



**TECHNICAL SUPPORT DOCUMENT**

**Air Discharge Permit 24-3668  
Air Discharge Permit Application CO-1105**

**Issued: November 4, 2024**

**Glacier Northwest, Inc. – Longview Ready Mix**

**SWCAA ID – 348**

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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
ASIL.....	Acceptable Source Impact Level	PSD .....	Prevention of Significant Deterioration
BACT .....	Best available control technology	RACT.....	Reasonably Available Control Technology
BART .....	Best Available Retrofit Technology	RCW .....	Revised Code of Washington
CAM .....	Compliance Assurance Monitoring	SCC.....	Source Classification Code
CAS#.....	Chemical Abstracts Service registry number	SDS .....	Safety Data Sheet
CFR.....	Code of Federal Regulations	SQER .....	Small Quantity Emission Rate listed in WAC 173-460
EPA.....	U.S. Environmental Protection Agency	Standard .....	Standard conditions at a temperature of 68°F (20°C) and a pressure of 29.92 in Hg (760 mm Hg)
EU .....	Emission Unit	SWCAA .....	Southwest Clean Air Agency
LAER .....	Lowest achievable emission rate	T-BACT .....	Best Available Control Technology for toxic air pollutants
MACT.....	Maximum Achievable Control Technologies	WAC .....	Washington Administrative Code
mfr.....	Manufacturer		
NESHAP.....	National Emission Standards for Hazardous Air Pollutants		

### *List of Units and Measures*

µg/m <sup>3</sup> .....	Micrograms per cubic meter	kW.....	Kilowatt
µm .....	Micrometer (10 <sup>-6</sup> meter)	MMBtu.....	Million British thermal unit
acfm.....	Actual cubic foot per minute	MMcf .....	Million cubic feet
bhp.....	Brake horsepower	ppm .....	Parts per million
dscfm.....	Dry Standard cubic foot per minute	ppmv .....	Parts per million by volume
g/dscm.....	Grams per dry Standard cubic meter	ppmvd .....	Parts per million by volume, dry
gpm .....	Gallon per minute	ppmw.....	Parts per million by weight
gr/dscf .....	Grain per dry standard cubic foot	psig.....	Pounds per square inch, gauge
hp.....	Horsepower	rpm .....	Revolution per minute
hp-hr .....	Horsepower-hour	scfm.....	Standard cubic foot per minute
		tph .....	Ton per hour
		tpy .....	Tons per year

*List of Chemical Symbols, Formulas, and Pollutants*

C <sub>3</sub> H <sub>8</sub> .....	Propane	O <sub>3</sub> .....	Ozone
CH <sub>4</sub> .....	Methane	PM.....	Particulate Matter with an aerodynamic diameter 100 μm or less
CO .....	Carbon monoxide	PM <sub>10</sub> .....	PM with an aerodynamic diameter 10 μm or less
CO <sub>2</sub> .....	Carbon dioxide	PM <sub>2.5</sub> .....	PM with an aerodynamic diameter 2.5 μm or less
CO <sub>2</sub> e.....	Carbon dioxide equivalent	SO <sub>2</sub> .....	Sulfur dioxide
H <sub>2</sub> S .....	Hydrogen sulfide	SO <sub>x</sub> .....	Sulfur oxides
HAP.....	Hazardous air pollutant listed pursuant to Section 112 of the Federal Clean Air Act	TAP .....	Toxic air pollutant pursuant to Chapter 173-460 WAC
HCl.....	Hydrochloric acid	TGOC.....	Total Gaseous Organic Carbon
Hg.....	Mercury	TOC.....	Total Organic Carbon
N <sub>2</sub> O .....	Nitrous oxide	TSP.....	Total Suspended Particulate
NH <sub>3</sub> .....	Ammonia	VOC .....	Volatile organic compound
NO <sub>2</sub> .....	Nitrogen dioxide		
NO <sub>x</sub> .....	Nitrogen oxides		
O <sub>2</sub> .....	Oxygen		

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: Glacier Northwest, Inc  
Applicant Address: 1100 Third Street, Longview WA 98632

Facility Name: Glacier Northwest, Inc. – Longview Ready Mix  
Facility Address: 1100 Third Street, Longview WA 98632

SWCAA Identification: 348

Contact Person: Bryan Wigginton, Sr. Environmental Manager

Primary Process: Concrete Manufacturing and Distribution  
SIC/NAICS Code: 3273: Ready Mixed Concrete  
327320: Concrete batch plants (including temporary)

Facility Latitude and Longitude: 46° 8' 11.6870258478"  
122° 54' 46.808854102"

Facility Classification: Natural Minor

## 2. FACILITY DESCRIPTION

Glacier Northwest, Inc. (Glacier Northwest) is a supplier of ready mixed concrete, sand, gravel, rock, cement, and building materials in the Pacific Northwest. Glacier Northwest operates concrete plants throughout the Puget Sound Region, Southwest Washington, and the Greater Portland Region. The batch plant is a portable plant that has been made stationary and is located in Longview, Washington (Longview Ready Mix).

## 3. CURRENT PERMITTING ACTION

This permitting action is in response to Air Discharge Permit (ADP) application number CO-1105 dated September 24, 2024. Glacier Northwest, Inc. submitted ADP application CO-1105 requesting the following:

- Replacement of one Vince Hagen cartridge collector on the 200-ton silo with a C&W cartridge collector;
- Replacement of Vincer Hagen bin vent on the cement/fly ash/slag weight hopper with a C&W cartridge collector;
- Updated serial number information on existing equipment; and
- Updated the emissions factors for the water heater to equate the concentration limit.

ADP 24-3668 will supersede ADP 20-3403 in its entirety.

#### 4. PROCESS DESCRIPTION

- 4.a. Concrete Production. Concrete is generally composed of water, cement, sand (fine aggregate), and coarse aggregate. The coarse aggregate used in concrete may consist of gravel, crushed stone, or iron blast furnace slag. Some specialty aggregate products use either heavyweight or lightweight aggregates. Supplementary cementing materials, such as fly ash, may be added to make concrete mixtures more economical, reduce permeability, increase strength, or influence other properties. Individual constituents are metered into the production process using dedicated weigh hoppers to maintain the proper ratio of materials for a given product specification. The concrete plant has a truck mix design in which aggregate, fly ash, and cement are weighed and dumped into a cement truck with water and mixed inside the truck before delivery offsite.

All raw materials will be delivered to the concrete plant in bulk via truck. Portland cement and other powdered additives will be received pneumatically and stored in one of four storage silos. Sand and coarse aggregate will be handled with front-end loaders and stored in one of five aggregate bins. Emissions from plant operations will be controlled with a combination of vent filters, baghouses, and wet suppression techniques.

Covered under 96-1958R1, Glacier constructed a permanent foundation in 1999 in order to make the portable Vince Hagen concrete batch plant stationary. Glacier Northwest has specified a maximum annual throughput of 240,000 tons of concrete a year (120,000 yd<sup>3</sup>/yr).

- 4.b. Hot Water Production. During cold weather, it is often necessary to temper the water used in the concrete plant in order to ensure that the concrete mixes and cures properly. Glacier Northwest has a single diesel-fired hot water heater in conjunction with the concrete plant for this purpose. Hot water heater operation is dependent on weather conditions and production demands.

#### 5. EQUIPMENT/ACTIVITY IDENTIFICATION

- 5.a. Concrete Batch Plant. The concrete batch plant is a Vince Hagen model HSM 10000 portable concrete batch plant with a theoretical capacity of 100 yd<sup>3</sup>/hr. This concrete batch plant is a truck mix configuration and was erected in 1991; manufacturing date is approximately 1967. Emissions during truck loading/batching are controlled by a C&W Manufacturing and Sales Co. dust collector which has a manufacturer guarantee of 99.99% filtration efficiency.

Manufacturer:	C&W Manufacturing and Sales Co.
Model:	CP 2250-3078
Number of Bags:	30
Bag Size:	8" diameter by 78" length
Air-to-Cloth Ratio:	5.3:1
Filter Type:	Spun Dacron, 9.0 oz/yd <sup>2</sup>
Filtration Area:	2,280 ft <sup>2</sup>

Air Flow: 12,000 acfm  
 Cleaning Method: Pulse jet

- 5.b. Cement Storage Silo (updated information). Emissions from the 110-ton Portland cement silo (can also be used for fly ash, but fly ash is rarely used) are controlled by a passive vent filter and is rated at 99.99% filtration efficiency.

Manufacturer: C&W Manufacturing and Sales Co.  
 Model/Serial No.: CP-LPR-8-S-FS / 052762-005-06  
 Number of Bags: 16  
 Bag Size: 8" diameter by 39" length  
 Air-to-Cloth Ratio: 5:57:1  
 Filter Type: Polyester spun, point bond finish, 7.7 oz/yd<sup>2</sup>  
 Filtration Area: 420 ft<sup>2</sup>  
 Air Flow: 2,340 acfm (Max. Based on air displacement)  
 Exhaust: Vents through lip of dust collector lid  
 Cleaning Method: Pulse jet

- 5.c. Cement Storage Silo (new cartridge collector). Emissions from the 200-ton capacity cement silo are controlled by a cartridge collector with a manufacturer rating of 99.9% filtration efficiency.

Manufacturer: C&W Manufacturing and Sales Co.  
 Model/Serial No.: CP-LPR-8-S-FS / 067752-00-01  
 Number of Bags: 8  
 Bag Size: 8" diameter by 39" length  
 Air-to-Cloth Ratio: 5.57:1  
 Filter Type: Polyester spun, point bond finish, 7.7 oz/yd<sup>2</sup>  
 Filtration Area: 420 ft<sup>2</sup>  
 Air Flow: 2,340 acfm (Max. Based on air displacement)  
 Exhausts: Vents through lip of dust collector lid  
 Cleaning Method: Pulse jet

- 5.d. Slag Cement Storage Silo (updated information). Emissions from the 75-ton capacity slag cement silo are controlled by a cartridge collector with a manufacturer rating of 99.992% filtration efficiency with manufacturer expected emissions not to exceed 0.0025 gr/scf.

Manufacturer: C&W Manufacturing and Sales Co.  
 Model/Serial No.: CP-LPR-8-S-FS / 057251-01-01  
 Number of Bags: 8  
 Bag Size: 8" diameter by 39" length  
 Air-to-Cloth Ratio: 5.57:1  
 Filter Type: Polyester spun, point bond finish, 7.7 oz/yd<sup>2</sup>  
 Filtration Area: 420 ft<sup>2</sup>  
 Air Flow: 2,340 acfm (Max. Based on air displacement)

Exhausts: Vents through lip of dust collector lid  
 Cleaning Method: Pulse jet

- 5.e. Cement/Fly Ash/Slag Weigh Hopper (new cartridge collector). Emissions from the 4.5-ton capacity cement, fly ash, and slag weigh hoppers are controlled by a cartridge collector with a manufacturer rating of 99.9% filtration efficiency.

Manufacturer: C&W Manufacturing and Sales Co.  
 Model/Serial No.: CP-70 / 70449-01-01  
 Number of Bags: 4  
 Bag Size: 8" diameter by 19" length  
 Air-to-Cloth Ratio: 4.8:1  
 Filter Type: Spun bond polyester, 7.7 oz/yd<sup>2</sup>  
 Filtration Area: 90 ft<sup>2</sup>  
 Air Flow: 432 acfm (Max. Based on air displacement)  
 Exhausts: Vents through lip of dust collector lid  
 Cleaning Method: Pulse jet

- 5.f. Hot Water Heater. A diesel-fired hot water heater is used to heat water for the process during the winter months. This is not a low emissions water heater.

Heater Make: Rockmills Steel Corp.  
 Heater Model/SN: CO – 400 / 23473  
 Manufacture Date: 1973  
 Fuel Consumption: 3 gal/hr of diesel  
 Burner Rated Heat Input: 4.2 MMBtu/hr  
 Burner Make: Unipower  
 Burner Model: U110F42  
 Stack Height: 14' from ground with rain cap  
 Stack Diameter: 16"

- 5.g. Storage Piles and Haul Roads. Vehicle roads are paved at the location. They provide operational access to mobile equipment and trucks. Haul road length will depend on the location of the equipment. A total round-trip haul distance of 0.5 miles of paved road per trip was assumed for emission calculation purposes. Fugitive emissions from storage piles and haul roads are minimized with the use of low-pressure wet suppression.

- 5.h. Equipment/Activity Summary.

ID No.	Equipment/Activity	Control Equipment/Measure
1	Concrete Batch Plant	Dust Collector – C&W Mfg and Sales
2	Cement Storage Silo – 110 tons	Dust Collector – C&W Mfg and Sales
3	Cement Storage Silo – 200 tons	Dust Collector – C&W Mfg and Sales
4	Slag Storage Silo – 75 tons	Dust Collector – C&W Mfg and Sales



ID No.	Equipment/Activity	Control Equipment/Measure
5	Cement/Fly Ash/Slag Weigh Hopper	Dust Collector – C&W Mfg and Sales
6	Storage Piles and Haul Roads	Low-Pressure Wet Suppression
7	Rockmills Steel Corp. Hot Water Heater	Ultra Low-Sulfur Diesel

## 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.

Nothing precludes the use, including the exclusive use of any credible evidence or information relevant to identifying or quantifying emissions if methods identified above, in the ADP, or elsewhere in this TSD have not provided adequate quantification of actual emissions.

- 6.a. Concrete Production. PM emissions from concrete production are calculated assuming a maximum production of 120,000 yd<sup>3</sup>/yr of concrete (240,000 tons) and the controlled emission factors from AP-42 Section 11.12 "Concrete Batching" (October 2006) Tables 11-12.6 and 11-12.2 for central mix loading. For evaluation of PM<sub>2.5</sub> emissions, Glacier Northwest has previously provided a sizing analysis for cement that showed 10.4% of the PM was PM<sub>2.5</sub>; the AP-42 emission factors were adjusted by this amount to calculate PM<sub>2.5</sub> emissions. PM<sub>2.5</sub> emissions from cement supplement are assumed to be equal to the PM<sub>10</sub> emissions.

Concrete Produced =	120,000	cubic yards		
	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	
<b>Concrete Emission Factors</b>	lb/yd <sup>3</sup>	lb/yd <sup>3</sup>	lb/yd <sup>3</sup>	Emissions Factor Source
aggregate delivery to ground storage	0.0064	0.0031	0.0031	AP-42 Table 11.12-5 (6/06)
sand delivery to ground storage	0.0015	0.0007	0.0007	AP-42 Table 11.12-5 (6/06)
aggregate transfer to conveyor	0.0064	0.0031	0.0031	AP-42 Table 11.12-5 (6/06)
sand transfer to conveyor	0.0015	0.0007	0.0007	AP-42 Table 11.12-5 (6/06)
aggregate transfer to elevated storage	N/A	N/A	N/A	AP-42 Table 11.12-5 (6/06)
sand transfer to elevated storage	N/A	N/A	N/A	AP-42 Table 11.12-5 (6/06)
cement delivery to silo	0.0002	0.0001	0.0001	AP-42 Table 11.12-5 (6/06)
cement supplement delivery to silo	0.0003	0.0002	0.0002	AP-42 Table 11.12-5 (6/06)
weight hopper loading	0.0079	0.0038	0.0038	AP-42 Table 11.12-5 (6/06)
truck mix loading	0.0160	0.0045	0.0045	AP-42 Table 11.12-2 (6/06)
<b>Total</b>	<b>0.0402</b>	<b>0.0162</b>	<b>0.0162</b>	
<b>Emissions</b>	lb/yd concrete	lb/yr	tpy	
PM	0.0402	4,826	2.41	
PM <sub>10</sub>	0.0162	1,945	0.97	
PM <sub>2.5</sub>	0.0162	1,945	0.97	

- 6.b. Hot Water Heater. Potential annual emissions from the combustion of ultra-low sulfur diesel in the hot water heater were calculated with the assumption that the boiler will operate at full rated capacity for 8,760 hours per year. NO<sub>x</sub> emissions must be maintained at no more than 70 ppmvd @ 7% O<sub>2</sub>, and a CO emission concentration of no more than 25 ppmvd @ 7% O<sub>2</sub>.

<b>Hot Water Heater</b>						
Heat Input Rating =	4.200 MMBtu/hr					
Diesel Heat Content =	0.138 MMBtu/gal (for use with GHG factors from 40 CFR 98)					
Fuel Sulfur Content =	0.0015% by weight					
Diesel Density =	7.206 lb/gallon					
Fuel Consumption =	262,800 gallons/year					
	Emission					
	Factor	Emissions	Emissions			
Pollutant	lb/M gal	lb/yr	tpy	Emission Factor Source		
NO <sub>x</sub>	16.48	4,331	2.17	AP-42 Sec. 1.3 (1/1995)		
CO	3.58	941	0.47	AP-42 Sec. 1.3 (1/1995)		
VOC	0.34	89	0.04	AP-42 Sec. 1.3 (1/1995)		
SO <sub>x</sub> as SO <sub>2</sub>	0.21618	57	0.03	Material Balance		
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	2	526	0.26	AP-42 Sec. 1.3 (1/1995)		
			CO <sub>2</sub> e	CO <sub>2</sub> e		Emission Factor
Greenhouse Gases	kg/MMBtu	GWP	lb/MMBtu	lb/gallon	tpy, CO <sub>2</sub> e	Source
CO <sub>2</sub>	73.96	1	163.05	23	2,957	40 CFR 98
CH <sub>4</sub>	0.003	25	0.165	0.023	3	40 CFR 98
N <sub>2</sub> O	0.0006	298	0.394	0.054	7	40 CFR 98
Total GHG - CO <sub>2</sub> e	74.0		163.6	23	2,967	

6.c. Haul Roads. Emissions from paved haul roads were calculated using AP-42 Section 13.2.2 (November 2006) emission factors and assuming an average load weight of 21 tons, an average silt content of 0.6 g/m<sup>2</sup>, an average round trip distance of 0.50 miles, and the density of mixed concrete to be 4,024 lb/yd<sup>3</sup>. The total vehicle miles travelled (VMT) is calculated to be 7,500 mile/yr. The use of wet suppression is expected to provide an overall control efficiency of 80% for haul road emissions.

$$E = k \left( \frac{s}{12} \right)^a \left( \frac{w}{3} \right)^b (100\% - CE)$$

Where:

- E = Emission factor, in lb/VMT, for PM, PM<sub>10</sub>, or PM<sub>2.5</sub>;
- k = Emission constants for PM (k=4.9), PM<sub>10</sub> (k=1.5), or PM<sub>2.5</sub> (k=0.15);
- a = Emission constants for PM (a=0.7), PM<sub>10</sub> (a=0.9), or PM<sub>2.5</sub> (a=0.9);
- b = Emission constants for PM (b=0.45), PM<sub>10</sub> (b=0.45), or PM<sub>2.5</sub> (b=0.45);
- s = Road surface silt content, in percent;
- w = Average truck weight, in tons; and
- CE = Control efficiency, in percent.

Activity	Total VMT (mile/yr)	Pollutant	Emission Factor (lb/VMT)	Emissions (lb/yr)
Haul Roads	7,500	PM	0.63	4,681
		PM <sub>10</sub>	0.12	913
		PM <sub>2.5</sub>	0.018	137

6.c. Emissions Summary

Air Pollutant	Potential to Emit (tpy)	Project Impact (tpy)
NO <sub>x</sub>	2.15	0.00
CO	0.47	0.00
VOC	0.05	0.00
SO <sub>2</sub>	0.03	0.00
PM	5.02	0.00
PM <sub>10</sub>	1.69	0.00
PM <sub>2.5</sub>	1.30	0.00
CO <sub>2</sub> /CO <sub>2e</sub>	2,967	0.00
TAPs	0.00	0.00
HAPs	0.00	0.00

## 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 ADP consistent with implementation of Best Available Control Technology (BACT):

- 7.a. Title 40 Code of Federal Regulations (40 CFR) Part 60 Subpart Dc [§60.40c] "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units" applies to any steam generating unit with a heat input greater than or equal to 10 MMBtu/hr, but less than or equal to 100 MMBtu/hr constructed, modified, or reconstructed after June 9, 1989. The hot water heater does not exceed 10 MMBtu/hr; therefore, this regulation does not apply.
- 7.b. 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.c. 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 for installation and establishment of an air contaminant source. This law applies to the facility.
- 7.d. 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 facility emits TAPs; therefore, this regulation applies to the facility.
- 7.e. WAC 173-476 "Ambient Air Quality Standards" establishes ambient air quality standards for PM<sub>10</sub>, PM<sub>2.5</sub>, lead, SO<sub>2</sub>, NO<sub>x</sub>, ozone, and CO in the ambient air, which must not be exceeded. The facility emits PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub>, NO<sub>x</sub>, and CO; therefore, certain sections of this regulation apply. The facility does not emit lead; therefore, the lead regulation section does not apply.
- 7.f. 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, SO<sub>2</sub>, concealment and masking, and fugitive dust. This regulation applies to the facility.
- 7.g. 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.h. SWCAA 400-040(2) "Fallout" requires that emissions of PM from any source must not 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.i. 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.j. 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 source must be managed properly to maintain compliance with this regulation. This regulation applies to the facility.

- 7.k. SWCAA 400-040(6) "Sulfur Dioxide" requires that no person shall emit a gas containing in excess of 1,000 ppm of SO<sub>2</sub>, corrected to 7% O<sub>2</sub> or 12% CO<sub>2</sub> as required by the applicable emission standard for combustion sources.
- 7.l. SWCAA 400-040(8) "Fugitive Dust Sources" requires that reasonable precautions be taken to prevent fugitive dust from becoming airborne and to minimize emissions. This regulation applies to the facility.
- 7.m. SWCAA 400-050 "Emission Standards for Combustion and Incineration Units" requires that all provisions of SWCAA 400-040 be met, and that no person shall cause or permit the emission of PM from any combustion or incineration unit in excess of 0.23 g/Nm<sup>3</sup><sub>dry</sub> (0.1 gr/dscf) of exhaust gas at standard conditions. This facility has a combustion unit, the hot water heater; therefore, this regulation applies.
- 7.n. SWCAA 400-060 "Emission Standards for General Process Units" requires that all new and existing general process units do not emit PM in excess of 0.23 g/Nm<sup>3</sup><sub>dry</sub> (0.1 gr/dscf) of exhaust gas. The facility has general process units; therefore, this regulation applies to the facility.
- 7.o. SWCAA 400-109 "Air Discharge Permit Applications" requires that an ADP 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 application to request such changes. An ADP 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.p. SWCAA 400-110 "New Source Review" requires that SWCAA issue an ADP in response to an ADP 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.q. 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 nonclassified for all criteria pollutants; therefore, this regulation applies.

- 7.r. SWCAA 400-114 "Requirements for Replacement or Substantial Alteration of Emission Control Technology at an Existing Stationary Source" requires that no approval to replace or substantially alter emission control technology at an existing source will be granted unless it is evidenced that Reasonably Available Control Technology (RACT) will be employed for all air contaminants to be emitted by the proposed equipment.

## 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:

- 8.a. BACT Determination – Concrete Batch Plant. The use of process enclosure, fabric filtration, and wet suppression has been previously determined to meet the requirements of BACT the concrete batch plant at this facility.
- 8.b. BACT Determination – Storage Silos and Weigh Hoppers. The proposed use of process enclosure and fabric filtration has been previously determined to meet the requirements of BACT for the cement handling and storage at this facility.
- 8.c. BACT Determination – Hot Water Heater. The proposed use of low-sulfur fuel (#2 diesel) and proper combustion controls had previously been determined to meet the requirements of BACT when the hot water heater was originally permitted at this facility.
- 8.d. BACT Determination – Fugitive Dust Emissions. Wet suppression is the only control measure in general use at this type of facility, and its effectiveness is well documented. The use of low-pressure wet suppression systems has been previously determined to meet the requirements of BACT for fugitive dust emissions from storage piles, material transfer points, and haul roads at this facility.
- 8.e. Prevention of Significant Deterioration (PSD) Applicability Determination. 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.f. 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 (Title V) permit.

## 9. AMBIENT IMPACT ANALYSIS

- 9.a. Criteria Air Pollutant Review. Emissions of criteria pollutants are emitted at levels where no adverse ambient air quality impact is anticipated.

### Conclusions

- 9.b. The replacement baghouses, as proposed in ADP application CO-1105, will not cause the ambient air quality requirements of 40 CFR 50 "National Primary and Secondary Ambient Air Quality Standards" to be violated.
- 9.c. The replacement baghouses, as proposed in ADP application CO-1105, 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.d. The replacement baghouses, as proposed in ADP application CO-1105, 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 24-3668 in response to ADP application CO-1105. ADP 24-3668 contains approval requirements deemed necessary to assure compliance with applicable regulations and emission standards as discussed below.

- 10.a. Supersession of Previous Permits. ADP 24-3668 supersedes ADP 20-3403 in its entirety. Compliance will be determined under this ADP, not previously superseded ADPs. Existing approval conditions for units not affected by this project have been carried forward unchanged.
- 10.b. Emission Limits. Emission limits were not modified. They are established consistent with the calculations in Section 6. The concrete batch plant has PM emission limits that are based on an assumed maximum production rate of 120,000 yd<sup>3</sup>/yr. Opacity of visible emissions is also limited to 0% since it is not expected that significant levels of opacity would result from this operation.

The hot water heater was not modified in this permitting action. Annual hours of operation have not been restricted and emission limits are based on potential to emit at 8,760 hours per year.

- 10.c. Operating Limits and Requirements. There are few permit requirements associated with the proposed concrete plant due to the simplicity of the affected operations and the fugitive nature of the resulting PM emissions. Emissions from material handling equipment, storage piles, and haul roads will generally be controlled using wet suppression methods. Emissions from cement handling in specific will be minimized through the use of fabric filtration. The concrete batch plant has been permitted assuming a maximum production rate of 120,000 yd<sup>3</sup>/yr.



The hot water heater operates on ultra-low-sulfur diesel fuel. Annual hours of operation have not been restricted and emission limits are based on potential to emit.

10.d. Monitoring and Recordkeeping Requirements. Monitoring and recordkeeping requirements are established to provide sufficient documentation to ensure 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 concrete production and maintenance activities.

10.e. Emission Monitoring and Testing Requirements. Emission monitoring of the concrete batch plant is not considered to be necessary. Monitoring of throughput and opacity is expected to be sufficient to ensure compliance.

The hot water heater is required to be emission monitored (tuned) annually to provide reasonable assurance that the unit is operating properly.

10.f. Reporting Requirements. General reporting requirements are established for annual air emissions, upset conditions, and excess emissions. Specific reporting requirements are established for production. Reports are to be submitted on an annual basis.

## **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.

11.b. Alternate Operating Scenarios. SWCAA conducted a review of alternate operating scenarios applicable to equipment affected by this permitting action. The permittee did not propose or identify 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. Dust Collectors. There are no emission monitoring or testing requirements for the dust collectors.
- 12.b. Hot Water Heater. Performance monitoring of the hot water heater with a combustion analyzer or equivalent is required at least annually by the end of September. In SWCAA's experience this monitoring is relatively inexpensive compared to the quantity of emissions that can be prevented by this procedure. It is unlikely that emissions will degrade rapidly enough that more frequent monitoring is necessary to maintain proper operation. SWCAA believes that this testing regime provides a reasonable assurance of on-going compliance with the permitted emission limits.

## 13. FACILITY HISTORY

- 13.a. General History. Lonestar Northwest purchased Cowlitz Redi-Mix in 1990. In October 2003, the company was bought by Glacier NW.
- 13.b. Previous Permitting Actions. SWCAA has previously issued the following Permits to Glacier Northwest:

Permit	Application	Date Issued	Description
20-3403	CO-1020	4/30/20	Replacement of two Vince Hagen cartridge collectors with two C&W cartridge collectors. This ADP superseded 96-1958R1 in its entirety.
96-1958R1	CO-644	8/25/99	Modifications to an existing Vince Hagen portable cement batch plant and installation of a new baghouse to control truck loading emissions and installation of a new 200-ton cement silo and vent filter.
96-1958	CO-577	1/13/97	Installation of a Vince Hagen portable concrete batch plant

- 13.c. Compliance History. A search of source records on file at SWCAA did not identify any previous or outstanding compliance issues over the past five (5) years.

## 14. PUBLIC INVOLVEMENT OPPORTUNITY

- 14.a. Public Notice for ADP Application CO-1105. Public notice for ADP application CO-1105 was published on the SWCAA website for a minimum of fifteen (15) days beginning on September 24, 2024.

- 14.b. Public/Applicant Comment for ADP Application CO-1105. SWCAA did not receive specific comments, a comment period request, or any other inquiry from the public or the applicant regarding ADP application CO-1105. Therefore, no public comment period was provided for this permitting action.
- 14.c. State Environmental Policy Act. SWCAA has determined that this project is exempt from SEPA requirements pursuant to WAC 197-11-800(3) and has issued Determination of SEPA Exemption 24-040. This project only involves repair, remodeling, maintenance, or minor alteration of existing structures, equipment or facilities, and will not involve material expansions or changes in use. There is no physical change proposed in the project that would have an adverse impact on the environment beyond that which has already been evaluated under previous SEPA reviews.