



TECHNICAL SUPPORT DOCUMENT

**Air Discharge Permit / Nonroad Engine Permit 25-3698
Air Discharge Permit Application CL-3266**

Issued: April 9, 2025

3 Kings Environmental Inc.

SWCAA ID – 2264

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Southwest Clean Air Agency

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ABBREVIATIONS

List of Acronyms

ADP	Air Discharge Permit	NOV	Notice of Violation/
AP-42	Compilation of Emission Factors, AP-42, 5th Edition, Volume 1, Stationary Point and Area Sources – published by EPA	NSPS	New Source Performance Standard
BACT	Best available control technology	PSD	Prevention of Significant Deterioration
BART	Best Available Retrofit Technology	RACT	Reasonably Available Control Technology
CAM	Compliance Assurance Monitoring	RCW	Revised Code of Washington
CFR	Code of Federal Regulations	Standard	Standard conditions at a temperature of 68°F (20°C) and a pressure of 29.92 in Hg (760 mm Hg)
EPA	U.S. Environmental Protection Agency	SWCAA	Southwest Clean Air Agency
EU	Emission Unit	T-BACT	Best Available Control Technology for toxic air pollutants
LAER	Lowest achievable emission rate	WAC	Washington Administrative Code
NESHAP	National Emission Standards for Hazardous Air Pollutants		

List of Units and Measures

μm	Micrometer (10 ⁻⁶ meter)	ppm	Parts per million
acfm	Actual cubic foot per minute	ppmv	Parts per million by volume
bhp	Brake horsepower	ppmvd	Parts per million by volume, dry
dscfm	Dry Standard cubic foot per minute	ppmw	Parts per million by weight
gpm	Gallon per minute	psig	Pounds per square inch, gage
hp	Horsepower	rpm	Revolution per minute
kW	Kilowatt	scfm	Standard cubic foot per minute
MMBtu	Million British thermal unit	tph	Ton per hour
MMcf	Million cubic feet	tpy	Tons per year

List of Chemical Symbols, Formulas, and Pollutants

CO.....	Carbon monoxide	PM	Particulate Matter with an aerodynamic diameter 100 µm or less
CO ₂	Carbon dioxide		
CO ₂ e.....	Carbon dioxide equivalent	PM ₁₀	PM with an aerodynamic diameter 10 µm or less
HAP	Hazardous air pollutant listed pursuant to Section 112 of the Federal Clean Air Act	PM _{2.5}	PM with an aerodynamic diameter 2.5 µm or less
Hg.....	Mercury	SO ₂	Sulfur dioxide
NO ₂	Nitrogen dioxide	SO _x	Sulfur oxides
NO _x	Nitrogen oxides	TAP.....	Toxic air pollutant pursuant to Chapter 173-460 WAC
O ₂	Oxygen	VOC.....	Volatile organic compound
O ₃	Ozone		

Terms not otherwise defined have the meaning assigned to them in the referenced regulations or the dictionary definition, as appropriate.

1. FACILITY IDENTIFICATION

Applicant Name: 3 Kings Environmental, Inc.
Applicant Address: PO Box 280, Battle Ground, WA 98604

Facility Name: 3 Kings Environmental, Inc.
Facility Address: 15001 NE 10th Ave, Vancouver WA, 98604

SWCAA Identification: 2264

Contact Person: Randy Goecke, Equipment Manager

Primary Process: Rock Crushing Facility
SIC/NAICS Code: 1429 / Crushed and Broken Stone
212319 / Other Crushed and Broken Stone Mining and Quarrying

Facility Latitude: 45° 43' 48.25" N
Facility Longitude: 122° 39' 31.86" W
Facility Classification: Natural Minor

2. FACILITY DESCRIPTION

3 Kings Environmental Inc. operates a portable track-mounted rock crushing plant. The plant is used to crush rock and demolition debris. The plant consists of multiple rock crushers, each driven by a nonroad diesel engine.

3. CURRENT PERMITTING ACTION

This permitting action is in response to Air Discharge Permit / Nonroad Engine Permit (ADP/NEP) application number CL-3266 dated March 21, 2024. 3 Kings Environmental Inc. submitted ADP/NEP application CL-3266 requesting the following:

- Approval to operate a Powerscreen Trakpactor 320SR impact crusher powered by a Scania DC09 nonroad diesel engine

ADP/NEP 25-3698 will supersede ADP 08-2814 in its entirety.

4. PROCESS DESCRIPTION

- 4.a. Aggregate Crushing and Handling. This facility crushes, screens, and stores rock, recycled asphalt, and reclaimed concrete. Material is handled in bulk using trucks, front end loaders, and excavators. The facility operates a portable rock crushing plant that handles demolition at different locations. Not all equipment is located on site because it is a mobile operation. High pressure water spray is used to control fugitive dust at the infeed of the crushers and

screens. General wet suppression is used as necessary to control fugitive dust from conveyor transfer points, storage piles, and haul roads.

5. EQUIPMENT/ACTIVITY IDENTIFICATION

- 5.a. Jaw Crusher (Existing): The Terex-Pegson XA400S jaw crusher is a single piece of equipment consisting of a feed hopper, a jaw crusher, three screens, and three discharge conveyors. The single unit has a self-contained Caterpillar C-9 engine/generator to provide direct power to the unit.

Make:	Terex-Pegson
Model:	XA400S
Type:	Jaw
Serial Number:	400146EAXA
Date Built:	May 7, 2007
Capacity:	350 tph
NSPS Applicable:	Subpart OOO applicable

- 5.b. Screen (Existing): The Chieftain Powerscreen is a separate, standalone screen from the integrated screens on the two crushers. The screen has a self-contained Deutz engine/generator to provide direct power to the unit.

Make:	Chieftain Powerscreen
Model:	1400
Serial Number:	6620764
Date Built:	2006
Capacity:	440 tph
NSPS Applicable:	Subpart OOO applicable if operated in conjunction with an affected crusher

- 5.c. Impact Crusher (New): The Powerscreen Trakpactor impact crusher is a single piece of equipment consisting of a feed hopper, four bar impact crusher, double deck post screen, recirculating conveyer, and three discharge conveyers. The single unit has a self-contained Scania DC09 engine to provide direct power to the unit.

Make:	Powerscreen Trakpactor
Model:	320SR
Type:	Impact
Serial Number:	PID320SRCOMN68905
Date Built:	2022
Capacity:	320 tph
NSPS Applicable:	Subpart OOO applicable

- 5.d. Nonroad Caterpillar C-9 Diesel Engine (Existing). The Terex-Pegson XA400S crusher is powered by a diesel-fired Caterpillar C-9 engine/generator.

Engine Make:	Caterpillar
Engine Model:	C-9 ACERT
Serial Number:	MBD02719
Engine Output Rating:	230 bhp at 1600 rpm
Manufacture Date:	October 12, 2006
Certification:	EPA Tier 3
Fuel Consumption:	14.7 gal/hr at full standby load
Exhaust Flow Rate:	1,805 acfm @ 3% O ₂
Stack Height:	11 ft from ground
Stack Diameter:	3 ³ / ₈ ", circular
Stack Temperature:	820°F
Federal Regulations:	40 CFR 1039

- 5.e. Nonroad Deutz Diesel Engine (Existing). The Chieftain Powerscreen is powered by a diesel-fired Deutz engine.

Engine Make:	Deutz
Engine Model:	BF4M 2012
Serial Number:	10225137
Engine Output Rating:	96 bhp at 2,200 rpm
Manufacture Date:	October 20, 2006
Certification:	EPA Tier 2
Fuel Consumption:	4.8 gal/hr at full standby load
Exhaust Flow Rate:	703 acfm @ 3% O ₂
Stack Height:	6 ft-1" from ground
Stack Diameter:	2 ³ / ₈ ", circular
Stack Temperature:	1,040°F
Federal Regulations:	40 CFR 1039

- 5.f. Nonroad Scania Diesel Engine (New). The Powerscreen Trakpactor 320SR impact crusher is powered by a diesel fired Scania Engine.

Engine Make:	Scania
Engine Model:	DC09 085A
Engine Serial Number:	7359951
Engine Output Rating:	350 bhp at 2100 rpm
Manufacture Date:	2022
Certification:	EPA Tier 4
Fuel Consumption:	24.6 gal/hr at full standby load
Exhaust Flow Rate:	1,775 acfm @ 3% O ₂
Stack Height:	14' from ground
Stack Diameter:	6"
Stack Temperature:	800°F
Federal Regulations:	40 CFR 1039

5.g. Haul Roads (*Existing*). Haul road length will depend on the location of the equipment. A total round-trip haul distance of 0.5 mile of unpaved road per trip was assumed for emission calculation purposes and is believed to be conservative for most locations.

5.h. Equipment/Activity Summary.

ID No.	Equipment/Activity	Control Equipment/Measure
1	Terex-Pegson jaw crusher, Model XA400S, s/n: 400146EAXA	High Pressure Wet Suppression
2	Chieftain Powerscreen, Model 1400, s/n: 6620764	High Pressure Wet Suppression
3	Trakpactor Powerscreen, Model 320SR, s/n: PID320SRCOMN68905	High Pressure Wet Suppression
4	Nonroad Caterpillar Engine, C-9 ACERT, s/n: MBD02719	Ultra-low Sulfur Diesel EPA Tier 3 Certification
5	Nonroad Deutz Engine, BF4M 2012, s/n: 10225137	Ultra-low Sulfur Diesel EPA Tier 2 Certification
6	Nonroad Scania Engine, DC09 085A, s/n: 7359951	Ultra-low Sulfur Diesel EPA Tier 4 Certification
7	Haul Roads	Wet suppression

6. EMISSIONS DETERMINATION

Unless otherwise specified by SWCAA, actual emissions must be determined using the specified input parameter listed for each emission unit and the following hierarchy of methodologies:

- (a) Continuous emissions monitoring system (CEMS) data;
- (b) Source emissions test data (EPA reference method). When source emissions test data conflicts with CEMS data for the time period of a source test, source test data must be used;
- (c) Source emissions test data (other test method); and
- (d) Emission factors or methodology provided in this TSD.

- 6.a. Crushing and Screening Operations. Potential emissions from crushing, screening, and material transfer are calculated from aggregate throughput and emission factors from EPA AP-42, Table 11.19.2-2 (8/04). Emission factors for all stages except primary crushing are "controlled" factors from the 8/04 version of the table. Emission factors for primary crushing are taken from the 1/95 version of the table which only provided an 'uncontrolled' PM factor for primary crushing. An 'uncontrolled' factor for PM₁₀ was calculated using the 2.1:1 ratio of PM to PM₁₀ specified in the table footnotes. An 'uncontrolled' factor for PM_{2.5} was calculated using a PM to PM_{2.5} ratio of 12:1 which is based on the tested PM to PM_{2.5} ratio for tertiary crushing in the 8/04 version of the table. A control efficiency of 80% was applied to the primary crushing factors to account for the use of wet suppression.

Activity	Throughput (tpy)	Pollutant	Emission Factor - Controlled (lb/ton)	Transfer Points	Emissions (lb/yr)
Primary crushing (3" - 12")	200,000	PM	0.00014	9	28
		PM ₁₀	0.000067		13
		PM _{2.5}	0.000012		2
Secondary crushing (1" - 4")	200,000	PM	0.0012		240
		PM ₁₀	0.00054		108
		PM _{2.5}	0.0001		20
Tertiary crushing (3/16" - 1")	200,000	PM	0.0012		240
		PM ₁₀	0.00054		108
		PM _{2.5}	0.0001		20
Screening	200,000	PM	0.0022		440
		PM ₁₀	0.00074		148
		PM _{2.5}	0.00005		10
Loading/conveying	200,000	PM	0.00014		252
		PM ₁₀	0.000046		83
		PM _{2.5}	0.000013		23
Blasting	0	PM	0.0015		0
		PM ₁₀	0.00079		0
		PM _{2.5}	0.000046		0

- 6.b. Haul Roads. Emissions from haul roads were calculated using default emission calculations from EPA AP-42, Section 13.2.2 (12/03), an average load weight of 20 tons, an average silt content of 4.8%, and an average round trip distance of 0.5 miles. This does not include in-pit activities by nonroad equipment. The use of wet suppression is expected to provide an overall control efficiency of 80% for haul road emissions.

$$E = k \left(\frac{s}{12} \right)^a \left(\frac{w}{3} \right)^b$$

Where: w = average truck weight in tons;

s = road surface silt content (%); and

The constants k, a, and b are given in the table below:

Constant	PM _{2.5}	PM ₁₀	PM ₃₀ (assumed to represent PM)
k (lb/vehicle mile traveled)	0.23	1.5	4.9
a	0.9	0.9	0.7
b	0.45	0.45	0.45

Maximum haul road emissions are estimated in the table below.

Haul Road Emissions				
Average Truck Weight =	27 tons (assumes empty weight of 17 tons)			
Average Round Trip Distance =	0.50 miles			
Amount of Aggregate per Load =	20.0 tons			
Total # of Trips =	10,000 loads			
Total Miles Traveled =	5,000 miles			
Assumed Silt Content =	4.8%			
Assumed Control (wet suppression) =	80%			
Pollutant	Uncontrolled		Controlled	
	EF lb/mile	EF lb/mile	Emissions tpy	EF Source
PM	6.94	1.39	3.47	AP-42 13.2.2 (11/06)
PM ₁₀	1.77	0.35	0.88	AP-42 13.2.2 (11/06)
PM _{2.5}	0.27	0.054	0.14	AP-42 13.2.2 (11/06)

- 6.c. Nonroad Caterpillar C9 Diesel Engine (s/n: MBD02719). Potential annual emissions from the combustion of diesel (<0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 2,000 hours per year.

Caterpillar C-9 Diesel-Fired Engine (s/n: MBD02719)						
Hours of Operation =		2,000 hours				
Power Output =		230 horsepower				
Diesel Density =		7.206 pounds per gallon				
Fuel Sulfur Content =		0.0015 % by weight				
Fuel Consumption Rate =		14.70 gallons per hour				
Fuel Heat Content =		0.138 MMBtu/gal (for use with GHG factors from 40 CFR 98)				
Annual Fuel Consumption =		29,400 gallons				
		Emission	Emission			
		Factor	Factor	Emissions	Emission Factor	
Pollutant		g/kW-hr	lb/hr	tpy	Source	
NO _X		2.01	0.76	0.76	EPA Cert Results - Discrete Modal	
CO		1.95	0.74	0.74	EPA Cert Results - Discrete Modal	
VOC		0.24	0.091	0.091	EPA Cert Results - Discrete Modal	
SO _X as SO ₂		0.000014	0.0032	0.0032	Mass Balance	
PM/PM ₁₀ /PM _{2.5}		0.05	0.019	0.0189	EPA Cert Results - Discrete Modal	
				CO ₂ e	CO ₂ e	Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO ₂ e	Source
CO ₂	73.96	1	163.05	23	331	40 CFR 98
CH ₄	0.003	25	0.165	0.023	0.34	40 CFR 98
N ₂ O	0.0006	298	0.394	0.054	0.80	40 CFR 98
Total GHG - CO ₂ e			163.613	23	332	

- 6.d. Nonroad Deutz BF4M Diesel Engine. Potential annual emissions from the combustion of ultra-low sulfur diesel (<0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 2,000 hours per year.

Deutz BF4M 2012 Diesel-Fired						
Hours of Operation =		2,000 hours				
Power Output =		96 horsepower				
Diesel Density =		7.206 pounds per gallon				
Fuel Sulfur Content =		0.0015 % by weight				
Fuel Consumption Rate =		4.80 gallons per hour				
Fuel Heat Content =		0.138 MMBtu/gal (for use with GHG factors from 40 CFR 98)				
Annual Fuel Consumption =		9,600 gallons				
	Emission	Emission				
	Factor	Factor	Emissions	Emission Factor		
Pollutant	g/kW-hr	lb/hr	tpy	Source		
NO _x	0.72	0.11	0.11	EPA Cert Results - Discrete Modal		
CO	0.070	0.01	0.01	EPA Cert Results - Discrete Modal		
VOC	0.010	0.002	0.0016	EPA Cert Results - Discrete Modal		
SO _x as SO ₂	0.000011	0.0010	0.0010	Mass Balance		
PM/PM ₁₀ /PM _{2.5}	0.013	0.002	0.0021	EPA Cert Results - Discrete Modal		
			CO ₂ e	CO ₂ e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO ₂ e	Source
CO ₂	73.96	1	163.05	23	108	40 CFR 98
CH ₄	0.003	25	0.165	0.023	0.11	40 CFR 98
N ₂ O	0.0006	298	0.394	0.054	0.26	40 CFR 98
Total GHG - CO ₂ e			163.613	23	108	

- 6.e. Nonroad Scania DC09 Diesel Engine. Potential annual emissions from the combustion of ultra-low sulfur diesel (<0.0015% sulfur by weight) were calculated with the assumption that the equipment will operate at full load for up to 2,000 hours per year.

Scania DC09 Diesel Fired						
Hours of Operation =	2,000 hours					
Power Output =	350 horsepower					
Diesel Density =	7.206 pounds per gallon					
Fuel Sulfur Content =	0.0015 % by weight					
Fuel Consumption Rate =	24.60 gallons per hour					
Fuel Heat Content =	0.138 MMBtu/gal (for use with GHG factors from 40 CFR 98)					
Annual Fuel Consumption =	49,200 gallons					
	Emission	Emission				
	Factor	Factor	Emissions	Emission Factor		
Pollutant	g/kW-hr	lb/hr	tpy	Source		
NO _x	0.16	0.0921	0.0921	EPA Cert Results		
CO	0.10	0.0575	0.0575	EPA Cert Results		
VOC	0.01	0.0058	0.0058	EPA Cert Results		
SO _x as SO ₂	1.5E-05	0.0053	0.0053	Mass Balance		
PM/PM ₁₀ /PM _{2.5}	0.02	0.0115	0.0115	EPA Cert Results		
			CO ₂ e	CO ₂ e	Emission Factor	
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO ₂ e	Source
CO ₂	73.96	1	163.05	23	554	40 CFR 98
CH ₄	0.003	25	0.165	0.023	0.56	40 CFR 98
N ₂ O	0.0006	298	0.394	0.054	1.34	40 CFR 98
Total GHG - CO ₂ e			163.613	23	555	

- 6.f. Emissions Summary

Air Pollutant	Potential to Emit (tpy)	Project Impact (tpy)
NO _x	3.06	+0.09
CO	2.10	+0.06
VOC	0.26	+0.006
SO ₂	0.01	+0.005
Lead	0.00	+0.00
PM	4.15	+0.086
PM ₁₀	1.19	+0.030
PM _{2.5}	0.25	+0.018

Air Pollutant	Potential to Emit (tpy)	Project Impact (tpy)
TAP	0.00	+0.00
HAP	0.00	+0.00
CO ₂ /CO _{2e}	996	+555

7. REGULATIONS AND EMISSION STANDARDS

Regulations have been established for the control of emissions of air pollutants to the ambient air. Regulations applicable to the proposed facility that have been used to evaluate the acceptability of the proposed facility and establish emission limits and control requirements include, but are not limited to, the following regulations, codes, or requirements. These items establish maximum emissions limits that could be allowed and are not to be exceeded for new or existing facilities. More stringent limits are established in this Permit consistent with implementation of Best Available Control Technology (BACT):

- 7.a. Title 40 Code of Federal Regulations (40 CFR) Part 60.670 et seq. (Subpart OOO) "Standards of Performance for Nonmetallic Mineral Processing Plants" establishes opacity and particulate matter emission limits for stationary (fixed) plants with capacities greater than 25 tons per hour and portable plants greater than 150 tons per hour that were constructed, reconstructed or modified after August 31, 1983. This regulation is applicable to the rock crusher proposed in ADP/NEP Application CL-3266. This regulation is applicable to accessory equipment (e.g., screens or conveyors) whenever they are operated in conjunction with an affected crushing unit.
- 7.b. 40 CFR Part 1039 includes requirements for all nonroad engines. In accordance with Appendix A to Subpart A of Part 1074, states are precluded from requiring retrofitting of nonroad engines except that states are permitted to adopt and enforce any such retrofitting requirements identical to California requirements which have been authorized by EPA under section 209 of the Clean Air Act. States may enforce regulations such as hours of usage, daily mass emission limits, and sulfur limits on fuel.

The definition of nonroad engines in 40 CFR 1068 includes any internal combustion engine in (1)(i) "It is (or will be) used in or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function (such as garden tractors, off-highway mobile cranes and bulldozers)."

- 7.c. 40 CFR 60 Subpart IIII (60.4200 et seq.) "Standards of Performance for Stationary Compression Ignition Internal Combustion Engines" applies to each compression ignition (CI) internal combustion engine (ICE) that commences construction after July 11, 2005, and is manufactured after April 1, 2006, or that is modified or reconstructed after July 11, 2005. The diesel engines powering the rock crushing equipment are not subject to this regulation because they are nonroad engines.

- 7.d. Revised Code of Washington (RCW) 70A.15.2040 empowers any activated air pollution control authority to prepare and develop a comprehensive plan or plans for the prevention, abatement, and control of air pollution within its jurisdiction. An air pollution control authority may issue such orders as may be necessary to effectuate the purposes of the Washington Clean Air Act (RCW 70A.15) and enforce the same by all appropriate administrative and judicial proceedings subject to the rights of appeal as provided in Chapter 62, Laws of 1970 ex. sess. This law applies to the facility.
- 7.e. RCW 70A.15.2210 provides for the inclusion of conditions of operation as are reasonably necessary to assure the maintenance of compliance with the applicable ordinances, resolutions, rules and regulations when issuing an ADP/NEP for installation and establishment of an air contaminant source. This law applies to the facility.
- 7.f. Washington Administrative Code (WAC) 173-460 "Controls for New Sources of Toxic Air Pollutants" requires BACT for toxic air pollutants (T-BACT), identification and quantification of emissions of toxic air pollutants and demonstration of protection of human health and safety.

The only sources of TAPs at this facility are the nonroad engines, however nonroad engines are not subject to WAC 173-460.

- 7.g. WAC 173-476 "Ambient Air Quality Standards" establishes ambient air quality standards for PM₁₀, PM_{2.5}, lead, SO₂, NO_x, ozone, and CO in the ambient air, which must not be exceeded. The facility emits PM₁₀, PM_{2.5}, SO_x, NO_x, and CO; therefore, certain sections of this regulation apply. The facility does not emit lead; therefore, the lead regulation section does not apply.
- 7.h. SWCAA 400-040 "General Standards for Maximum Emissions" requires all new and existing sources and emission units to meet certain performance standards with respect to Reasonably Available Control Technology (RACT), visible emissions, fallout, fugitive emissions, odors, emissions detrimental to persons or property, SO₂, concealment and masking, and fugitive dust. This regulation applies to the facility.
- 7.i. SWCAA 400-040(1) "Visible Emissions" requires that emissions of an air contaminant from any emissions unit must not exceed twenty percent opacity for more than three minutes in any one hour at the emission point, or within a reasonable distance of the emission point. This regulation applies to the facility.
- 7.j. SWCAA 400-040(2) "Fallout" requires that no emission of particulate matter from any source shall be deposited beyond the property under direct control of the owner(s) or operator(s) of the source in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited. This regulation applies to the facility.

- 7.k. SWCAA 400-040(3) "Fugitive Emissions" requires that reasonable precautions be taken to prevent the fugitive release of air contaminants to the atmosphere. This regulation applies to the facility.
- 7.l. SWCAA 400-040(4) "Odors" requires any source which generates odors that may unreasonably interfere with any other property owner's use and enjoyment of their property to use recognized good practice and procedures to reduce these odors to a reasonable minimum. This regulation applies to this facility.
- 7.m. SWCAA 400-040(5) "Emissions Detrimental to Persons or Property" prohibits the emission of any air contaminant from any "source" if it is detrimental to the health, safety, or welfare of any person, or causes damage to property or business. This regulation applies to this facility.
- 7.n. SWCAA 400-040(6) "Sulfur Dioxide" requires that no person shall emit a gas containing in excess of 1,000 ppm of sulfur dioxide on a dry basis, corrected to 7% O₂ or 12% CO₂ as required by the applicable emission standard for combustion sources.
- 7.o. SWCAA 400-040(8) "Fugitive Dust Sources" requires that reasonable precautions be taken to prevent fugitive dust from becoming airborne and minimize emissions.
- 7.p. SWCAA 400-045 "Permit Applications for Nonroad Engines" requires, with a few exceptions, submittal of a permit application for installation of nonroad engines as defined in 40 CFR 89. This regulation is applicable to the nonroad engine proposed for use by the permittee.
- 7.q. SWCAA 400-046 "Application Review Process for Nonroad Engines" requires that a nonroad engine permit be issued by the agency prior to the installation, replacement or alteration of any nonroad engine subject to the requirements of SWCAA 400-045. Each application must demonstrate that the installation will not cause an exceedance of any national or state ambient air quality standard.
- 7.r. SWCAA 400-060 "Emission Standards for General Process Units" prohibits particulate matter emissions from all new and existing process units in excess of 0.1 grains per dry standard cubic foot of exhaust gas.
- 7.s. SWCAA 400-109 "Air Discharge Permit Applications" requires that an ADP/NEP application be submitted for all new installations, modifications, changes, or alterations to process and emission control equipment consistent with the definition of "new source". Sources wishing to modify existing permit terms may submit an ADP/NEP application to request such changes. An ADP/NEP must be issued, or written confirmation of exempt status must be received, before beginning any actual construction, or implementing any other modification, change, or alteration of existing equipment, processes, or permits. This regulation applies to the facility.

- 7.t. SWCAA 400-110 "New Source Review" requires that SWCAA issue an ADP/NEP in response to an ADP/NEP application prior to establishment of the new source, emission unit, or modification. The new units meet the definition of a new source; therefore, this regulation applies to the facility.
- 7.u. SWCAA 400-113 "Requirements for New Sources in Attainment or Nonclassifiable Areas" requires that no approval to construct or alter an air contaminant source will be granted unless it is evidenced that:
- (1) The equipment or technology is designed and will be installed to operate without causing a violation of the applicable emission standards;
 - (2) BACT will be employed for all air contaminants to be emitted by the proposed equipment;
 - (3) The proposed equipment will not cause any ambient air quality standard to be exceeded; and
 - (4) If the proposed equipment or facility will emit any toxic air pollutant regulated under WAC 173-460, the proposed equipment and control measures will meet all the requirements of that Chapter.

The facility is located in an area that is in attainment or nonclassifiable for all pollutants, therefore, this regulation applies to the facility.

8. RACT/BACT/BART/LAER/PSD/CAM DETERMINATIONS

The proposed equipment and control systems incorporate BACT for the types and amounts of air contaminants emitted by the processes as described below:

BACT Determinations

- 8.a. Nonroad Engine Tier Certification. The nonroad engines proposed in this permitting action comply with applicable EPA certification requirements, but are not subject to BACT.
- 8.b. BACT Determination – Aggregate Crushing and Screening. The proposed use of high-pressure wet suppression systems, including spray or fog nozzles operating at a minimum pressure of 80 psig, has been determined to meet the requirements of BACT for the proposed crushing and screening equipment. Because there are other wet suppression systems (e.g., sonic fogging systems) that utilize a lower water pressure but provide equivalent or superior levels of emission control, the permit will allow for wet suppression systems reviewed and approved by SWCAA that provide equivalent or superior control of particulate matter emissions.
- 8.c. BACT Determination – Fugitive Dust Emissions. The use of low-pressure wet suppression systems has been determined to meet the requirements of BACT for fugitive dust emissions from storage piles, material transfer points, and haul roads at this facility.

Other Determinations

- 8.d. Prevention of Significant Deterioration (PSD) Applicability Determination. The potential to emit of this facility is less than applicable PSD applicability thresholds. Likewise, this permitting action will not result in a potential increase in emissions equal to or greater than the PSD thresholds. Therefore, PSD review is not applicable to this action.
- 8.e. Compliance Assurance Monitoring (CAM) Applicability Determination. CAM is not applicable to any emission unit at this facility because it is not a major source and is not required to obtain a Part 70 permit.

9. AMBIENT IMPACT ANALYSIS

- 9.a. Criteria Air Pollutant Review. Emissions of NO_x, CO, PM, VOC (as a precursor to O₃), and SO₂ are emitted at levels where no adverse ambient air quality impact is anticipated.
- 9.b. Toxic Air Pollutant Review. This facility does not emit quantifiable amounts of TAPs. Toxic air pollutant impacts are presumed to be below regulatory significance.

Conclusions

- 9.c. Operation of rock crushing equipment, as proposed in ADP/NEP application CL-3266, will not cause the ambient air quality requirements of 40 CFR 50 "National Primary and Secondary Ambient Air Quality Standards" to be violated.
- 9.d. Operation of rock crushing equipment, as proposed in ADP/NEP application CL-3266, will not cause the requirements of WAC 173-460 "Controls for New Sources of Toxic Air Pollutants" or WAC 173-476 "Ambient Air Quality Standards" to be violated.
- 9.e. Operation of rock crushing equipment, as proposed in ADP/NEP application CL-3266, will not violate emission standards for sources as established under SWCAA General Regulations Sections 400-040 "General Standards for Maximum Emissions," 400-050 "Emission Standards for Combustion and Incineration Units," and 400-060 "Emission Standards for General Process Units."

10. DISCUSSION OF APPROVAL CONDITIONS

SWCAA has made a determination to issue ADP/NEP 25-3698 in response to ADP/NEP application CL-3266. ADP/NEP 25-3698 contains approval requirements deemed necessary to assure compliance with applicable regulations and emission standards as discussed below.

- 10.a. Supersession of Previous Permits. ADP/NEP 25-3698 supersedes ADP/NEP 08-2814 in its entirety.
- 10.b. General Basis. Permit requirements for equipment affected by this permitting action incorporate the operating schemes proposed by the applicant in ADP/NEP Application CL-3266. Permit requirements established by this action are intended to implement BACT, minimize emissions, and assure compliance with applicable requirements on a continuous

basis. Emission limits for approved equipment are based on the maximum potential emissions calculated in Section 6 of this TSD.

- 10.c. Monitoring and Recordkeeping Requirements. ADP/NEP 25-3698 establishes monitoring and recordkeeping requirements sufficient to document compliance with applicable emission limits, ensure proper operation of approved equipment and provide for compliance with generally applicable requirements. Specific monitoring requirements are established for hours of operation and material throughput.
- 10.d. Reporting Requirements. ADP/NEP 25-3698 establishes general reporting requirements for annual air emissions, upset conditions, and excess emissions. Specific reporting requirements are established for hours of operation and material throughput. Reports are to be submitted on an annual basis.
- 10.e. Aggregate Crushing and Handling. Permit requirements for aggregate crushing and handling operations are consistent with the operating scheme and material data submitted by the applicant. Visible emission limits have been established consistent with proper operation of the proposed equipment and associated wet suppression systems. High-pressure spray systems (≥ 80 psig) have been determined to be a minimum BACT requirement for individual pieces of aggregate crushing and screening equipment. The visual emissions limit for haul roads is 10% consistent with RACT and determinations for similar facilities.
- 10.f. Diesel Engines – Visible Emission Limits. Visible emissions from diesel engines are limited to 5% opacity. Visible emissions should not exceed this level if the engines are operating properly. For nonroad engines, SWCAA uses this as a surrogate indicator that the engines are in good repair (rather than a tailpipe emission standard otherwise precluded by 40 CFR 1039). This restriction is appropriate because if the engine is not maintained in good repair, emissions are likely to greatly exceed expected emission levels and could cause an exceedance of a state or federal ambient air quality standard.
- 10.g. Diesel Engines – Fuel Limitation. The use of ultra-low-sulfur diesel ($\leq 0.0015\%$ by weight) is a reasonable control measure that reduces SO_x and PM emissions relative to fuels with a higher sulfur content. The permit allows the use of "#2 diesel or better." In this case, "or better" includes road-grade diesel fuel with a lower sulfur content, biodiesel, and mixtures of biodiesel and road-grade diesel that meet the definition of "diesel" and contain no more than 0.0015% sulfur by weight.

11. START-UP AND SHUTDOWN/ALTERNATIVE OPERATING SCENARIOS/POLLUTION PREVENTION

- 11.a. Start-up and Shutdown Provisions. Pursuant to SWCAA 400-081 "Start-up and Shutdown," technology-based emission standards and control technology determinations must take into consideration the physical and operational ability of a source to comply with the applicable standards during start-up or shutdown. Where it is determined that a source is not capable of achieving continuous compliance with an emission standard during start-

up or shutdown, SWCAA will include appropriate emission limitations, operating parameters, or other criteria to regulate performance of the source during start-up or shutdown.

To SWCAA's knowledge, this facility can comply with all applicable standards during startup and shutdown.

Diesel Engines. The opacity of visual emissions from the engines may be higher than normal during start-up. Accordingly, the opacity limit for the engines is not applicable during the start-up period defined in the permit. The general opacity standard from SWCAA 400-040 of 20% continues to apply during start-up and shutdown.

- 11.b. Alternate Operating Scenarios. SWCAA conducted a review of alternate operating scenarios applicable to equipment affected by this permitting action. Neither SWCAA nor the permittee identified or proposed any applicable alternate operating scenarios. Therefore, none were included in the approval conditions.
- 11.c. Pollution Prevention Measures. SWCAA conducted a review of possible pollution prevention measures for the facility. No pollution prevention measures were identified by either the permittee or SWCAA separate or in addition to those measures required under BACT considerations. Therefore, none were included in the approval conditions.

12. EMISSION MONITORING AND TESTING

- 12.a. Emission Testing Requirements – Rock Crushing Equipment. Affected rock crushers, associated screening equipment, and belt conveyors are required to perform one-time opacity observations as required by 40 CFR 60 Subpart OOO. All of the crushing and screening equipment addressed by this permitting action is subject to the initial testing requirements of 40 CFR 60 Subpart OOO.

13. FACILITY HISTORY

- 13.a. Previous Permitting Actions. The following past permitting actions have been taken by SWCAA for this facility:

Permit	Application	Date Issued	Description
08-2814	CL-1835	August 19, 2008	Approval to install and operate a new jaw crusher and powerscreen, each with a nonroad diesel engine.
06-2676	CL-1718	May 10, 2006	Approval to operate a new crushing facility containing one crusher with associated diesel engine

Approvals in bold have been superseded or are no longer active with issuance of ADP 25-3698.

- 13.b. Compliance History. The following compliance issues have been identified for this facility within the past five years:

NOV	Date	Violation
10612	4/19/2022	Contactore performed asbestos abatement while project was on hold

14. PUBLIC INVOLVEMENT OPPORTUNITY

- 14.a. Public Notice for ADP/NEP Application CL-3266. Public notice for ADP/NEP Application CL-3266 was published on the SWCAA internet website for a minimum of 15 days beginning on March 27, 2024.
- 14.b. Public/Applicant Comment for ADP/NEP Application CL-3266. SWCAA did not receive specific comments, a comment period request, or any other inquiry from the public regarding this ADP/NEP application CL-3266. Therefore, no public comment period was provided for this permitting action.
- 14.c. State Environmental Policy Act. In 2017, Clark County issued a SEPA DNS to 3 Kings Environmental. In 2023, Clark County issued a material recovery facility exemption for 3 Kings Environmental rock crushing equipment. SWCAA has identified and adopted the SEPA DNS as being appropriate for this proposal after independent review. The document meets our environmental review needs for the current proposal and will accompany the proposal to the decision maker. An Environmental Impact Statement is not required under RCW 43.21C.030(2)(c).