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United States Environmental Protection Agency
General Air Quality Permit for New or Modified Minor Sources of Air Pollution in Indian Country

https://www.epa.gov/tribal-air/tribal-minor-new-source-review

Request for Coverage under the General Air Quality Permit for New or Modified Minor Source Stone Quarrying, Crushing, and Screening Facilities in Indian Country

Last Modified: January 4, 2017
Version 1.0

Prior to construction or modification, complete this application and submit it to your reviewing authority. A list of reviewing authorities, their areas of coverage, and contact information can be found in Attachment D to the General Air Quality Permit for Minor Source Stone Quarrying, Crushing, and Screening Facilities or visit: https://www.epa.gov/tribal-air/5-source-categories-stone-quarrying-crushing-and-screening-facilities-final-rule.

For questions regarding this application please contact your reviewing authority.

For instructions on completing this application please see the document "Instructions for Requesting Coverage under the General Air Quality Permit for New or Modified Minor Source Stone Quarrying, Crushing, and Screening Facilities in Indian Country."

Section 1: Contact Information

1. Business Name: Interstate Concrete and Asphalt Company dba Columbia Asphalt & Ready-Mix	2. Date: March 27, 2018
3. Site Address(es): Toppenish Quarry, 441 E. McDonald Road, Toppenish, WA 98948 Wapato Quarry, 2131 Lateral 1 Road, Wapato, WA 98951	4. County(ies): Yakima (both sites)
5. Name of Operator at Site(s) (if different from owner): Mike McBreen	6. Phone of Operator or Contact at Site(s) (if different from owner): 505-486-2045
7. Owner: Columbia Asphalt & Ready-Mix	8. Telephone Number of Owner: 509-534-6221
9. Owner's Mailing Address: P.O. Box 3366 Spokane, WA 99220	10.Send all correspondence regarding this application to: Company Name: CPM Development Corporation c/o: Jana McDonald Address: P.O. Box 3366 Spokane, WA 99220
11. Authorized contact regarding this permit application: Name: Beth Fifield Hodgson Title: Principal Engineer, Spring Environmental, Inc. Phone: 509-328-7500	Email: beth@springenvironmental.com FAX: 509-328-7501

Section 2: Facility Information for Requesting Coverage under the General Air Quality Permit for New or Modified Minor Source Stone Quarrying, Crushing and Screening Facilities

12. Please list all of the site locations for which you want approval to locate your stone quarrying, crushing, and screening facility. Include the site name (if any), street address, city, state, and name of the Indian Reservation. If needed, use additional paper. You may seek approval for additional locations in the future.

Site Name	Street Address	City/Town	Area of Indian Country
Toppenish Quarry	441 E. McDonald Road	Toppenish	Yakama Nation
Wapato Pit	2131 Lateral 1 Road	Wapato	Yakama Nation

13. This application is for (check all that apply):

[X] Construction/relocation of a new stone quarrying, crushing, and screening facility in Indian country (please describe the proposed new source).
This is a 500 tph rock crushing plant

[ ] Add a new location for your stone quarrying, crushing, and screening facility already covered by the General Permit. (Please describe the proposed new location.)

[ ] Modification of an existing stone quarrying, crushing, and screening facility. Please describe the modification below. The definition of "modification" can be found at 40 CFR 49.152(d), and in the "Instructions" document.

[ ] A stone quarrying, crushing, and screening operation co-located with a hot mix asphalt operation and seeking to limit combined PTE to less than 100 tpy for NSR-regulated pollutants. You must comply with Conditions 16. and 19.e in the General Permit. This option is not available in serious, severe, or extreme ozone nonattainment areas and serious CO nonattainment areas. (Please describe the proposed source.)

[ ] Stationary (fixed) stone quarrying, crushing, and screening facility

☒ Portable stone quarrying, crushing, and screening facility

☐ Relocation of an existing stone quarrying, crushing, and screening facility

14. North American Industry Classification System/Standard Industrial Classification Code and/or description of the facility:
212321 NAICS (Construction Sand and Gravel Mining) / 1442 SIC (Construction Sand and Gravel)

15. Will your new or modified facility be located in an ozone nonattainment area? Information on the ozone attainment status of the area where your facility is or will be located can be found at: https://www.epa.gov/green-book.

☐ Yes ☒ No

If you answered **'Yes,'** specify the classification of the ozone nonattainment area:

☐ Marginal ☐ Moderate ☐ Serious ☐ Severe ☐ Extreme

16. Will your new or modified facility be located in a particulate matter (PM_{10}/$PM_{2.5}$) nonattainment area? Information on the attainment status of the area where your facility is or will be located can be found at: https://www.epa.gov/green-book.

☐ Yes ☒ No

If you answered **'Yes,'** specify the classification of the PM_{10}/$PM_{2.5}$ nonattainment area:

☐ Moderate ☐ Serious

17. Will the PTE of your new facility or the increase in potential emissions from your modified existing facility be equal to or above the applicable minor NSR thresholds listed below for ANY of the listed pollutants, both in tpy? Emissions from your facility may be calculated using the PTE calculator available online at: https://www.epa.gov/tribal-air/5-source-categories-stone-quarrying-crushing-and-screening-facilities-final-rule. Be sure to include all new or modified emission units at your facility.

Pollutant	Attainment Area	Nonattainment Area
CO	10 tpy	5 tpy
Particulate Matter (PM)	10 tpy	5 tpy
Particulate Matter (PM_{10})	5 tpy	1 tpy
Particulate Matter ($PM_{2.5}$)	3 tpy	0.6 tpy
Sulfur Dioxide (SO_2)	10 tpy	5 tpy
Nitrogen Oxides (NO_X)	10 tpy	5 tpy
Volatile Organic Compounds (VOC)	5 tpy	2 tpy

☒ Yes ☐ No See Attachment #1

If you answered **'No,'** your source is likely exempt from the minor NSR program. Please contact your reviewing authority to confirm that your facility will not need a permit. If you answered **'Yes,'** continue on to the next question.

18. If located in an attainment, attainment/unclassifiable or unclassifiable area, will the PTE of your new or modified facility be less than 250 tpy for PM, PM_{10}, $PM_{2.5}$, VOC, NO_X, CO, and SO_2 each individually? Be sure to include all existing, new, and modified emission units at the facility.

☒ Yes ☐ No See Attachment #1

If you answered **'No,'** your source does not qualify for the General Permit. Please contact your reviewing authority to apply for a site-specific permit. If you answered **'Yes,'** continue on to the next question.

19. If located in a nonattainment area, will the PTE of your facility for the particular nonattainment pollutant be less than the NSR major source thresholds below for ALL pollutants? Be sure to include all existing, new, and modified emission units at the facility.

Pollutant	Nonattainment Classification	NSR Major Source Threshold
Ozone	Marginal	100 tpy of VOC or NO_X
	Moderate	100 tpy of VOC or NO_X
	Serious	50 tpy of VOC or NO_X
	Severe	25 tpy of VOC or NO_X
	Extreme	10 tpy of VOC or NO_X
PM_{10}	Moderate	100 tpy
	Serious	70 tpy
CO	Moderate	100 tpy
	Serious	50 tpy
SO_2, NO_2, $PM_{2.5}$	No nonattainment classification	100 tpy

☐ Yes ☐ No ☒ N/A - Not located in any nonattainment area

If you answered **'No,'** your source does not qualify for the General Permit. Please contact reviewing authorityto apply for a site-specific permit. If you answered **'Yes' or 'N/A,'** continue on to the next question.

20. What is the projected monthly throughput of rock, stone, sand, gravel, and aggregate (in tons) to be processed atyour new or modified facility?
360,000 tons per month

21. What is the projected monthly usage of diesel fuel (in gallons) for all stationary combustion sources (e.g., boilers)at your new or modified facility?
Not Applicable gallons per month

Section 3: Technical Information for Requesting Coverage under the General Air Quality Permit for New or Modified Minor Source Stone Quarrying, Crushing and Screening Facilities

Information regarding the emission units at your facility is required by 40 CFR 49.154 and 40.160. Please provide the information below for all equipment at your facility. For each emissions unit, include supporting documentation for the PTE of the unit with your Request for Coverage. In addition, forexisting emissions units, include the most recent actual annual emissions. See 40 CFR 49.154(a)(2). (For more information on how to calculate actual emissions, go to: https://www.epa.gov/tribal-air/registration-existing-true-minor-sources-air-pollution-indian-country.) As needed, please include other relevant information with your Request for Coverage (including any equipment not identified below).

22. **Facility Equipment**

List all equipment at the site that is or will be owned, leased or operated by the applicant, as well as the maximum rated capacity in tons per hour, Btu, or horsepower. If needed to list all equipment, additional pages may be photocopied and added after this one.

Unit ID #	Type Description					Maximum Rated Capacity	Make/ Model	Date of Construction (mm/dd/yyyy)
	Crusher	Screener	Internal Combustion Engine	Other Exhaust Unit	Other (please specify)	Tons per Hour (tph) for Equipment and Btu or Horsepower for engines		
29912	☒	☐	☐	☐		500	Pioneer Jaw w/ Feeder Chain	1958
29938	☒	☐	☐	☐		500	Pioneer Jaw w/ Vibratory Feeder	1958
RK400	☒	☐	☐	☐		500	JCI/Kodiak 400 Standard Cone	2014
K400	☒	☐	☐	☐		500	JCI/Kodiak 400 Short Head Cone	2005
HP400SX	☒	☐	☐	☐		500	Nordberg Cone	1999
S1	☐	☒	☐	☐		500	Svedala Screen #1	
S2	☐	☒	☐	☐		500	Svedala Screen #2	
S3	☐	☒	☐	☐		500	Two Deck Screen	1995
S4	☐	☒	☐	☐		500	Scalp Screen	2017
C1	☐	☐	☐	☐	Conveyor	500	36"x50' Pay Belt	
C2	☐	☐	☐	☐	Conveyor	500	60"30' VC #1	
C3	☐	☐	☐	☐	Conveyor	500	36"x40' CC #1	
C4	☐	☐	☐	☐	Conveyor	500	42"x40' Under HP 400	
C5	☐	☐	☐	☐	Conveyor	500	30"x50' Chip Belt	

Notes:
In the column labeled Unit ID # please give unique identifiers for all of the equipment at the site. You may use an existing facility numbering system or emissions inventory ID #. This unique identifier will differentiate between the different emission units at the facility.

In subsequent sections of this permit application, please use the same Unit ID #'s already provided for the equipment listed here.

It is recommended—but not required— that you include an identifying letter specific to the equipment type, e.g., 'C' for crusher, followed by an identifying number of your choice.

22. **Facility Equipment**

List all equipment at the site that is or will be owned, leased or operated by the applicant, as well as the maximum rated capacity in tons per hour, Btu, or horsepower. If needed to list all equipment, additional pages may be photocopied and added after this one.

Unit ID #	Type Description					Maximum Rated Capacity	Make/ Model	Date of Construction (mm/dd/yyyy)
	Crusher	Screener	Internal Combustion Engine	Other Exhaust Unit	Other (please specify)	Tons per Hour (tph) for Equipment and Btu or Horsepower for engines		
C6	☐	☐	☐	☐	Conveyor	500	48"x12' Cross #3	
C7	☐	☐	☐	☐	Conveyor	500	42"x12' Cross #2	
C8	☐	☐	☐	☐	Conveyor	500	42"x12' Cross #1	
C9	☐	☐	☐	☐	Conveyor	500	42"x60' HP Feed	
C10	☐	☐	☐	☐	Conveyor	500	30"x30' VC #3	
C11	☐	☐	☐	☐	Conveyor	500	36"x40' VC #2	
C12	☐	☐	☐	☐	Conveyor	500	36"x40' CC #2	
C13	☐	☐	☐	☐	Conveyor	500	48"x50' Under	Kodiak
C14	☒	☐	☐	☐	Conveyor	500	36"x40' Screen	Plan Feed
C15	☐	☒	☐	☐	Conveyor	500	48"x40' Under	Standard Cone
C16	☐	☐	☐	☐	Conveyor	500	6'x16' Under	Eljay Screen
C17	☐	☒	☐	☐	Conveyor	500	36"x100' Superior	Radial
C18	☐	☐	☐	☐	Conveyor	500	42"x60' Cone	Feed
C19	☐	☐	☐	☐	Conveyor	500	42"x45' Under	

Notes:
In the column labeled Unit ID # please give unique identifiers for all of the equipment at the site. You may use an existing facility numbering system or emissions inventory ID #. This unique identifier will differentiate between the different emission units at the facility.

In subsequent sections of this permit application, please use the same Unit ID #'s already provided for the equipment listed here.

It is recommended—but not required— that you include an identifying letter specific to the equipment type, e.g., 'C' for crusher, followed by an identifying number of your choice.

22. **Facility Equipment**

List all equipment at the site that is or will be owned, leased or operated by the applicant, as well as the maximum rated capacity in tons per hour, Btu, or horsepower. If needed to list all equipment, additional pages may be photocopied and added after this one.

Unit ID #	Type Description					Maximum Rated Capacity	Make/ Model	Date of Construction (mm/dd/yyyy)
	Crusher	Screener	Internal Combustion Engine	Other Exhaust Unit	Other (please specify)	Tons per Hour (tph) for Equipment and Btu or Horsepower for engines		
L1	☐	☐	☐	☐	Bunker	500	42"x50' Loadout Bunker	
L2	☐	☐	☐	☐	Bunker	500	42"x40' Loadout Bunker	
F1	☐	☐	☐	☐	Fan	500	Control Fan	
	☐	☐	☐	☐				
	☐	☐	☐	☐				
	☐	☐	☐	☐				
	☐	☐	☐	☐				
	☐	☐	☐	☐				
	☐	☐	☐	☐				
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	☐	☐	☐	☐				
	☐	☐	☐	☐				
	☐	☐	☐	☐				
	☐	☐	☐	☐				

Notes:
In the column labeled Unit ID # please give unique identifiers for all of the equipment at the site. You may use an existing facility numbering system or emissions inventory ID #. This unique identifier will differentiate between the different emission units at the facility.

In subsequent sections of this permit application, please use the same Unit ID #'s already provided for the equipment listed here.

It is recommended—but not required— that you include an identifying letter specific to the equipment type, e.g., 'C' for crusher, followed by an identifying number of your choice.

23. **Crushing** (Please use same ID #'s identified above in this permit application)

Unit ID #	Process Rate			Type				Controls		
	tph	Annual hours of operation	tpy (tph x annual hours)	Primary	Secondary	Tertiary	Fines	Average Moisture Content	Controls Used (Please specify)	Efficiency
29912	500	8,760	4,380,000	☒	☐	☐	☐	2%	Wet Spray	78%
29938	500	8,760	4,380,000	☒	☐	☐	☐	2%	Wet Spray	78%
RK400	500	8,760	4,380,000	☐	☒	☐	☐	2%	Wet Spray	78%
K400	500	8,760	4,380,000	☒	☐	☐	☐	2%	Wet Spray	78%
HP400SX	500	8,760	4,380,000	☐	☐	☐	☐			
Totals:	2,500	43,800	21,900,000							

24. **Screening** (Please use same Unit ID #'s identified above in this permit application)

Unit ID #	Process Rate			Type of Screening			Controls		
	tph	Annual hours of operation	tpy (tph x annual hours)	Regular	Fines	Wet Screening*	Average Moisture Content	Controls Used (Please specify)	Efficiency
S1	500	8,760	4,380,000	☐	☐	☒	2%	Wet Spray	92%
S2	500	8,760	4,380,000	☐	☐	☒	2%	Wet Spray	92%
S3	500	8,760	4,380,000	☐	☐	☒	2%	Wet Spray	92%
S4	500	8,760	4,380,000	☐	☐	☒	2%	Wet Spray	92%
				☐	☐	☐			
Totals:	2,000	35,040	17,520,000						

* Wet screening refers to screening processes that are accomplished with water as the carrier of the sand/aggregate or where the aggregate is saturated with water.

25. **Material Handling – Transferring, Loading, Unloading, Conveyors, and Dropping** (Please use same Unit ID #'s identified above in this permit application)

Unit ID #	Description	Maximum Material Transferred (tpy)	Average Moisture Content	Control Technology					
	e.g., truck dump, conveyor drop, truck loading	Per point	%	None	Water Spray	Chemical Additive	Conveyor with ½ cover	Conveyor with ¾ cover	Cover with full cover
L1	Loadout Bunker	21,900,000	2%	☒	☐	☐	☐	☐	☐
L2	Loadout Bunker	21,900,000	2%	☐	☒	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐
Totals:									

26. **Internal Combustion Engines** (including emergency generators)

Unit ID #	Unit Description	Maximum Rated Capacity (HP)	Types of Fuel(s) Used[1]	Manufactured Date (mm/dd/yyyy)	Model year
None					

27. **Volatile Liquid Storage Tanks**

This section applies to storage tanks used to store liquid materials. Please provide the following information for each storage tank.

Unit ID#	Type of Liquid	Capacity (gallons)	Vapor Pressure of Liquid (psi)	Is the tank above or underground?	Date of Installation (if existing)
None					

Section 4: Information on Completing Screening Processes that Have to Be Satisfied to Request Coverage under the General Air Quality Permit for New or Modified Minor Source Stone Quarrying, Crushing and Screening Facilities

28. **Threatened or Endangered Species**

Have you demonstrated that you meet one of the criteria listed in Appendix A with respect to the protection of any and all species that are federally listed as threatened or endangered under the ESA or of habitat that is federally designated as "critical habitat" under the ESA? If you answer **'No,'** you cannot request coverage under this permit.

☒ Yes ☐ No

If you answered **'Yes,'** then you need to provide the appropriate documentation to the EPA to qualify for coverage under this permit. Please indicate under which criterion in Appendix A you are satisfying this requirement:

TOPPENISH QUARRY: See CWC SQCS Approval for Coverage 9/28/2016

☐ A ☐ B ☐ C ☒ D ☐ E

WAPATO QUARRY: See Wapato Environmental & Cultural Assessment 3/27/2018

29. **Historic Properties**

Have you completed the screening process in Appendix B to determine if the construction, modification or operation of your new or modified minor source of air pollutants has the potential to cause effects to historic properties (pursuant to the NHPA)? If you answer **'No,'** you cannot request coverage under this permit.

☒ Yes ☐ No

If you answered **'Yes,'** then provide the appropriate documentation to the EPA to qualify for coverage under this permit. TOPPENISH QUARRY: See CWC SQCS Approval for Coverage 9/28/2016
WAPATO QUARRY: See Wapato Environmental & Cultural Assessment 3/27/2018

Section 5: Additional Information about the General Air Quality Permit for New or Modified Minor Source Stone Quarrying, Crushing and Screening Facilities

This section provides information on the sizes of sources in terms of emissions that are eligible for the General Permit. The emission limitations and standards in this permit are expected to ensure that source-wide emissions are below the rates shown in the following table:

Pollutant of Concern	Attainment, Unclassifiable or Attainment/Unclassifiable Areas	Nonattainment Areas
CO	19 tpy	19 tpy (moderate and serious areas)
PM_{10}	63 tpy	63 tpy (moderate areas and serious areas)

Pollutant of Concern	Attainment, Unclassifiable or Attainment/Unclassifiable Areas	Nonattainment Areas
$PM_{2.5}$	63 tpy	63 tpy
NO_X	88 tpy	88 tpy (marginal and moderate ozone areas)
		45 tpy (serious ozone areas)
		22.5 tpy (severe ozone areas)
		9 tpy (extreme ozone areas)
VOC	7 tpy	7 tpy (ozone areas)

For a stone quarrying, crushing and screening operation co-located with a hot mix asphalt operation the emission limitations and standards in Conditions 16. and 19.e of the General Permit are expected to ensure the source-wideemissions are below the rates shown in the following table:

Pollutant of Concern	Attainment, Unclassifiable or Attainment/Unclassifiable Areas	Nonattainment Areas
CO	78 tpy	78 tpy (moderate areas)
		Not applicable (serious areas)
PM	86 tpy	Not applicable
PM_{10}	63 tpy	63 tpy (moderate areas)
		63 tpy (serious areas)
$PM_{2.5}$	30 tpy	30 tpy
SO_2	18 tpy	18 tpy
NO_X	90 tpy	Not applicable (serious and above ozone areas)
		90 tpy (marginal and moderate ozone areas)

Pollutant of Concern	Attainment, Unclassifiable or Attainment/Unclassifiable Areas	Nonattainment Areas
VOC	27 tpy	Not applicable (serious and above ozone areas)
		27 tpy (marginal and moderate ozone areas)

You should contact your reviewing authority if you intend to rely on the emission limitations and standards in this General Permit to prevent having to obtain a Title V permit.

Applicant's Statement (to be signed by the applicant)

I certify that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate,

Name: _____ Name: Michael McBreen Date: 3/27/18
(Signature) (Print or Type)

Title: General Manager

Potential To Emit Calculator for Stone Quarrying, Crushing, and Screening Plants

Columbia Asphalt & Ready-Mix; March 27, 2018

Facility Potential to Emit (PTE) Summary

FOR DETERMINING IF YOU NEED A PERMIT (does not include controls):

	Pollutant						
Process	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_X	CO	VOC
Sand, Gravel, Rock Crushing, Screening, Conveying	219.0	80.4	0.0	-	-	-	-
Storage Piles	0.2	0.1	0.0	-	-	-	-
Engine/Generator	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Potential to Emit (tons/year)	**219**	**80**	**0**	**0**	**0**	**0**	**0**

FOR DETERMINING PTE IF USING GENERAL PERMIT (includes controls in General Permit):

Process	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_X	CO	VOC
Sand, Gravel, Rock Crushing, Screening, Conveying	19.4	7.4	0.4				
Storage Piles	0.2	0.1	0.0	-	-	-	-
Engine/Generator	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Potential to Emit (tons/year)	**20**	**7**	**0**	**0**	**0**	**0**	**0**

Maximum Throughputs, Based on Equipment Capacity	
Operation Description	tons/year
Truck Unloading - Fragmented Stone	4,380,000
Primary Crushing and Screening	8,760,000
Secondary Crushing and Screening	13,140,000
Tertiary Crushing and Screening	0
Fines Crushing and Screening	0
Dry Sand and Gravel Screening	0
Conveyor Transfer Points (total)	56,940,000
Truck Loading - Conveyor, crushed stone	8,760,000

Maximum Fuel Usage, Based on Engine Size		
Operation Description	gal/year	gal/month
Diesel Engine (<= 600 hp)	0	0
Diesel Engine (> 600 hp)	0	0

Potential To Emit Calculator for Stone Quarrying, Crushing, and Screening Plants

Columbia Asphalt & Ready-Mix; March 27, 2018

Emissions from Sand, Gravel, Rock Crushing, and Screening Operations

1. Emission Factors for PM, PM10 , and PM2.5

		Emission Factors (lb/ton)		
Type of Operation	**SCC**	**PM [c]**	**PM10**	**PM2.5 [c]**
Primary Crushing [a]	3-05-020-01	1.4E-03	6.0E-04	
Primary Crushing (controlled) [a]	3-05-020-01	3.0E-04	1.4E-04	
Secondary Crushing [a]	3-05-020-02	2.7E-03	1.2E-03	
Secondary Crushing (controlled) [a]	3-05-020-02	6.0E-04	2.7E-04	
Tertiary Crushing	3-05-030-03	5.4E-03	2.4E-03	
Tertiary Crushing (controlled)	3-05-020-03	1.2E-03	5.4E-04	1.0E-04
Fines Crushing	3-05-020-05	3.9E-02	1.5E-02	
Fines Crushing (controlled)	3-05-020-05	3.0E-03	1.2E-03	7.0E-05
Screening of Primary Crusher Output [b]		6.3E-03	2.2E-03	
Screening of Primary Crusher (controlled) [b]		5.5E-04	1.9E-04	
Screening of Secondary Crusher Output [b]		1.3E-02	4.4E-03	
Screening of Secondary Crusher Output (controlled) [b]		1.1E-03	3.7E-04	
Screening (Tertiary Crushing)	3-05-020-02-03	2.5E-02	8.7E-03	
Screening (Tertiary Crushing) (controlled)	3-05-020-02-03	2.2E-03	7.4E-04	5.0E-05
Fines Screening	3-05-020-21	3.0E-01	7.2E-02	
Fines Screening (controlled)	3-05-020-21	3.6E-03	2.2E-03	
Conveyor Transfer Point	3-05-020-06	3.0E-03	1.1E-03	
Conveyor Transfer Point (controlled)	3-05-020-06	1.4E-04	4.6E-05	1.3E-05
Truck Unloading - Fragmented Stone	3-05-020-31	1.6E-05	1.6E-05	
Truck Loading - Conveyor, crushed stone	3-05-020-32	1.0E-04	1.0E-04	

Emission factors are from AP 42, Chapter 11.19.2, Tables 11.19.2-2 and 11.19.2-4 (1/95), except as noted.

[a] AP 42 emission factors for primary crushing and secondary crushing are not available. Emission factors are estimated based on the assumption that emissions are proportional to the relative surface area of the product emerging from the crusher. Secondary crushing emissions are conservatively estimated at 50% of tertiary crushing emissions, and primary crushing emissions are conservatively estimated at 50% of secondary crushing emissions.

[b] AP 42 emission factors for screening of rock output from primary crushing are not available. Emission factors are estimated based on the assumption that emissions are proportional to the relative surface area of the product emerging from the crusher. Secondary screening emissions are conservatively estimated at 50% of tertiary crushing emissions, and primary screening emissions are conservatively estimated at 50% of secondary screening emissions.

[c] Where there is no data for an emission factor, a blank cell is shown in the emission factor table.

2. Potential to Emit from Rock Crushing and Screening Operations

Purple values are from the inputs page
Blue values are results

Type of Operation	Maximum Throughput (tons/yr)	Emissions (tons/yr) (uncontrolled)		
		PM	PM10	PM2.5
Truck Unloading - Fragmented Stone	4,380,000	0.0350	0.0350	0.0000
Primary Crushing	8,760,000	5.9130	2.6280	0.0000
Screening of Primary Crusher Output	8,760,000	27.3750	9.5265	0.0000
Conveyor Transfer Point	17,520,000	26.2800	9.6360	0.0000
Secondary Crushing	13,140,000	17.7390	7.8840	0.0000
Screening of Secondary Crusher Output	13,140,000	82.1250	28.5795	0.0000
Conveyor Transfer Point	39,420,000	59.1300	21.6810	0.0000
Tertiary Crushing	0	0.0000	0.0000	0.0000
Screening of Tertiary Crusher Output	0	0.0000	0.0000	0.0000
Conveyor Transfer Point	0	0.0000	0.0000	0.0000
Fines Crushing	0	0.0000	0.0000	0.0000
Fines Screening	0	0.0000	0.0000	0.0000
Conveyor Transfer Point	0	0.0000	0.0000	0.0000
Dry Sand and Gravel Screening	0	0.0000	0.0000	0.0000
Dry Sand and Gravel Conveying	0	0.0000	0.0000	0.0000
Truck Loading - Conveyor, crushed stone	8,760,000	0.4380	0.4380	0.0000
	Total	**219.035**	**80.408**	**0.000**

Methodology
Maximum Throughput (tons/yr) = Number of Operations x Maximum Capacity (tons/hr) x 8,760 hr/yr
Emissions (tons/yr) = Maximum Throughput (tons/yr) x Emission factor (lb/ton) x 1 ton/2,000 lbs

Potential To Emit Calculator for Stone Quarrying, Crushing, and Screening Plants

Columbia Asphalt & Ready-Mix; March 27, 2018

Emissions from Storage Piles

84,000	Average Annual Product in Piles (ton/yr)	Purple values are pulled from the inputs worksheet
2	Agg. Moisture (%)	Blue values are results
8.00	Mean Wind Speed (MPH)	

According to AP42, Chapter 13.2.4 - Aggregate Handling and Storage Piles (updated 11/06), the particulate emission factors for storage piles can be estimated from the following equation:

$$Ef = \frac{k \times 0.0032 \times (U/5)^{1.3}}{(M/2)^{1.4}}$$

where:

Ef =	Emission Factor (lbs/ton)	
k =	Particle size multipliers =	0.74 for PM, 0.35 for PM_{10}, and 0.053 for $PM_{2.5}$
U =	Mean wind speed (MPH) =	8 MPH (provided by the facility)
M =	Moisture content (%) =	2 % (provided by the facility)

Pollutant	Emission Factor (lb/ton)	Potential to Emit (tons/yr)
PM	0.00436	0.183
PM_{10}	0.00206	0.087
$PM_{2.5}$	0.00031	0.013

Methodology

Potential to Emit (ton/yr) = Max. Annual Production (ton/yr) x 1/52 x EF (lb/ton) x 1 ton/2000 lb

Assume that storage piles contain one week's production, on average.

Potential To Emit Calculator for Stone Quarrying, Crushing, and Screening Plants

Columbia Asphalt & Ready-Mix; March 27, 2018

Emissions from Generator/Engine(s)

Diesel Engine <= 600 Hp: **0** total hp

Diesel Engine > 600 Hp: **0** total hp

Total Engine PTE (ton/yr)

PM	PM_{10}	$PM_{2.5}$	SO_2	NO_X	CO	VOC
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Engine Type: **Diesel Engine (<= 600 hp)** Used: **No**

	Pollutant						
	PM^2	PM_{10}	$PM_{2.5}^2$	SO_2	NO_X	CO	VOC^3
Emission Factor[1] (lbs/hp-hr)	0.0022	0.0022	0.0022	0.00205	0.031	0.00668	0.00251
Potential to Emit (ton/yr)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Note:

1. Emission factors are from Chapter 3.3, Table 3.3-1 (updated 10/96).
2. Assume PM and $PM_{2.5}$ emissions are equal to PM_{10} emissions.
3. Assume TOC (total organic compounds) emissions equal to VOC emissions.

Methodology

Potential to Emit (ton/yr) = total horsepower (hp) x Emission Factor (lb/hp-hr) x 8,760 hr/yr x 1 ton/2000 lb

Engine Type: **Diesel Engine (> 600 hp)** Used: **No** Sulfur Content: **0.00** %

	Pollutant						
	PM	PM_{10}	$PM_{2.5}^2$	SO_2	NO_X	CO	VOC^3
Emission Factor[1] (lbs/hp-hr)	0.0007	0.0007	0.0007	0	0.024	0.0055	0.000705
Potential to Emit (ton/yr)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Note:

1. Emission factors are from Chapter 3.4, Tables 3.4-1 and 3.4-2 for Large Stationary Diesel and Dual Fuel Engines (updated 10/96).
2. Assume $PM_{2.5}$ emissions are equal to PM_{10} emissions.
3. Assume TOC (total organic compounds) emissions equal to VOC emissions.

Methodology

Potential to Emit (ton/yr) = total horsepower (hp) x Emission Factor (lb/hp-hr) x 8,760 hr/yr x 1 ton/2000 lb

Fuel Usage (gal/yr)	**0**

Methodology:

Fuel Usage (gal/yr) = Total Engine Horsepower (hp) x 8,760 hr/yr x 7,000 Btu/hp-hr x 1 lb fuel/19,300 Btu x 1 gal/7.1 lb