asphalt batch operations	
Annual Registration Fee		
Regulation I	Description	Fee
5.07(c)	Base Registration Fee	$ 1,150
5.07(c)(1)	40 CFR 60 Subpart I	$ 2,100
5.07(c)(2)	Federally Enforceable Emission Limit	$ 2,300
	Total =	$ 5,550

Note that registration fees have added the 40 CFR 60 Subpart I, and the Federally enforceable emission limit fees as the result of this project.

D. STATE ENVIRONMENTAL POLICY ACT (SEPA) REVIEW

State Environmental Policy Act (SEPA) review was conducted in accordance with Regulation I, Article 2. The SEPA review is undertaken to identify and help government decision-makers, applicants, and the public to understand how a project will affect the environment. A review under SEPA is required for projects that are not categorically exempt in WAC 197-11-800 through WAC 197-11-890. A new source review action which requires a NOC application submittal to the Agency is not categorically exempt.

The Agency researched prior SEPA determinations for the facility and located only a single determination. The was a Determination of Non-Significance made for Notice of Construction Order of Approval 3536 June 14, 1990. This determination was not relevant to the current project and dealt solely with the remediation of contaminated soils in the drier which is not part of the current review.

PSCAA is the SEPA lead agency for this project. The applicant submitted a completed Environmental checklist that is included below.

Cadman Kenmore
Dryer SEPA Checklist

The City of Kenmore was consulted for comments on January 22, 2021, and replied on February 5, 2021, that "The City of Kenmore has not identified any permits that are necessary for the Cadman project. Although the City does not have any required permits that would give it a formal role in the SEPA process, it is interested in ensuring that notice of this SEPA determination is publicized to parties interested in the application. To this end, the City would like to be notified in advance of when the public comment period will start and conclude so that it can facilitate broad notification."

Figure 1 – Facility Fenceline

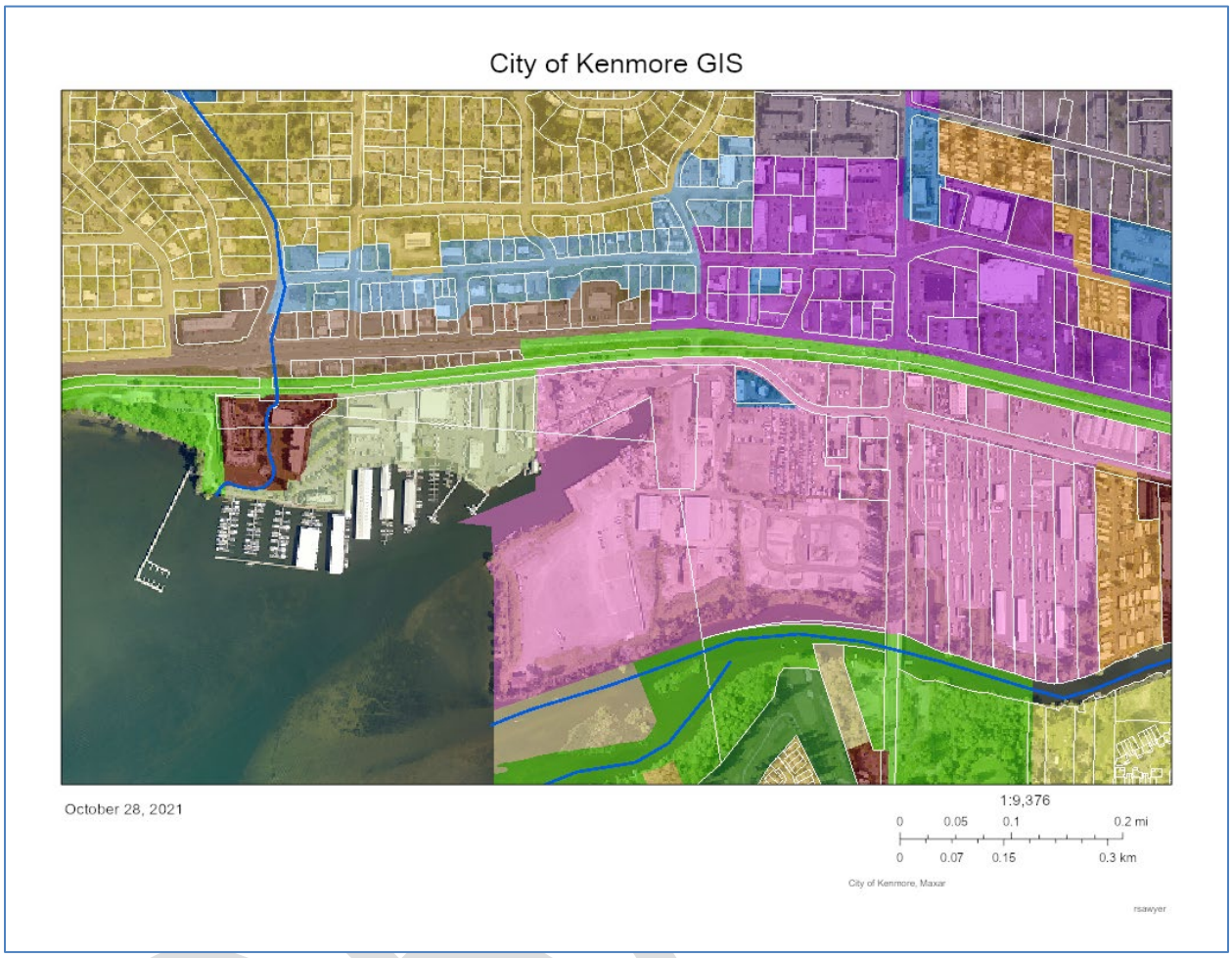


Figure 2 – Facility Zoning (pink is Zoned "Regional Business")

This facility has been located in this location for decades, and only the items reviewed in this project, listed above under "Proposed Equipment/Activities" are subject to review under SEPA. Concerns related to air emissions and odors from this facility are addressed through the application of Best Available Control Technology (discussed below) and enforceable limitations in the Order of Approval. BACT will be applied to the equipment replaced or modified including: the drum dryer and burner. Reasonably Available Control Technology (RACT) will be applied to replaced or substantially altered control devices including: the facility baghouse, and hot oil tank condensers. Use of cutback asphalt is not being reviewed in this application as, while the contents of the tank is under review there is no plan to store cutback asphalt in the tank. Per the applicant no cutback asphalt is used at the site. Use of cutback asphalt is regulated under Agency Regulation II, Section 3.01 which governs use and application of cutback asphalts.

Based on the proposed action and the information in the checklist, the project will not: adversely affect environmentally sensitive or special areas, or endangered or threatened species; conflict with local, state, or federal laws or requirements for the protection of the environment or establish a precedent for future actions with significant effects. This proposal is not likely to have a probable significant adverse

environmental impact, and I recommend the issuance of a Determination of Non-Significance with an opportunity for public comment.

E. TRIBAL CONSULTATION

On November 21, 2019, the Agency's Interim Tribal Consultation Policy was adopted by the Board. Criteria requiring tribal consultation are listed in Section II.A of the policy and include establishment of a new air operating permit source, establishment of a new emission reporting source, modification of an existing emission reporting source to increase production capacity, or establishment or modification of certain equipment or activities. In addition, if the Agency receives an NOC application that does not meet the criteria in Section II.A but may represent similar types and quantities of emissions, the Agency has the discretion to provide additional consultation opportunities.

This project does not meet any of the criteria for consultation listed in Section II.A of the Agency's Interim Tribal Consultation Policy.

F. BEST AVAILABLE CONTROL TECHNOLOGY (BACT) REVIEW

Best Available Control Technology (BACT)

New stationary sources of air pollution are required to use BACT to control all pollutants not previously emitted, or those for which emissions would increase as a result of the new source or modification. BACT is defined in WAC 173-400-030 as, "an emission limitation based on the maximum degree of reduction for each air pollutant subject to regulation under Chapter 70.94 RCW emitted from or which results from any new or modified stationary source, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each pollutant."

An emissions standard or emissions limitation means "a requirement established under the Federal Clean Air Act or Chapter 70.94 RCW which limits the quantity, rate, or concentration of emissions of air contaminants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction and any design, equipment, work practice, or operational standard adopted under the Federal Clean Air Act or Chapter 70.94 RCW."

The facility carried out a stack test of the dryer baghouse stack on October 1, 2020 for particulate matter, carbon monoxide, and nitrogen oxides. The test results are shown below.

Parameter	Test Result Average
Total PM gr/dscf at 7 percent oxygen	0.004
Filterable PM gr/dscf at 7 percent oxygen	0.002
NOx ppmdv at 7 percent oxygen	30
CO ppmdv at 7 percent oxygen	92

Best Available Control Technology for Toxics (tBACT)

New or modified sources are required to use tBACT for emissions control for TAP. Best available control technology for toxics (tBACT) is defined in WAC 173-460-020 as, "the term defined in WAC 173-400-030, as applied to TAP."

BACT for Asphalt Dryer/Mixer

Particulate Matter

Similar Permits or Other Regulatory Agencies BACT for PM:

Source	Description	PM BACT
PSCAA Order No. 10462 (December 2012)	New hot mix asphalt plant including: Astec Counter Flow, Double Barrel Dryer (400 TPH)	0.02 gr/dscf (total)
PSCAA Order No. 10852 (April 2015)	New hot mix asphalt (HMA) plant (325 TPH)	0.02 gr/dscf (total)
PSCAA Order No. 11175 (November 2016)	New hot mix asphalt (HMA) plant (300 TPH)	0.02 gr/dscf (total)
PSCAA Order No. 11274 (May 2017)	Replacement of an existing pug mill with a rotary mixer (350 TPH)	0.02 gr/dscf (total)
PSCAA Order No. 11328 (January 2018)	Replacement of the drum dryer at an existing continuous/batch Asphalt Plant.	0.027 gr/dscf (total), corrected to 7% O_2 0.014 gr/dscf (filterable), corrected to 7% O_2
PSCAA Order No. 11613 (September 2018)	Replacement of an existing pug mill with a rotary mixer (300 TPH)	0.027 gr/dscf (total), corrected to 7% O_2 0.014 gr/dscf (filterable), corrected to 7% O_2
PSCAA Order No. 11812 (December 2019)	Replacement of new 400 TPH drum mixer	0.027 gr/dscf (total), corrected to 7% O_2 0.014 gr/dscf (filterable), corrected to 7% O_2
Southwest Clean Air Agency 16-3199ADP	Replacement of parallel flow dryer/mixer with counterflow dryer/mixer (400 TPH)	0.010 gr/dscf (filterable), corrected to 15% O_2
Southwest Clean Air Agency 19-3335ADP	Replacement of existing batch tower (300 TPH) with a miniDrum asphalt mixer (500 TPH)	0.015 gr/dscf (filterable), corrected to 15% O_2
Bay Area Air Quality Management District BACT/TBACT Workbook	Hot Mix Asphalt, Drum and Batch Mix Facilities	0.01 gr/dscf (filterable)
MassDEP BACT Guideline	Hot Mix Asphalt – Batch Plants and Drum Mix Plants	0.01 gr/dscf

Analysis

The Agency historically established a total particulate BACT limit of 0.02 gr/dscf for asphalt plants, until Order No. 11328 was issued in January 2018. The Agency's historic 0.02 gr/dscf limit did not include an oxygen correction, nor, apparently, does the BAAQMD limit shown in the table above. However, there is some concern that adding dilution air during an emission test could be used to demonstrate compliance with a limit; therefore, the Agency is setting future particulate limits using

an oxygen correction factor, as first established in Order No. 11328. For consistency with Agency Regulation I, Section 9.09, the standard for correction chosen is seven percent oxygen.

The same approach that was used for Order No. 11328 is being used for this analysis. The Agency reviewed thirty-two asphalt plant particulate test results to determine what current BACT for particulate should be. This data was available from the Agency, SWCAA, and Northwest Clean Air Agency (NWCAA). This analysis is fully documented in the NOC worksheet for Order No. 11328.

The recommended BACT limit for filterable particulate is 0.014 gr/dscf corrected to 7% oxygen. The recommended BACT limit for total particulate is 0.027 gr/dscf corrected to 7% oxygen. The emission source test provided by the application showed the unit capable of achieving these limits with substantial margin.

As on operational practice the Agency has also routinely set limits on the use of recycled asphalt pavement (RAP) and the use of recycled asphalt shingles (RAS) to the percentage of recycled material used for passing tests of particulate matter and visible emissions. The reason for this is that use of recycled materials has contributed to increased visible emissions and elevated particulate matter emissions when the recycled materials have impinged upon the burner flame. Because the current project does not change out the mixing process, use of RAP/RAS was not reviewed. Per the applicant RAP/RAS is not currently in use at the facility nor is it proposed to be used at the site as part of this proposal. As such use of RAP/RAS is not under review and would require a separate application and review to adopt RAP/RAS use.

Opacity

Every new asphalt mixer reviewed by the Agency since 2008 has had a 5 percent opacity limit, including most recently, Order No. 11328 (issued January 23, 2018) and Order No. 11613 (issued September 18, 2018). SWCAA has also issued a permit with a 5% opacity limit for asphalt plants. BACT for visible emissions from the mixer baghouse is emissions no greater than 5% opacity for three minutes in an hour per a Washington Department of Ecology Method 9A visual emissions test.

Volatile Organic Compounds

Similar Permits or Other Regulatory Agencies BACT for VOC:

SWCAA issued 16-3199ADP in 2016 for the replacement of an existing parallel flow aggregate drum dryer/mixer with a counterflow drum dryer/mixer. The BACT determination for the dryer/mixer includes a maximum product temperature of 315°F (mixing drum outlet) and establishes a numerical limit for VOC equal to the potential to emit for the dryer/mixer. The BAAQMD BACT Guideline lists a numerical VOC emission limit of 0.03 lb/ton for batch mix hot mix asphalt plants, and TCEQ's BACT guideline for hot mix asphalt plants lists a limit of 0.032 lb/ton. The MassDEP BACT Guideline also lists a VOC emission limit of 0.032 lb/ton.

Analysis

The Agency first set a limit on emissions of VOC from asphalt plant mixers with Order No. 11328. Order No. 11328 and Order No. 11613 include a VOC limit of 0.032 lb/ton, which is based on the AP-

42 Chapter 11.1 VOC emission factor for drum mix hot mix asphalt plants, found in Table 11.1-8. For this application, the Agency is setting 0.032 lb/ton as the BACT emission rate. The VOC limit will be presented in terms of total hydrocarbon emissions expressed as propane as measured by Method 25A, with the option to subtract methane and other compounds with negligible photochemical activity.

Order No. 11328, Order No. 11613, and SWCAA establish maximum mix temperature operating conditions, since mix temperature has been tied to VOC emissions. The issue with limiting the maximum product temperature to 315°F, as used by SWCAA, is that this restricts the type of products able to be produced by the plant, which limits the market the plant could serve. Not only does a temperature limit reduce the number of products available, it also limits the area able to be served by the plant due to cooling of the asphaltic concrete while transporting it to the site of application. Consistent with Order No. 11328 and Order No. 11613, maximum mix temperature will be limited to the maximum recommended temperature for the mix as set by the manufacturer of the asphaltic cement used in the mix specification produced plus a 25°F buffer. Mix temperature will be required to be monitored hourly in a manner similar to that specified in the State of Washington Department of Ecology General Order for Portable and Stationary Hot Mix Asphalt Plants No. 10AQ-GO-01.

Carbon Monoxide

Similar Permits or Other Regulatory Agencies BACT for CO:

Source	Description	CO Limit	CO Limit (Corrected to 7% O_2)
PSCAA Order No. 10462 (December 2012)	New hot mix asphalt plant including: Astec Counter Flow, Double Barrel Dryer (400 TPH)	400.0 ppmvd (3% O_2)	310.6 ppmvd
PSCAA Order No. 10852 (April 2015)	New hot mix asphalt (HMA) plant (325 TPH)	400.0 ppmvd (3% O_2)	310.6 ppmvd
PSCAA Order No. 11175 (November 2016)	New hot mix asphalt (HMA) plant (300 TPH)	400.0 ppmvd (3% O_2)	310.6 ppmvd
PSCAA Order No. 11328 (January 2018)	Replacement of the drum dryer at an existing continuous/batch Asphalt Plant.	311.0 ppmvd (7% O_2)	310.6 ppmvd
PSCAA Order No. 11812 (December 2019)	Replacement of new 400 TPH drum mixer	311.0 ppmvd (7% O_2)	310.6 ppmvd
Southwest Clean Air Agency 16-3199ADP	Replacement of parallel flow dryer/mixer with counterflow dryer/mixer (400 TPH)	163 ppmvd (15% O_2)	384 ppmvd
San Joaquin Valley APCD Rule 4309	Asphalt/Concrete Plants	42 ppmv (19.0% O_2)	307 ppmvd
San Joaquin Valley APCD BACT Guideline 6.3.1 (8/23/18)	Asphaltic Concrete – Mix Plant	42 ppmv (19% O_2)	307 ppmvd
Bay Area Air Quality Management District BACT/TBACT Workbook	Hot Mix Asphalt, Drum and Batch Mix Facilities	133 ppmvd (15% O_2)	313 ppmvd

Analysis

The applicant has proposed a CO BACT limit of 400 ppm corrected to 3% oxygen. The CO limit in Order of Approval No. 11328 is 311.0 ppmvd corrected to 7% oxygen (equivalent to 400 ppmvd at 3% oxygen). This value is also relatively consistent with the CO limit for asphalt plant aggregate dryers in San Joaquin Valley APCD Rule 4309 and BACT Guideline 6.3.1. San Joaquin Valley APCD Rule 4309 sets a CO limit of 42 ppmv corrected to 19% oxygen; the equivalent to 307 ppmv corrected to 7% oxygen. The Bay Area Air Quality Management District lists BACT as 133 ppm corrected to 15% oxygen, which equates to 313 ppmvd at 7% oxygen. This Order of Approval will establish a BACT limit of 311.0 ppmvd corrected to 7% oxygen, consistent with Order of Approval No. 11328. The emission source test provided by the application showed the unit capable of achieving these limits with substantial margin.

Nitrogen Oxides

Similar Permits or Other Regulatory Agencies BACT for NO_x:

Source	Description	NO_x Limit	NO_x Limit (Corrected to 7% O_2)
PSCAA Order No. 10462 (December 2012)	New hot mix asphalt plant including: Astec Counter Flow, Double Barrel Dryer (400 TPH)	41.0 ppmvd (3% O_2)	31.8 ppmvd
PSCAA Order No. 10852 (April 2015)	New hot mix asphalt (HMA) plant (325 TPH)	41.0 ppmvd (3% O_2)	31.8 ppmvd
PSCAA Order No. 11175 (November 2016)	New hot mix asphalt (HMA) plant (300 TPH)	41.0 ppmvd (3% O_2)	31.8 ppmvd
PSCAA Order No. 11328 (January 2018)	Replacement of the drum dryer at an existing continuous/batch Asphalt Plant.	32.0 ppmvd (7% O_2)	32.0 ppmvd
PSCAA Order No. 11812 (December 2019)	Replacement of new 400 TPH drum mixer	26.0 ppmvd (7% O_2)	26.0 ppmvd
Southwest Clean Air Agency 16-3199ADP	Replacement of parallel flow dryer/mixer with counterflow dryer/mixer (400 TPH)	27 ppmvd (15% O_2)	64 ppmvd
South Coast AQMD BACT Guideline	Asphalt Batch Plant	36 ppmvd (3% O_2)	28 ppmvd
San Joaquin Valley APCD Rule 4309	Asphalt/Concrete Plants	4.3 ppmv (19.0% O_2)	31.5 ppmvd
San Joaquin Valley APCD BACT Guideline 6.3.1 (8/23/18)	Asphaltic Concrete – Mix Plant	3.5 ppmv (19% O_2)	25.6 ppmvd
Bay Area Air Quality Management District BACT/TBACT Workbook	Hot Mix Asphalt, Drum and Batch Mix Facilities	12 ppmvd (15% O_2)	28 ppmvd

Analysis

The Agency historically set a BACT limit of 41 ppm corrected to 3% oxygen for asphalt dryers. For Order of Approval No. 11328, the NO_x limit was set to 32 ppm corrected to 7% oxygen (equivalent to 41 ppm corrected to 3% oxygen) to be consistent with the oxygen correction for the particulate matter limit.

South Coast AQMD, San Joaquin Valley APCD, and BAAQMD establish BACT limits for NO_x emissions from asphalt dryers. In the table above, these were converted these to a 7% oxygen basis for the purpose of comparison. In August 2018, San Joaquin Valley APCD updated BACT guideline 6.3.1 and lists a NO_x limit of 3.5 ppmv at 19% oxygen. This is the most stringent limit listed in the table above and is equivalent to 25.6 ppmvd. Based on this value, the Order of Approval 11812 established a BACT limit of 26.0 ppmvd at 7% oxygen. For this permit, given the change predates issuance of Order 11812, and the demonstration test report for the plant approved under Order 11812 has not yet

been received, this Order of Approval is setting BACT for NOx at 32 ppmvd corrected to 7% oxygen. The emission source test provided by the application showed the unit capable of achieving these limits with a small margin.

RACT for Asphaltic Cement Storage Tanks

Source	Description	Limit
PSCAA Order No. 10462 (December 2012)	New hot mix asphalt plant including: Astec Counter Flow, Double Barrel Dryer (400 TPH)	0% Opacity except on 15-minute period per day of 20% for line blowing
PSCAA Order No. 10852 (April 2015)	New hot mix asphalt (HMA) plant (325 TPH)	0% Opacity except on 15-minute period per day of 20% for line blowing
PSCAA Order No. 11175 (November 2016)	New hot mix asphalt (HMA) plant (300 TPH)	0% Opacity except on 15-minute period per day of 20% for line blowing

Analysis

In all the recent permits where new hot asphaltic cement storage tanks were installed the BACT limit was zero percent opacity with a daily exception of one fifteen-minute period of twenty percent opacity for line blowing. The replacement of the storage tank condensers is not subject to BACT but, due to WAC 173-400-114 they are subject to Reasonably Available Control Technology (RACT). The applicant has chosen a control technology equivalent to BACT and thus the less stringent measure of RACT is adequately met. This determination is for tanks storing standard hot mix asphalt oils. Cutback asphalt has not been proposed as an oil to be stored in the asphalt cement tanks. Cutback asphalt contains a greater proportion of lighted components and passive condensers may not be RACT for storage of this material in a heated tank. Because RACT has not been proposed or reviewed for storage of cutback asphalt, a provision prohibiting storage of cutback asphalt in the heated tanks is recommended. Per the applicant, cutback asphalt is not currently in use and there is no proposal to use cutback asphalt.

BACT/RACT for Odor

There is the potential for odor from the dryer, the asphaltic cement storage tank condensers, and the scavenger ducting from the truck loadout, the flight conveyor, and the two asphaltic concrete storage tanks. Odor from the asphaltic cement storage tank condensers is subject to RACT. Odor from the drum dryer (including its contribution to the baghouse emissions) is subject to BACT. Odor from the scavenger duct from the truck loadout, flight conveyor to the two asphaltic concrete storage silos is subject to RACT.

The Agency has never set odor limits on hot mix asphalt equipment. It had been recognized that odor is a potential emission from hot mix asphalt operations, and that Agency Regulation I, 9.11 addressed odor from hot mix asphalt operation. Regulation I, Section 9.11 limits nuisance odors to less than level 2 (as defined in the rule), if there is an affidavit from a person stating that the odor "unreasonably interfere[s] with their enjoyment of life and property". In some cases, VOC limits (and to some extent opacity limits) were considered as a surrogate for odor emissions.

The number of examples available for review of other Agencies' odor BACT determinations was limited. Most jurisdictions do not directly regulate odor as an air pollutant. The SWCAA did issue permit SWCAA 19-3335 on May 30, 2019, with some provisions to address odor. They include a facility-wide condition similar to Agency Regulation I, and facility monitoring, record keeping, and reporting of odor complaints and actions taken to mitigate the issue.

The Agency has adopted odor provisions on other Agency permits, from various industries such as cannabis production, composting, and rendering. In permits for these source categories, the Agency has set in place practices to monitor odors and take actions to limit odors including fenceline monitoring, record keeping and reporting.

BACT is often thought of an emission limit reflective of use of a particular control technology. However, BACT can also be considered operational practices and techniques that result in reduced emissions – including monitoring and recordkeeping activities.

The Agency has not identified any cost-effective odor control technology applicable to the hot mix asphalt industry equipment capable of meeting a limit of zero odor at the fence line. Regulation I, Section 9.11 does apply which requires less than level 2 odors on private property. The Agency recognizes that both the condensers are RACT for odor in the case of the asphaltic cement storage tanks. The baghouse may control odor to the degree it controls odorous condensed particulate but, also has the potential to change the location of odor impacts (and dilute them) due to the dispersion effects of a raised stack. For example, the higher release point of the baghouse stack allows for greater dispersion (and hence dilution) but this also may move the location of high impacts from near the facility to higher geography or structures. The baghouse has the potential to move odor impacts from nearby public property (such as the Burke-Gilman trail) to farther away private property (such as the neighboring hillside to the north). Because of this the Agency is setting into place a complaint response program, fence line and near field odor monitoring, recordkeeping, reporting, and response provisions as BACT/RACT odor mitigation practices.

G. EMISSION ESTIMATES

Proposed Project Emissions

Actual Emissions

The facility has no record of reporting emissions since previously calculated emissions have been below the Agency's reporting thresholds. Therefore, calculations of actual emissions cannot rely

on previously reported emissions. However, actual emissions are required to be less than the estimated potential emissions shown.

Potential Emissions

The permitted potential to emit calculations for the units that are included in this project are based on operating at 100% rated capacity and producing no more than 200,000 tons of asphaltic concrete per year.

Microsoft Excel Worksheet

Source	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	VOC (tpy)	CO (tpy)	Combined HAPs (tpy)	Maximum Individual HAP (tpy)
Stack Emissions								
Aggregate Dryer	3.7	3.5	0.5	10.0	0.8	59.2	0.8	0.3
HMA Silo Filling 1	--	--	--	--	1.2	--	0.0	0.0
Asphalt Tanks	0.2	0.24	--	--	0.0	0.0	0.0	0.0
Total Stack Emissions	*4.0*	*3.7*	*0.5*	*10.0*	*2.1*	*59.2*	*0. 8*	*0.3*

Emissions shown here includes the sources currently under review either as replacement equipment or as substantial alteration of existing equipment. Some emissions are shown as zero due to rounding small quantities of emissions.

- Aggregate dryer emissions include emissions from fuel combustion as well as particulate from the aggregate being dried. The aggregate dryer is a replacement and a new source. Emission include the baghouse, which was substantially altered, as part of this source.
- HMA Silo Filling includes emissions from volatile organic compounds, carbon monoxide, and particulate that is emitted from hot asphaltic concrete being loaded into the silos. This is includes as one of the sources that direct emissions to the substantially altered baghouse.
- The asphalt tanks include emissions from loading the two asphalt tanks with asphaltic cement (i.e. binder) and are drawn under review due to the replacement of the condensers used to limit tank volatile organic compound emissions.

Facility-wide Emissions

Actual Emissions

The facility has no record of reporting emissions so actual emission estimates are not known but, actual emissions are required to be less than the estimated potential emissions shown.

Reporting Source?

Yes, because potential emissions of Carbon Monoxide are greater than 25.0 tons per year (see Regulation I, Section 5.05(b)) the facility has the potential to be a reporting source.

pscleanair.org
Puget Sound Clean Air Agency

Potential Emissions

Source	PM_{10} (tpy)	$PM_{2.5}$ (tpy)	SO_2 (tpy)	NO_x (tpy)	VOC (tpy)	CO (tpy)	Combined HAPs (tpy)	Maximum Individual HAP (tpy)
Stack Emissions								
Aggregate Dryer	3.7	3.5	0.5	10.0	0.8	59.2	0.8	0.3
HMA Silo Filling [1]	--	--	--	--	1.2	--	0.0	0.0
Asphalt Tanks	0.2	0.24	--	--	0.0	0.0	0.0	0.0
Total Stack Emissions	*4.0*	*3.7*	*0.5*	*10.0*	*2.1*	*59.2*	*0. 8*	*0.3*
Fugitive Emissions								
Load-Out [2]	0.05	0.05	--	--	0.39	--	0.01	2.04E-03
Haul Roads	0.08	0.02	--	--	--	--	--	--
Storage Pile Drop Points	1.29	0.20	--	--	--	--	--	--
Storage Pile Wind Erosion	0.06	0.01	--	--	--	--	--	--
Total Fugitive Emissions	*1.49*	*0.28*	*--*	*--*	*0.39*	*--*	*0.01*	*2.04E-03*
Total	**5.5**	**4.0**	**0.5**	**10.0**	**2.5**	**59.2**	**0.8**	**0.3**
Title V Major Source Threshold	100	100	100	100	100	100	25	10
Below Title V Major Source Threshold?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Asphalt storage silos are controlled by the baghouse. Therefore, PM_{10} and $PM_{2.5}$ emissions from silo filling are not calculated separately.
Load-out PM_{10} and $PM_{2.5}$ emissions are conservatively assumed equivalent to load-out total PM emissions.

H. OPERATING PERMIT OR PSD

The Title V Air Operating Permit (AOP) program applicability for the entire source has been reviewed.

The facility is not a Title V air operating permit source because post project PTE remains below Title V applicability thresholds and criteria due to federally enforceable limits being implemented in this order. The source is considered a "**synthetic minor**". Emissions of Carbon Monoxide will be limited to the potential to emit defined by their operating limit of 200,000 TPY.

I. AMBIENT AND TOXICS IMPACT ANALYSIS

The estimated potential toxic air pollutant (TAP) emissions was calculated for operation at 100% rated capacity and 200,000 TPY production for each new or modified emission unit (*or based on limit in permit*). The table below includes estimated potential emissions of all TAP and compares those to the Small Quantity Emission Rates (SQER) in WAC 173-460-150.

Pollutant	CAS No.	HAP?	TAP?	Emission Factor[1] (lb/ton)	Pre-Project Dryer Emissions (tpy)	Post-Project Dryer Emissions (lb/hr)	Post-Project Dryer Emissions (tpy)	Emission Increase (tpy)	Averaging Period	SQER (lb/averaging period)	Project Emissions Increase [2] (lb/averaging period)	Modeling Required?
2-Methylnaphthalene	91-57-6	Yes - PAH	No	7.1E-05	6.30E-03	1.42E-02	7.10E-03	8.04E-04	--	--	--	--
Acenaphthene	83-32-9	Yes - PAH	No	9.0E-07	7.98E-05	1.80E-04	9.00E-05	1.02E-05	--	--	--	--
Acenaphthylene	208-96-8	Yes - PAH	No	5.8E-07	5.14E-05	1.16E-04	5.80E-05	6.57E-06	--	--	--	--
Acetaldehyde	75-07-0	Yes	Yes	3.2E-04	2.84E-02	0.06	0.03	3.62E-03	year	6.00E+01	7.25E+00	No
Anthracene	120-12-7	Yes - PAH	No	2.1E-07	1.86E-05	4.20E-05	2.10E-05	2.38E-06	--	--	--	--
Benzene	71-43-2	Yes	Yes	2.8E-04	2.48E-02	0.06	0.03	3.17E-03	year	2.10E+01	6.34E+00	No
Benzo(a)anthracene	56-55-3	Yes - PAH	Yes	4.6E-09	4.08E-07	9.20E-07	4.60E-07	5.21E-08	year	8.90E-01	1.04E-04	No
Benzo(a)pyrene	50-32-8	Yes - PAH	Yes	3.1E-10	2.75E-08	6.20E-08	3.10E-08	3.51E-09	year	1.60E-01	7.02E-06	No
Benzo(b)fluoranthene	205-99-2	Yes - PAH	Yes	9.4E-09	8.34E-07	1.88E-06	9.40E-07	1.06E-07	year	8.90E-01	2.13E-04	No
Benzo(g,h,i)perylene	191-24-2	Yes - PAH	No	5.0E-10	4.43E-08	1.00E-07	5.00E-08	5.66E-09	--	--	--	--
Benzo(k)fluoranthene	207-08-9	Yes - PAH	Yes	1.3E-08	1.15E-06	2.60E-06	1.30E-06	1.47E-07	year	8.90E-01	2.94E-04	No
Chrysene	218-01-9	Yes - PAH	Yes	3.8E-09	3.37E-07	7.60E-07	3.80E-07	4.30E-08	year	8.90E+00	8.61E-05	No
Dibenz(a,h)anthracene	53-70-3	Yes - PAH	Yes	9.5E-11	8.42E-09	1.90E-08	9.50E-09	1.08E-09	year	8.20E-02	2.15E-06	No
Ethyl Benzene	100-41-4	Yes	Yes	2.2E-03	1.95E-01	0.44	0.22	2.49E-02	year	6.50E+01	4.98E+01	No
Fluoranthene	206-44-0	Yes - PAH	No	1.6E-07	1.42E-05	3.20E-05	1.60E-05	1.81E-06	--	--	--	--
Fluorene	86-73-7	Yes - PAH	No	1.6E-06	1.42E-04	3.20E-04	1.60E-04	1.81E-05	--	--	--	--
Formaldehyde	50-00-0	Yes	Yes	7.4E-04	6.56E-02	0.15	0.07	8.38E-03	year	2.70E+01	1.68E+01	No
Indeno(1,2,3-cd)pyrene	193-39-5	Yes - PAH	Yes	3.0E-10	2.66E-08	6.00E-08	3.00E-08	3.40E-09	year	8.90E-01	6.80E-06	No
Naphthalene	91-20-3	Yes - PAH	Yes	3.6E-05	3.19E-03	7.20E-03	3.60E-03	4.08E-04	year	4.80E+00	8.15E-01	No
Phenanthrene	85-01-8	Yes - PAH	No	2.6E-06	2.31E-04	5.20E-04	2.60E-04	2.94E-05	--	--	--	--
Pyrene	129-00-0	Yes - PAH	No	6.2E-08	5.50E-06	1.24E-05	6.20E-06	7.02E-07	--	--	--	--
Quinone	106-51-4	Yes	No	2.7E-04	2.39E-02	0.05	0.03	3.06E-03	--	--	--	--
Toluene	108-88-3	Yes	Yes	1.0E-03	8.87E-02	0.20	0.10	1.13E-02	24-hr	3.70E+02	0	No
Xylene, mixed or all isomers	1330-20-7	Yes	Yes	2.7E-03	2.39E-01	0.54	0.27	3.06E-02	24-hr	1.60E+01	0	No
Arsenic	7440-38-2	Yes	Yes	4.6E-07	4.08E-05	9.20E-05	4.60E-05	5.21E-06	year	4.90E-02	1.04E-02	No
Barium	7440-39-3	No	No	1.5E-06	1.33E-04	3.00E-04	1.50E-04	1.70E-05	--	--	--	--
Beryllium	7440-41-7	Yes	Yes	1.5E-07	1.33E-05	3.00E-05	1.50E-05	1.70E-06	year	6.80E-02	3.40E-03	No
Cadmium	7440-43-9	Yes	Yes	6.1E-07	5.41E-05	1.22E-04	6.10E-05	6.91E-06	year	3.90E-02	1.38E-02	No
Chromium	7440-47-3	Yes	Yes	5.7E-07	5.05E-05	1.14E-04	5.70E-05	6.46E-06	24-hr	3.70E-01	0	No
Hexavalent Chromium	18540-29-9	Yes	Yes	4.8E-08	4.26E-06	9.60E-06	4.80E-06	5.44E-07	year	6.50E-04	1.09E-03	Yes
Copper	7440-50-8	No	Yes	2.8E-06	2.48E-04	5.60E-04	2.80E-04	3.17E-05	1-hr	1.90E-01	0	No
Lead	7439-92-1	Yes	Yes	8.9E-07	7.89E-05	1.78E-04	8.90E-05	1.01E-05	year	1.40E+01	2.02E-02	No
Manganese	7439-96-5	Yes	Yes	6.9E-06	6.12E-04	1.38E-03	6.90E-04	7.82E-05	24-hr	2.20E-02	0	No
Mercury	7439-97-6	Yes	Yes	4.1E-07	3.64E-05	8.20E-05	4.10E-05	4.64E-06	24-hr	2.20E-03	0	No
Nickel	7440-02-0	Yes	Yes	3.0E-06	2.66E-04	6.00E-04	3.00E-04	3.40E-05	year	6.20E-01	6.80E-02	No
Selenium	7782-49-2	Yes	Yes	4.9E-07	4.35E-05	9.80E-05	4.90E-05	5.55E-06	24-hr	1.50E+00	0	No
Zinc	7440-66-6	No	No	6.8E-06	6.03E-04	1.36E-03	6.80E-04	7.70E-05	--	--	--	--
				Total HAP:	**0.68**	**1.53**	**0.76**	**0.09**				
SO_2	7446-09-5	No	Yes	4.6E-03	4.08E-01	9.20E-01	4.60E-01	5.21E-02	1-hr	1.20E+00	0	No
NO_x	10102-44-0	No	Yes	--	1.00E+01	4.57E+00	1.00E+01	0.00E+00	1-hr	8.70E-01	0	No
CO	630-08-0	No	Yes	--	5.92E+01	2.71E+01	5.92E+01	0.00E+00	1-hr	4.30E+01	0	No

[1] Speciated emission factors for emissions from the dryer are obtained from U.S. EPA, Hot Mix Asphalt Plants, AP-42 Section 11.1, March 2004, Tables 11.1-9 and 11.1-11. Emission factors for natural gas-fired dryer with fabric filter for batch hot mix asphalt plants are used. Emissions of criteria pollutants that are also TAPs are based on the calculation shown in Table 2.
[2] For TAPs with short-term averaging periods (i.e., 1-hour and 24-hour), there is no increase in emissions from the project.

Of the emitted TAPs, only hexavalent chromium was emitted at rates greater than the SQER, so the Agency required dispersion modeling to demonstrate estimated impacts less than the Acceptable Source Impact Levels (ASILs) listed in WAC 173-460-150. The modeled hexavalent chromium impact demonstrated concentrations an order of magnitude less than the ASIL.

Pollutant	Averaging Period	Modeled Concentration ($\mu g/m^3$)	ASIL ($\mu g/m^3$)	Exceeds ASIL?
Chromium (VI)	Annual	1.01E-07	4.00E-06	No

pscleanair.org
Puget Sound Clean Air Agency

In addition to dispersion modeling for TAPs, the Agency also required dispersion modeling to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS) for particulate, NOx, and CO. The NAAQS are national air quality standards designed to protect public health and the environment. Dispersion modeling was conducted that showed that ambient concentrations resulting from the facility emissions should not exceed the NAAQS. In addition, the Agency requested not just the modeled high concentrations but asked for the maximum estimated impacts at a variety of sensitive locations within the community. The results of the dispersion model are shown below. The details of the modeling analysis are included in the attached report. The modeling was conducted at the established BACT limits with one exception. For particulate matter the modeling was conducted at the tested concentration increased by thirty percent to allow for variability in test results. As such the particulate matter limits set in the permit conditions reflect the rate at which particulate matter emissions were modeled, which assures protection of the NAAQS.

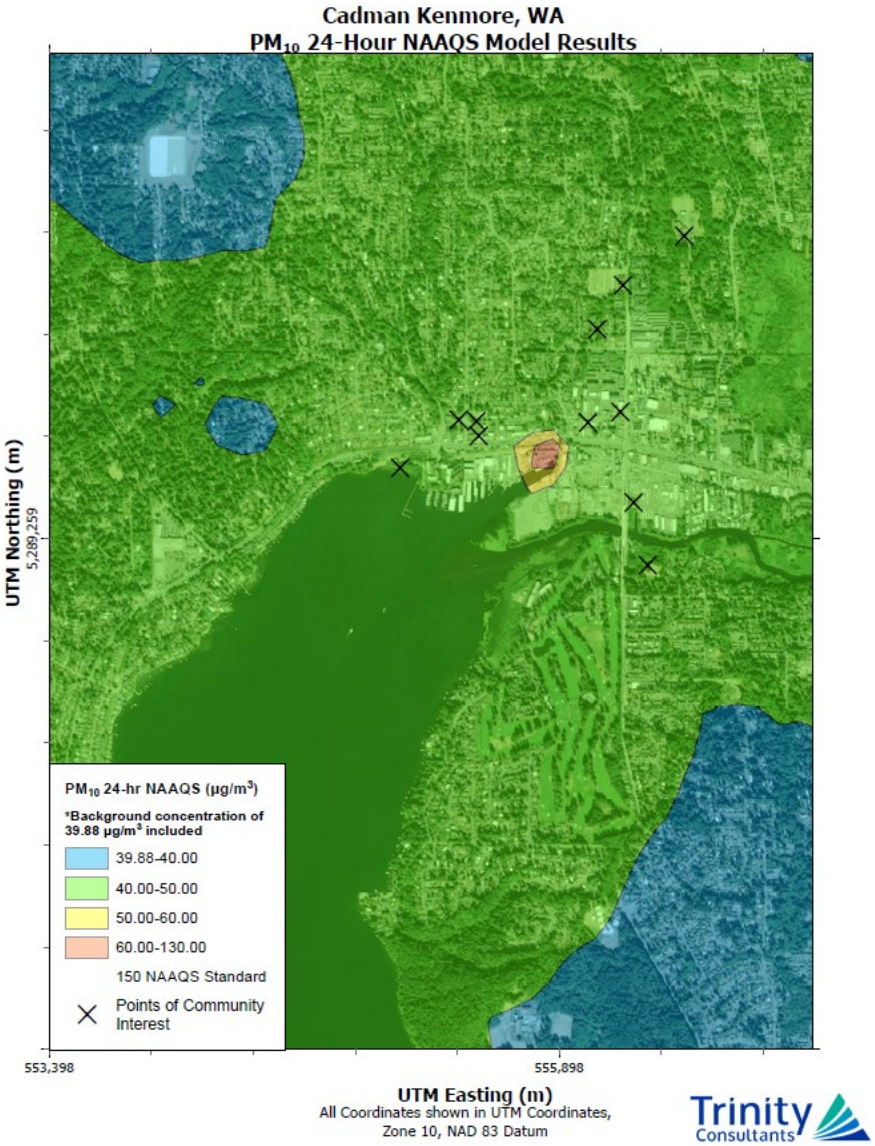
Parameter	Test Result Average	Emission Limit
Total PM gr/dscf at 7 percent oxygen	0.004	0.0052
Filterable PM gr/dscf at 7 percent oxygen	0.002	0.0026

Cadman Kenmore
Modeling Report - NA

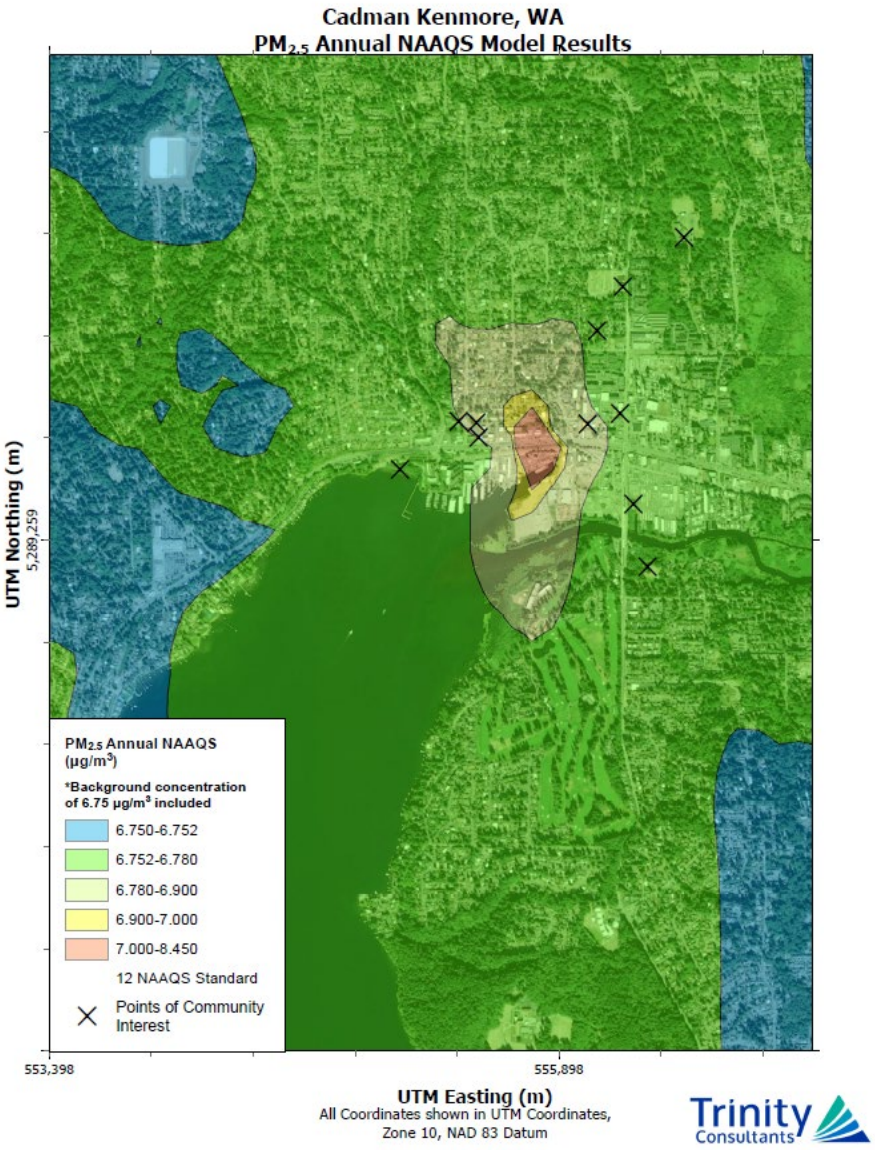
pscleanair.org
Puget Sound Clean Air Agency

Pollutant	Averaging Period	Design Concentration	Location		Concentration (µg/m³)			Exceeds NAAQS?
			UTM Easting (m)	UTM Northing (m)	Modeled	Total Concentration	NAAQS	
PM_{10}	24-hr	H6H	555,820.8	5,289,634.6	90.0	129.9	150	No
$PM_{2.5}$	Annual	NA	555,769.7	5,289,690.5	1.7	8.5	12	No
	24-hr	H8H	555,769.7	5,289,690.5	12.5	33.7	35	No
NO_2	Annual	NA	555,769.7	5,289,690.5	2.9	29.6	100	No
	1-hr	H8H	555,769.7	5,289,690.5	91.1	183.7	188	No
CO	8-hr	H2H	555,769.7	5,289,690.5	519.7	2042.8	10,000	No
	1-hr	H2H	555,770.2	5,289,661.4	1935.5	4363.3	40,000	No

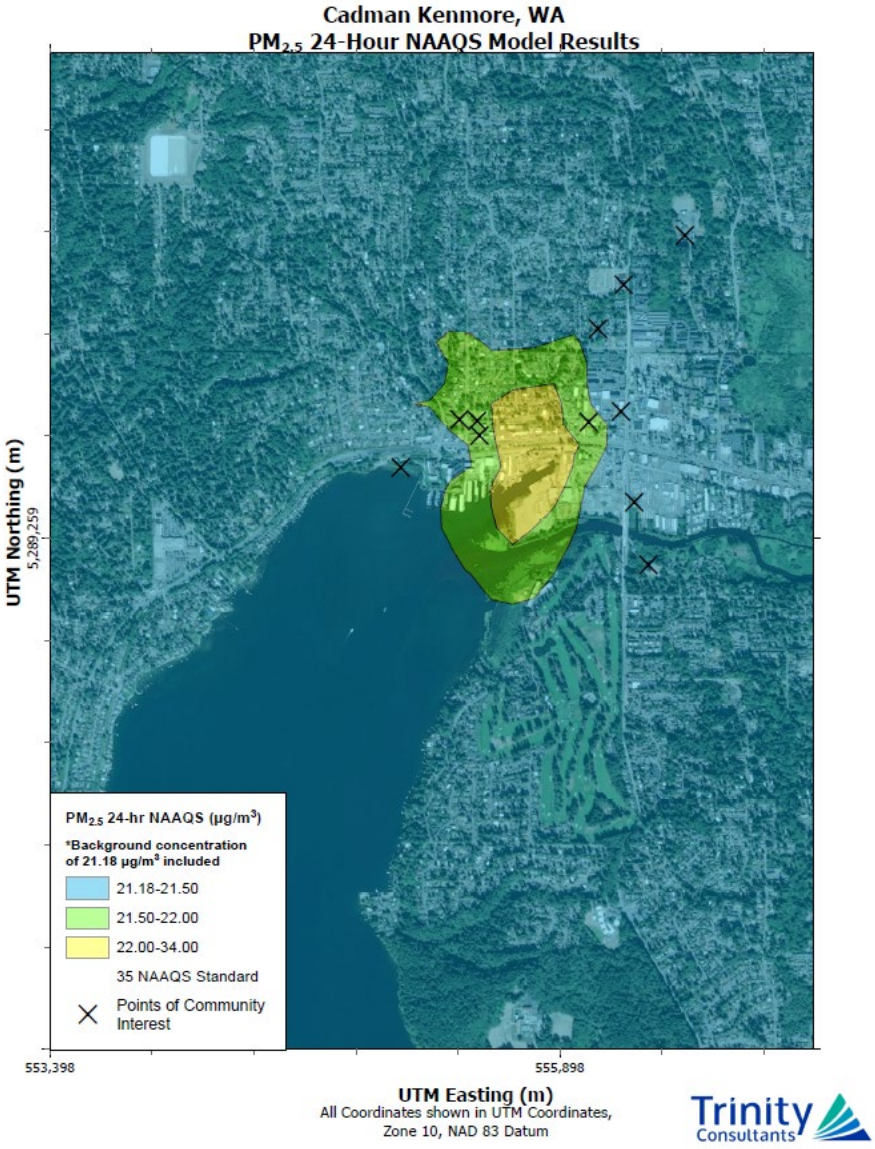
Location	UTM Easting (m)	UTM Northing (m)	Modeled Maximum Concentration (µg/m³)						
			PM_{10}	$PM_{2.5}$		NO_2		CO	
			24-hr	Annual	24-hr	Annual	1-hr	8-hr	1-hr
Lakeside School Boathouse	556,260.68	5,289,435.17	0.69	0.01	0.20	0.02	0.94	3.68	11.93
Kenmore Library	556,036.73	5,289,824.08	2.48	0.04	0.84	0.09	5.06	14.38	115
Lake Forest Park Cooperative Preschool	555,402.49	5,289,839.82	2.04	0.03	0.90	0.05	4.17	14.23	34.47
Kenmore Elementary	556,508.24	5,290,739.88	0.32	4.12E-03	0.09	7.98E-03	0.93	1.48	8.96
Log Boom Park	555,116.54	5,289,605.05	0.80	4.99E-03	0.25	5.64E-03	0.65	1.70	7.30
Rhododendron Park	556,331.01	5,289,129.96	0.25	7.23E-03	0.14	1.24E-02	0.95	4.05	10.50
Kenmore Town Square	556,195.21	5,289,874.64	1.21	0.02	0.41	0.05	2.13	6.77	49.66
Bethany Bible Church	555,502.06	5,289,758.64	2.57	0.03	1.14	0.06	5.13	23.75	47.17
Church of the Redeemer	555,489.23	5,289,830.94	2.40	0.04	1.11	0.09	6.70	19.55	61.75
Northlake Lutheran Church	556,081.58	5,290,281.53	0.72	0.02	0.37	0.03	3.52	11.04	88.25
Cedar Park Northshore Assembly of God	556,209.24	5,290,495.83	0.51	0.01	0.21	0.02	1.88	4.52	36.10



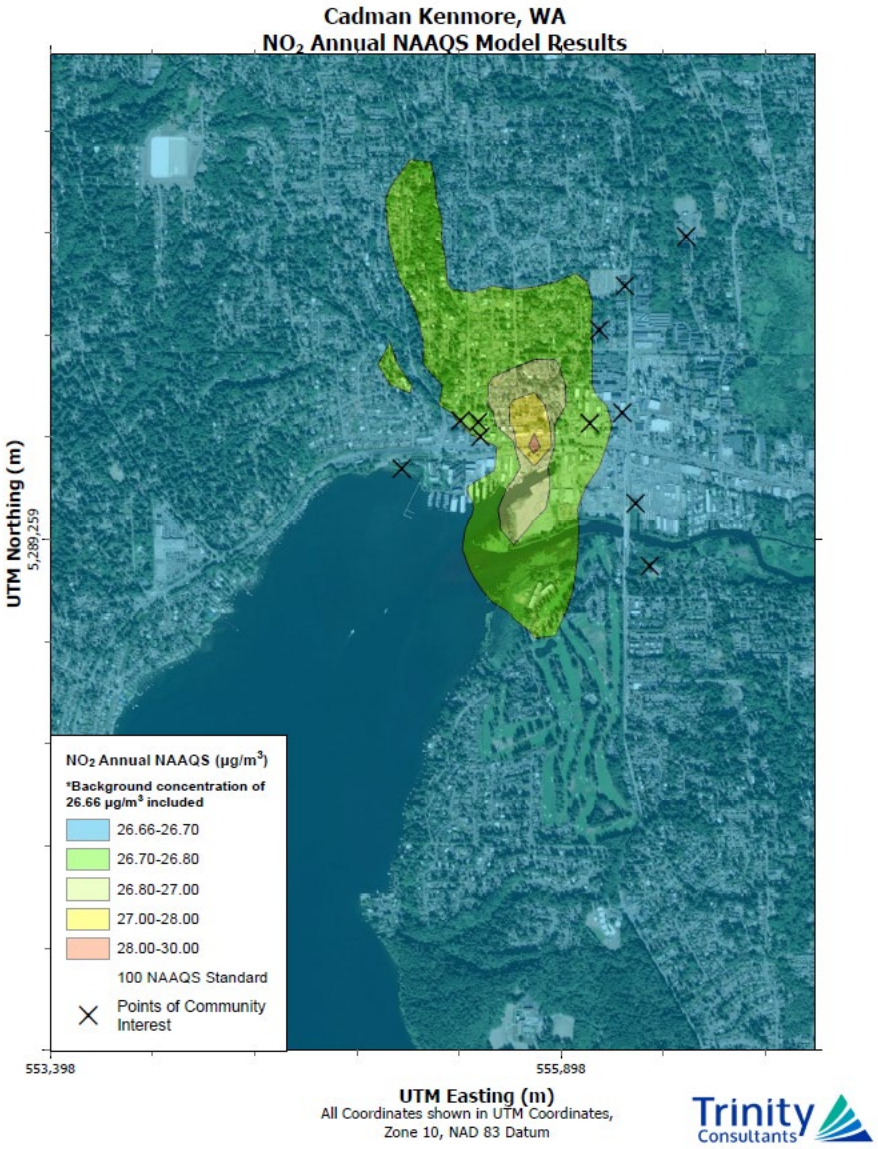
* Points of Community Interest, as defined by PSCAA, are found in Table 2-1. Sensitive Receptors



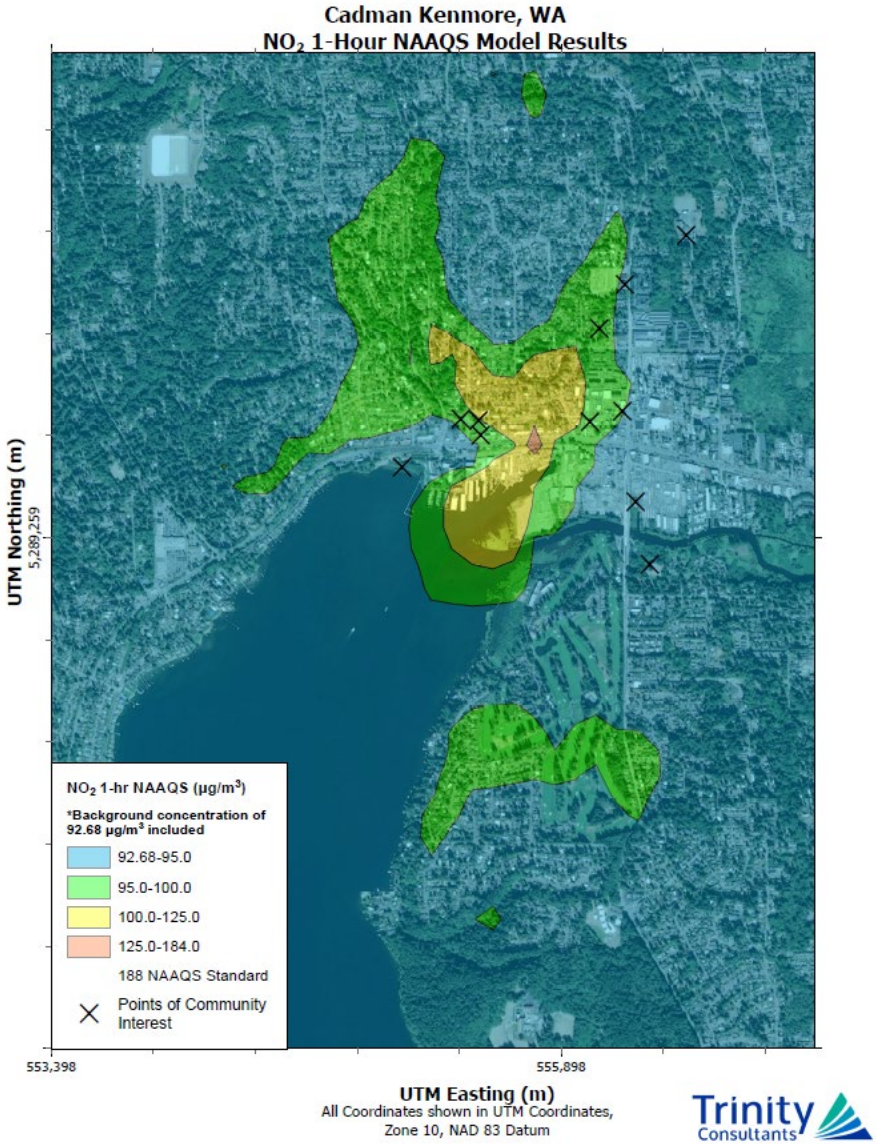
* Points of Community Interest, as defined by PSCAA, are found in Table 2-1. Sensitive Receptors



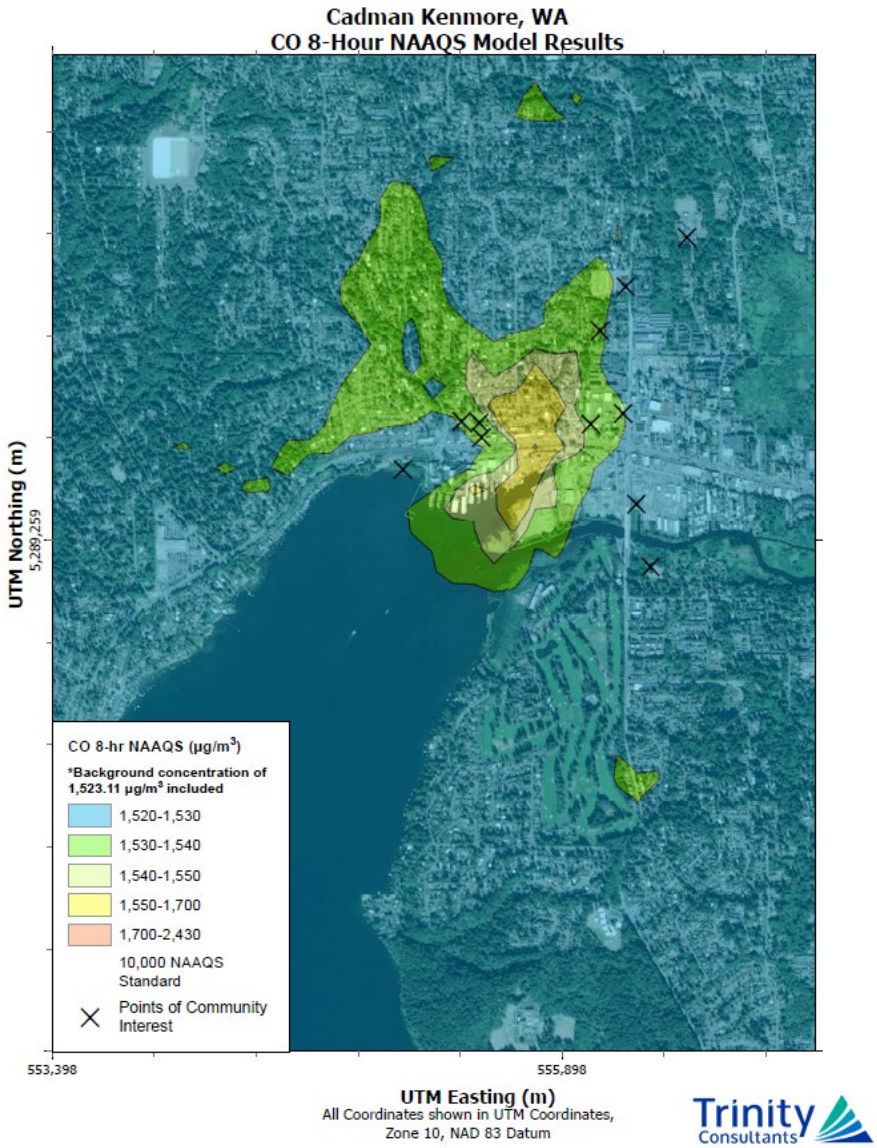
* Points of Community Interest, as defined by PSCAA, are found in Table 2-1. Sensitive Receptors



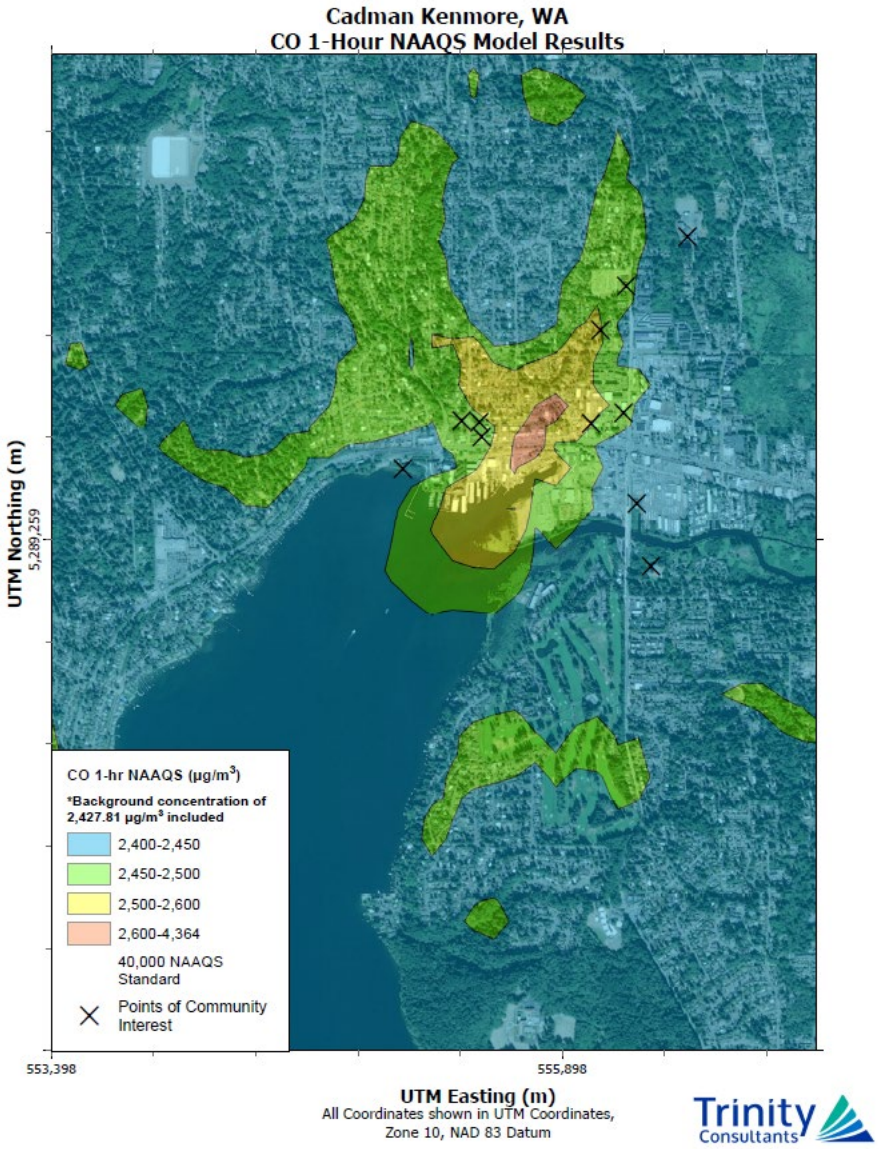
* Points of Community Interest, as defined by PSCAA, are found in Table 2-1. Sensitive Receptors



* Points of Community Interest, as defined by PSCAA, are found in Table 2-1. Sensitive Receptors



* Points of Community Interest, as defined by PSCAA, are found in Table 2-1. Sensitive Receptors



* Points of Community Interest, as defined by PSCAA, are found in Table 2-1. Sensitive Receptors

J. APPLICABLE RULES & REGULATIONS

Puget Sound Clean Air Agency Regulations

SECTION 5.05 (c): The owner or operator of a registered source shall develop and implement an operation and maintenance plan to ensure continuous compliance with Regulations I, II, and III. A copy of the plan shall be filed with the Control Officer upon request. The plan shall reflect good industrial practice and shall include, but not be limited to, the following:
(1) Periodic inspection of all equipment and control equipment;
(2) Monitoring and recording of equipment and control equipment performance;

(3) Prompt repair of any defective equipment or control equipment;
(4) Procedures for startup, shut down, and normal operation;
(5) The control measures to be employed to ensure compliance with Section 9.15 of this regulation; and
(6) A record of all actions required by the plan.
The plan shall be reviewed by the source owner or operator at least annually and updated to reflect any changes in good industrial practice.

SECTION 6.09: Within 30 days of completion of the installation or modification of a stationary source subject to the provisions of Article 6 of this regulation, the owner or operator or applicant shall file a Notice of Completion with the Agency. Each Notice of Completion shall be submitted on a form provided by the Agency and shall specify the date upon which operation of the stationary source has commenced or will commence.

SECTION 9.03: (a) It shall be unlawful for any person to cause or allow the emission of any air contaminant for a period or periods aggregating more than 3 minutes in any 1 hour, which is:
(1) Darker in shade than that designated as No. 1 (20% density) on the Ringelmann Chart, as published by the United States Bureau of Mines; or
(2) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Section 9.03(a)(1).
(b) The density or opacity of an air contaminant shall be measured at the point of its emission, except when the point of emission cannot be readily observed, it may be measured at an observable point of the plume nearest the point of emission.
(c) This section shall not apply when the presence of uncombined water is the only reason for the failure of the emission to meet the requirements of this section.

SECTION 9.09: General Particulate Matter (PM) Standard. It shall be unlawful for any person to cause or allow the emission of particulate matter in excess of the following concentrations:
Equipment Used in a Manufacturing Process: 0.05 gr/dscf

SECTION 9.11: It shall be unlawful for any person to cause or allow the emission of any air contaminant in sufficient quantities and of such characteristics and duration as is, or is likely to be, injurious to human health, plant or animal life, or property, or which unreasonably interferes with enjoyment of life and property.

SECTION 9.13: It shall be unlawful for any person to cause or allow the installation or use of any device or use of any means designed to mask the emission of an air contaminant which causes detriment to health, safety or welfare of any person.

SECTION 9.15: It shall be unlawful for any person to cause or allow visible emissions of fugitive dust unless reasonable precautions are employed to minimize the emissions. Reasonable precautions include, but are not limited to, the following:
(1) The use of control equipment, enclosures, and wet (or chemical) suppression techniques, as practical, and curtailment during high winds;
(2) Surfacing roadways and parking areas with asphalt, concrete, or gravel;

(3) Treating temporary, low-traffic areas (e.g., construction sites) with water or chemical stabilizers, reducing vehicle speeds, constructing pavement or rip rap exit aprons, and cleaning vehicle undercarriages before they exit to prevent the track-out of mud or dirt onto paved public roadways; or
(4) Covering or wetting truck loads or allowing adequate freeboard to prevent the escape of dust-bearing materials.

SECTION 9.16(c): General Requirements for Indoor Spray-Coating Operations. It shall be unlawful for any person subject to the provisions of this section to cause or allow spray-coating inside a structure, or spray-coating of any motor vehicles or motor vehicle components, unless all of the following requirements are met:
(1) Spray-coating is conducted inside an enclosed spray area;
(2) The enclosed spray area employs either properly seated paint arresters, or water-wash curtains with a continuous water curtain to control the overspray; and
(3) All emissions from the spray-coating operation are vented to the atmosphere through an unobstructed vertical exhaust vent.

REGULATION I, SECTION 9.20(a): It shall be unlawful for any person to cause or allow the operation of any features, machines or devices constituting parts of or called for by plans, specifications, or other information submitted pursuant to Article 6 of Regulation I unless such features, machines or devices are maintained in good working order.

Washington State Administrative Code

WAC 173-400-040(3): Fallout. No person shall cause or allow the emission of particulate matter from any source to be deposited beyond the property under direct control of the owner or operator of the source in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited.

WAC 173-400-040(4): Fugitive emissions. The owner or operator of any emissions unit engaging in materials handling, construction, demolition or other operation which is a source of fugitive emission:

(a) If located in an attainment area and not impacting any nonattainment area, shall take reasonable precautions to prevent the release of air contaminants from the operation.

WAC173-400-111(7): Construction limitations.

(a) Approval to construct or modify a stationary source becomes invalid if construction is not commenced within eighteen months after receipt of the approval, if construction is discontinued for a period of eighteen months or more, or if construction is not completed within a reasonable time. The permitting authority may extend the eighteen-month period upon a satisfactory showing by the permittee that an extension is justified.

Federal

40 CFR 60 Subpart A and Subpart I apply to this facility.

Subpart A:

60.4(b) Delegation of authority to PSCAA to enforce NSPS.

60.7(a)(1, 3, 4) Notification & Record keeping.

60.7(b) Maintain records including malfunctions.

60.8 Requirements for source testing. (Stack test has already been completed for the affected facility.)

60.11(a, b, c, e) Compliance requirements for PM_{10} & opacity. Note: requires that Method 9 tests include three one-hour observations conducted concurrently with the Method 5 test runs.

60.11(d) Operate consistent with good engineering control practices.

Subpart I:

60.90 Defines the applicable sources

60.91 Contains definitions

60.92 Has the PM emissions standard of 0.04 gr/dscf measured by EPA method 5 which is only the "Front-Half". 20 percent opacity limit.

60.93 Test methods include collecting a min of 31.8 dscf of sample for PM, and EPA Method 9 for opacity. (Stack test has already been completed for the affected facility.)

K. PUBLIC NOTICE

This project meets the criteria for mandatory public notice under WAC 173-400-171(3). Criteria requiring public notice includes, but is not limited to, a project that exceeds emission threshold rates as defined in WAC 173-400-030 (e.g. 40 tpy NOx, VOC, or SO_2, 100 tpy CO, 15 tpy PM_{10}, 10 tpy $PM_{2.5}$, 0.6 tpy lead), includes a WAC 173-400-091 synthetic minor limit, has a toxic air pollutant emission increase above the acceptable source impact level in WAC 173-460-150, or has significant public interest. A notice of application was posted on the Agency's website for 15 days. No requests or responses were received. A copy of the website posting is below:

pscleanair.org
Puget Sound Clean Air Agency

New Construction Projects

Company	Address	Project Description	Date Posted	Contact Engineer
NC 11861 Cadman Materials, Inc. (Cadman)	6431 NE 175th St, Kenmore, WA 98028	Equipment replacement at an existing hot mix asphalt plant including: dryer shell replacement; dryer baghouse alterations; replacement of asphalt storage tank condensers; and routing of truck loading emissions to baghouse.	11/26/19	Brian Renninger

The Agency has determined that there could be significant public interest in this project; therefore, the project meets the criteria for mandatory public notice under WAC 173-400-171(3)(n). In addition, the permit conditions establish limitations on the sources potential to emit which also requires a mandatory public notice under WAC 173-400-171(3)(k).

A 60-day public comment period for the draft Order of Approval and preliminary Determination of Nonsignificance was held March 3 through May 2, 2022. Notices that the draft materials were open to comment were published in the Seattle Times and the Daily Journal of Commerce on May 3. The Agency posted the application, the draft worksheet, the draft Order of Approval, the DNS and other relevant materials on the Agency's website during the comment period. In addition, the Agency held an online public hearing via Zoom on April 18, 2022, from 4 pm to 6 pm Pacific Time.

In addition, a public comment period for the Determination of Nonsignificance was held concurrently with the comment period for the draft Order of Approval.

Comments and responses for both public notice periods are in Appendix A to this worksheet.

L. RECOMMENDED APPROVAL CONDITIONS

Standard Conditions:

1. Approval is hereby granted as provided in Article 6 of Regulation I of the Puget Sound Clean Air Agency to the applicant to install or establish the equipment, device or process described hereon at the installation address in accordance with the plans and specifications on file in the Engineering Division of the Puget Sound Clean Air Agency.

2. This approval does not relieve the applicant or owner of any requirement of any other governmental agency.

Specific Conditions:

NEW SOURCE PERFORMANCE STANDARDS

3. This asphalt facility is subject to the federal Standards of Performance for Asphalt Concrete Plants under 40 CFR Part 60, Subpart I, and General Provisions under 40 CFR Part 60, Subpart A, as required by Conditions 4, 5, and 6 of this Order of Approval.

4. The owner or operator subject to the provisions of this subpart shall not discharge or cause the discharge into the atmosphere from any affected facility any gases which:

   a) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf).
   b) Exhibit 20 percent opacity, or greater.

5. The owner or operator shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a monitoring device is inoperative.

6. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

EMISSION LIMITS

7. Total particulate matter emissions from the plant exhaust stack shall not exceed 0.0052 gr/dscf (corrected to 7% O_2) as measured by U.S. EPA Method 5 as modified by Puget Sound Clean Air Agency Board Resolution 540 dated August 11, 1983.

8. Filterable particulate matter emissions from the plant exhaust stack shall not exceed 0.0026 gr/dscf (corrected to 7% O_2) as measured by U.S. EPA Method 5 as modified by Puget Sound Clean Air Agency Board Resolution 540 dated August 11, 1983.

9. Opacity from the plant exhaust stack shall not exceed 5% opacity for a period or periods aggregating more than 3 minutes during any one hour as measured by WDOE Method 9A.

10. Emissions of Non-Methane/Non-Ethane VOC (NMNEVOC) shall not exceed 0.032 lb NMNEVOC per ton of hot mixed asphaltic concrete produced. Compliance with this limit shall be determined by the average of three 60-minute test runs performed in accordance with Section 3.07 of PSCAA Regulation 1 and using EPA reference methods 1, 3A, 4, and 25A (using either an FID with a methane "cutter", OR using EPA Method 320 or EPA Method 18 to analyze for methane and ethane, and subtracting the methane and ethane results from the total VOC measured by the FID analyzer) from Appendix A of 40 CFR Part 60. NMNEVOC shall be expressed as propane. Other equivalent test methods may be used with prior written approval of the Agency.

11. Emissions of carbon monoxide shall not exceed 311.0 ppmvd (corrected to 7% O2) as determined by the average of three 60-minute test runs performed in accordance with Section 3.07 of PSCAA Regulation I and using USEPA reference methods 1, 3A, 4, and 10 from Appendix A of 40 CFR Part 60.

12. Emissions of oxides of nitrogen shall not exceed 32.0 ppmvd (corrected to 7% O2) as determined by the average of three 60-minute test runs performed in accordance with Section 3.07 of PSCAA Regulation I using USEPA reference methods 1, 3A, 4, and 7E from Appendix A of 40 CFR Part 60.

13. Emissions from the asphalt cement storage tanks shall not exceed 0% opacity as determined by WDOE Method 9A, except for one consecutive 15-minute period in any 24-hour period when the transfer lines are being blown for clearing. Record the date and time period of any asphalt transfer line blowing. During asphalt transfer line blowing the storage tanks shall not exceed 20% opacity for a period or periods aggregating more than 3 minutes during any one hour as measured by WDOE Method 9A.

FACILITY-WIDE EMISSION LIMIT

14. Facility-wide emissions of carbon monoxide shall not exceed 59.2 tons during any 12 consecutive months after the date of this Order.

15. Within 30 days of the end of each month, the owner or operator shall calculate the facility-wide carbon monoxide emissions for the previous 12 months using the monthly natural gas usage and either the BACT emission limit in Condition 11 or the results of the most recent carbon monoxide emission test that shows compliance with the BACT emission limit in Condition 11. For the purposes of this calculation, the BACT limit in Condition 11 or the source test results shall be converted to into terms of pounds of carbon monoxide per million Btu of fuel used using EPA Method 19.

16. The owner or operator shall notify the Puget Sound Clean Air Agency in writing, within 30 days after the end of each 12-month period if, during that period, emissions of CO exceed 55 tons. The report shall include emissions data for the time period for which these thresholds were exceeded.

17. By June 30th of each calendar year, the owner or operator must report to PSCAA the total emissions of carbon monoxide for the previous calendar year. The owner or operator must also report the emissions of any pollutant that exceeded the thresholds in PSCAA Regulation I, Section 5.05(b) for the previous calendar year. These emission reports must be submitted via email to EmissionReporting@pscleanair.gov or in the most current method in which PSCAA is receiving electronic submittal.

PRODUCTION LIMIT

18. The owner or operator shall record and limit the total production of asphalt to no more than 200,000 tons for any 12 consecutive months.

19. A notification of a violation of Condition 18 shall be sent to Puget Sound Clean Air Agency within 30 days following any month when the 12 consecutive month rolling total exceeds 200,000 tons per year of asphalt production.

20. The two hot oil (asphaltic cement) tanks shall not be used to store asphalt that has been blended with more than 7% petroleum distillates by weight. Records shall be kept of the dates any materials are loaded in the tanks, the amount loaded, and the type of material loaded.

OPERATING REQUIREMENTS

21. The dryer baghouse shall be equipped with a gauge measuring the pressure drop across the baghouse. The pressure gauge shall be in operation whenever the baghouse is in operation. The pressure gauge shall be marked with the acceptable pressure drop range. The maximum acceptable pressure drop shall be determined from manufacturer specifications for the bags used in the baghouse. The minimum acceptable pressure drop shall be determined from manufacturer specifications for the bags used in the baghouse. The pressure drop observed during the most recent compliance source test shall fall within the defined acceptable range of pressure drop. The acceptable range and the basis for the range shall be included in the facility Operations and Maintenance plan required by Agency Regulation I, Section 5.05(c)

SOURCE TESTING

22. The owner or operator shall test emissions for compliance with Conditions 7 through 13 of this Order within 90 days after issuance of this permit. The owner or operator shall also test emissions for compliance with Conditions 7, 8, 10, 11, and 12 at least once every 36 months. Additionally, the owner or operator shall test emissions for compliance with Conditions 9 and 13 at least once every 12 months. The owner or operator shall submit a compliance test plan with the test notification submitted under Regulation I, Section 3.07(b) at least 30 days prior to each compliance test. The test plan shall detail the test methods used for each pollutant, the operational data that will be collected during the test, and any other relevant information about the test.

23. During the emission tests required by Condition 22, the following operational data shall be collected during each test run and reported in the source test report:

    a) standard cubic feet of fuel combusted;

    b) aggregate moisture percentage (as measured by the Quality Control lab for a representative sample taken the day of the test);

    c) asphalt cement content percentage;

    d) baghouse pressure drop;

    e) baghouse fan speed (as a percentage of full speed);

    f) baghouse pulse cycle time;

g) flue gas damper setting (as a percentage of maximum opening); and

h) product specification produced during the run, a copy of the specification, and maximum temperature allowed by the specification.

MONITORING

24. When operating, the owner or operator shall monitor and record the following information:

a) one daily pressure drop across the baghouse;

b) one daily inspection for visible emissions and particulate fallout for the baghouse;

c) the hourly weight of asphalt produced;

d) annual (12 consecutive months rolling total) asphalt production;

e) monthly fuel use;

f) the product specification produced and the hour it was produced; and

g) the time (in hours) the drum dryer operated.

25. If the Control Officer or a duly authorized representative communicates to the owner or operator that he or she has detected an odor at level 2 or greater as defined in Agency's Regulation I, Section 9.11(b), beyond the property line that the Agency has documented to be attributable to or partially attributable to emissions from drum dryer, baghouse, or asphalt cement tanks, the owner or operator must comply with Condition 27. For the purposes of this condition documentation to be communicated includes: the nature of the odor, the assessed level of the odor (using the odor scale in Agency Regulation I, Section 9.11), the location of the detected odor, and the basis for the odors attribution to the listed equipment type(s).

26. If required by Condition 26, the owner or operator must immediately implement an odor response program that includes the following:

a. Upon receipt of a communication from the Control Officer or a duly authorized representative regarding an odor per Condition 25, initiate an investigation of the reported odor incident.
b. Take corrective action to reduce odors beyond the property line to Level 1 or lower (see Agency Regulation I, Section 9.11(b)) as soon as possible, but within 24 hours after receipt of the complaint.
c. Develop a report for each investigation that results from a communication by an Agency representative. The report must include the following:
    i. The date and time of when the communication was received.
    ii. The date and time of when the investigation was initiated.
    iii. Location of communicated odor and area investigated (including information provided by the Agency and any other areas the investigated identified).
    iv. The weather conditions during the event and investigation.

v. Description of whether the odor observation communicated was confirmed, steps taken during the investigation.
vi. Actions taken in response to the complaint.
vii. The date and time odors are no longer detected at the location of the complaint and any other odorous area identified during the investigation.

27. The owner or operator shall monitor for detectable odors that are attributable to emissions from drum dryer, baghouse, or asphalt cement tanks once each calendar week during dryer operation. No odor monitoring is required during calendar weeks the dryer does not operate. Locations to be monitored include accessible downwind segments: along the Burke-Gilman Trail parallel with the facility property line; between 62nd and 65th/66th avenues NE on NE Bothell Highway, 181st St, 182nd St, 183rd St, and 184th St; and the Kenmore Library parking lot. For at least one hour immediately prior to monitoring, the person performing the monitoring must remain in an atmosphere free of facility-related odors. Records of the monitoring shall be kept of the date, the time, the monitoring location, the wind direction at the time of the observation, and whether or not any odors were detected and, if so, the character of the odor. If any odors attributable to emissions from drum dryer, baghouse, or asphalt cement tanks of level 2 or greater are detected during monitoring or at any other time, the owner or operator shall immediately initiate corrective action to reduce the odor to Level 1 or less (as defined in Agency Regulation I, Section 9.11(b)) and record the nature of any corrective actions taken.

COMPLAINTS

28. The owner or operator shall establish a complaint response program as part of the O&M Plan. The program shall include a complaint phone line, criteria, and methods for establishing whether Cadman Materials, Inc. is the source of emissions related to the complaint, and a format for communicating results of investigation and advising complainants of Cadman Materials, Inc. corrective actions.

a) The owner or operator shall record and investigate complaints received regarding air quality as soon as possible, but no later than one working day after receipt.

b) The owner or operator shall correct any problems identified by these complaint investigations within 24 hours of identification or cease operation of the equipment until the problem is resolved;

c) Records of all complaints received regarding air quality issues shall include information regarding date and time of complaint; name and address of complainant (if known); nature of the complaint; investigation efforts completed and basis for conclusion reached; and date, time, and nature of any corrective action taken.

RECORDS

29. The owner or operator shall maintain records required by this Order of Approval, as well as the records identified in the Operation and Maintenance Plan required by Regulation I, Section 5.05, for two years and make them available to Puget Sound Clean Air Agency personnel upon request.

30. Upon issuance of this Order of Approval, this Order supersedes and cancels Order of Approval No. 939 dated April 4, 1973, Order of Approval 1938 issued July 16,1998, and Order of Approval 3536 issued January 20, 2006.

M. CORRESPONDENCE AND SUPPORTING DOCUMENTS

N. REVIEWS

Reviews	Name	Date
Engineer:	Brian Renninger	2/28/2022
Inspector:	Melissa McAfee	1/28/2022
Second Review:	John Dawson	2/8/2022 2/28/2022
Applicant Name:	Christy McDonough	Comments received 2/23/2022