YAKIMA REGIONAL CLEAN AIR AGENCY

Order of Approval Permit No NSRP-13-OMF-19

Order of Approval for Ostrom Mushroom Farm L.L.C. for the Installation of Five New Cleaver-Brook Boilers

IN THE MATTER OF approving a project which establishes a new air contaminant source at Ostrom Mushroom Farm LLC, in Sunnyside, WA. THIS ORDER OF APPROVAL IS HEREBY ISSUED TO:

Applicant/Permittee:	Ostrom Mushroom Farm L.L.C. *Mushroom Growing Facility*
Located at:	1111 Midvale Road Sunnyside, WA. 98944
Contact:	Ostrom Mushroom Farm David Knudsen, President 8322 Steilacoom Road S.E. Olympia, WA 98513 (360) 491-1410 ext. 229

IN COMPLIANCE WITH THE PROVISIONS OF THE STATE OF WASHINGTON CLEAN AIR ACT (Revised Code of Washington (RCW)) CHAPTER 70A.15.2210, WASHINGTON ADMINISTRATIVE CODE (WAC) 173-400-110, 173-460-040:

ISSUE DATE: February 22, 2023

THIS ORDER OF APPROVAL PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS:

Construction/Installation of the equipment must be conducted in compliance with all data and specifications submitted with the New Source Review (NSR) application under which this Order of Approval is issued unless otherwise specified herein. The conditions and limitations of this Order of Approval are attached as follows:

1.0 DESCRIPTION OF THE SOURCE.

1.1 Ostrom Mushroom Farms LLC., hereafter referred to as the Permittee, the Facility, OMF or the Source is the owner and operator of a mushroom growing facility, the Permittee is proposing to open a new mushroom growing facility at 1111 Midvale Road Sunnyside, WA. The Permittee submitted a New Source Review (NSR) application that proposes to install five new Cleaver-Brook boilers as part of the mushroom operation: One 200 Horse power (Hp) Cleaver Brooks Model CBLE-700-200-150ST Steam Boiler fueled by Bio Gas as the primary source and Natural Gas as a Backup fuel, Three 70 Hp Cleaver Brooks Model CFC-700-3300-125HW Hot Water Boilers fueled by Natural Gas as the primary fuel and Propane as the Backup fuel, One 60 Hp Cleaver Brooks Model CFH-700-60-150ST Steam Boiler fueled by Natural Gas as the primary fuel and Propane as Backup fuel at the new Facility.

1.2 Mushroom growing operation per se is considered as an agricultural operation as it was determined and ruled by the Pollution Control Hearing Board (PCHB) which is exempted from the NSR pursuant to Washington Clean Air Act RCW 70A.15.4530. This NSR is submitted for the boilers part of the operation as they are subject to NSR and other rules and regulation.

1.3 Air emissions from operating these boilers are in the form of small Particulate Matter (PM_{10}, $PM_{2.5}$), Oxides of Nitrogen and Sulfur (NOx, SOx), Volatile Organic Compounds (VOCs) some of which are known as Hazardous Air Pollutants (HAPs) and Toxic Air Pollutants (TAPs) in accordance with the Federal Clean Air Act (FCAA) or Washington Administrative Code (WAC), respectively.

1.4 These air emissions are emitted during boilers combustion operation. The City of Sunnyside exempted this installation from the State Environmental Policy Act (SEPA) as signed on the YRCAA NSR application; June 18, 2019. A public notice for this NSR was published in accordance with the RCW 70A.15.2210 and section 173-400-171 of the Washington Administrative Code (WAC).

1.5 Specifications of the boilers were submitted with the NSR application and are enclosed in the NSR application as provided by the Permittee. The layouts of the Facility are shown in Figures 1 to 3, below.

1.6 Installation of these five boilers, are considered a new source of air contaminants requiring a NSR application and issuance of an Order of Approval (Order/Permit) pursuant to the Revised Code of Washington (RCW) 70A.15.2210 and the Washington Administrative Code (WAC) 173-400-110 and 173-460-040.

2.0 DETERMINATIONS.

In relation to the above installation, YRCAA determines that the Facility shall comply with the federal, state and local regulations and laws including but not limited to the following determination:

2.1 The Facility is located in an area that is in attainment with all state and federal air quality standards for all criteria pollutants;

2.2 The Facility is not a major stationary source nor these boilers are subject to the Prevention of Significant Deterioration (PSD) permitting requirements of WAC 173-400-700 through 173-400-750;

2.3 All of these boilers have a heat capacity less than 10 MMBtu per hour individually, therefore are not subject to 40 CFR Part 60 New Source Performance Standards (NSPS) for Area Sources: Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units;

2.4 These boilers in aggregate have a heat capacity greater than 4 MMBtu/hr and therefore their installations are subject to the NSR requirements of WAC 173-400-110 and WAC 173-460-040; and

2.5 The Facility is also subject to WAC 173-400-099 – Registration program and YRCAA Regulation 1, 4.01 – Registration program, unless the Facility becomes a Title V Permitted source, pursuant to the State and Federal Clean Air Acts.

THEREFORE, it is hereby ordered that the project as described above, in the NSR application, and in detailed plans, specifications and other information submitted in reference thereto, is **APPROVED** for operation, **PROVIDED** the specification submitted with the application and the following sections and conditions are met:

3.0 OPERATIONAL APROVAL CONDITIONS.

3.1 This Order is for the five new Cleaver-Brook steam boilers, as specified above, to be located at 1111 Midvale Road Sunnyside, WA, in accordance with the plan and specifications submitted with the NSR application to YRCAA and specified in Table 1 of this Order.

3.2 Best Available Control Technology (BACT) and toxic BACT (t-BACT) pursuant to RCW 70A.15.2210, WAC 173-400-113 and WAC 173-460-060 shall be satisfied for any proposed new facility or modified air emission source to control air emissions. YRCAA finds BACT to be satisfied as follows:

3.2.1 The maximum air emission limits for NOx, CO, PM and other air emissions shall be limited, as per the submitted specifications with this NSR application and specified in the Emission Limits Section 5.0 below;

3.2.2 An Operation and Maintenance (O&M) plan for the boilers shall be developed as specified in this Order and manufacturers recommended standards;

3.2.3 The boilers must be operated as per manufacturer specifications and any certification;

3.2.4 TAPs air emissions shall always be below the Acceptable Source Impact Levels (ASIL);

3.2.5 The boilers shall meet the ASIL of WAC 173-460 and the National Ambient Air Standards (NAAQs) of 40 CFR Part 50 and any other limits specified in this Order or any other regulations that may be pertinent to this Facility; and

3.2.6 The boilers should not operate more than the limits specified in this Order.

3.3 All air emissions from this operation shall be in compliance with air emission standards at all times. It is the responsibility of the owner to make sure that air emissions are within all known and applicable rules and regulations standards, including but not limited to 40 CFR Part 60, Subpart Dc, 173-400-040 and 173-460.

3.4 Air emissions rules and regulations i.e., federal, state and local, may change at any time. It is the owner's responsibility to be in compliance with all known and new air emission standards at all times. Any new rules will be incorporated into the Orders upon renewal or new Orders.

3.5 This Order authorizes the construction of the following equipment:

Table. 1 Authorized Equipment List.

Unit Type	Number of Units	Manufacture	Model Number / Hp	Primary Fuel / Input Rating (MM Btu/hr)	Back-up Fuel / Input Rating (MM Btu/hr)
ClearFire Commercial Boiler with Economizer	1	Cleaver-Brook	CBLE-700-200-150ST /200	Bio-Gas / 7.7	Natural Gas / 7.7
ClearFire Commercial Boiler with Economizer	3	Cleaver-Brook	CFC-700-3300-125HW / 85	Natural Gas / 9.9 equals (3 units at 3.3 MM Btu/hr)	Propane / 9.9
ClearFire Commercial Boiler with Economizer	1	Cleaver-Brook	CFH-700-60-150ST /60	Natural Gas / 2.45	Propane / 2.45
			Total	20.05 MM Btu/Hr	20.05 MM Btu/Hr

3.6 The Permittee must develop and implement specific O&M plan based on the boilers manufacturer's operations manual and the facility's experience as specified in the BACT determination above. The site-specific O&M plan shall contain at least four sections: general information, operation plan (i.e., key operating parameters), maintenance plan and any other additional information for the boilers. The O&M plan must be completed within 90 days of the issuance of this Order or from the commencement of the operations, whichever comes first.

3.7 Within 90 days from the date of issuance of this Order, the Permittee shall submit notification to YRCAA indicating that the O&M plan is completed and in place. If the Permittee needs to make any future modification to the boilers or boiler replacements (i.e. model, serial number changes), or its operating procedures, an approval in writing from YRCAA must be obtained before such modification takes place. The O&M documents must also be updated and implemented to reflect such modification.

3.8 No emissions shall be released from this boilers beyond the property boundary in a quantity that interferes unreasonably with the use and enjoyment of the property upon which the material is deposited or is detrimental to the health, safety or welfare of any person or causes damage to any property or business.

3.9 An initial opacity as measured by 40 CFR Part 60, Appendix A, Method 9, July 1, 2004 from this five Cleaver-Brook boilers installation must be conducted and shall not exceed a zero percent (0%) using any of the proposed fuel sources (bio-gas, NG and propane) average for six consecutive minutes in any given one hour period. The Permittee shall maintain 0% opacity from the boilers at all times, except during periods of unavoidable excess emissions pursuant to WAC 173-400-109, startup, shutdown or malfunction as provided in WAC 173-400-081. If the Permittee cannot meet the 0% opacity limit based on the manufacturer or design recommendation, YRCAA should be notified immediately to find a solution.

3.10 In addition to the initial opacity reading above, once a month, the Permittee shall conduct and record visual opacity from the boilers stack. Zero percent (0%) opacity means no smoke may be seen; only heat waves shall be visible. If the observer sees any smoke, the Permittee shall immediately stop the operation and take corrective action as directed in the O&M plan until visible emissions are below 0% opacity. Corrective actions may include the following:

3.9.1 Certify that the boilers are performing according to its design functions within the acceptable design parameters and are being operated according to O&M procedures. Therefore, it must be checked against all operational conditions that have resulted in compliance in the past. If the boilers are not performing according to design and O&M procedures, the Permittee must take corrective action within 48 hours to correct the problem; or

3.9.2 Conduct an opacity evaluation by a certified opacity reader in accordance with 40

CFR 60, Appendix A, Method 9 and such opacity evaluation shall be conducted within 48 hours to verify compliance with the 0% opacity limit. If opacity is greater than 0%, appropriate and timely corrective action must be taken no later than 48 hours to identify and correct the problem causing the opacity. If the Permittee has no certified reader on site, the Permittee should call YRCAA and will be advised accordingly.

3.11 An initial source performance test for NOx, SO_2, CO, PM_{10} and $PM_{2.5}$ except Chromium VI as specified in this Order using the bio gas fuel source for the 200 Hp boiler shall be conducted no later than 180 days after initial startup of the boilers or issuance of this permit. The Permittee shall provide the source test protocol to YRCAA at least thirty days before the test takes place. The parameters must not be changed or altered prior to the test without written approval from YRCAA.

3.12 The source test must be conducted pursuant to 40 CFR Part 60, Appendix A, Method 7E for NOx, Method 6 for SO_2 and Method 10 for CO in accordance with the limits specified in the emission limits section below.

3.13 The source test for the fine PM_{10} and $PM_{2.5}$ shall be conducted in accordance with 40 CFR Part 60, Appendix A, Method 5 with Method 202 or 201A with 202 fronts and back half.

3.14 The source test for Chromium (VI), when required shall be conducted using EPA approved method SW-846, Volume Two, Chapter 10, Method number 0061: Determination of Hexavalent Chromium Emissions from Stationary Sources, or any other approved EPA method. If another method to be used, it must be approved in writing by YRCAA forty five days prior to the source test date. The Permittee must provide the source test results to YRCAA within 30 days after the source test is completed.

3.15 There is no required initial source test for Chromium VI. However, if it becomes a requirement, YRCAA will inform the Permittee in writing of this requirement pursuant to WAC 173-400-105(4).

3.16 The Permittee shall repeat the source test for NOx and CO and PM_{10} and $PM_{2.5}$ every five years, thereafter, from the date of the first source test, unless the 1st source test results shows very low concentration. This requirement may be waived, but in writing from YRCAA, upon request.

3.17 The Permittee shall perform the source performance testing to gauge compliance with this Order while the boilers are operating at its normal operation parameters of the boilers firing rate. The specified limits in the emission limits section below shall also be applicable to all firing range.

3.18 In accordance with WAC 173-400-105(4) and YRCAA Regulation 1, Article V, Section 5.11(c), the Permittee shall conduct a source test when deemed necessary by YRCAA to

demonstrate compliance for any air pollutant, specific to this installation. YRCAA will inform the Permittee of the source test requirement and method at that time, if deemed necessary.

3.19 The Air Pollution Control Officer (APCO) of the YRCAA or his designated staff shall be allowed to enter the Facility at reasonable times to inspect for compliance with applicable laws, regulations and the conditions on this Order.

4.0 GENERAL APPROVAL CONDITIONS.

4.1 The Cleaver-Brook boilers shall comply with all other requirements specified in all current federal, state and local air pollution laws and regulations, including, but not limited to, RCW 70A.15 (Washington Clean Air Act), WAC 173-400 (General Regulations for Air Pollution Sources), WAC 173-460 (Controls for New Sources of Toxic Air Pollutants), and the YRCAA Regulation 1.

4.2 All plans, specifications or other information submitted to YRCAA and any further authorizations, approvals, or denials in relation to this project, shall be incorporated herein and made a part of the YRCAA file and this Order.

4.3 Nothing in this approval shall be construed as precluding compliance with any requirement(s) of law including those imposed pursuant to the Clean Air Washington Act, and rules and regulations thereunder. Any violation(s) of such rules and regulations are penalized in accordance with RCW 70A.15.3150 and YRCAA Regulation 1, Article 5, Compliance and Enforcement.

4.4 Authorization may be modified, suspended or revoked in whole or part for cause including, but not limited to, the following:

4.4.1 Violation of any terms or conditions of this authorization; or,

4.4.2 Obtaining this authorization by misrepresentation or failure to disclose fully all relevant facts.

4.5 The provisions of this authorization are severable and, if any provision of this authorization, or application of any provisions of this authorization to any circumstance, is held invalid, the application of such provision to their circumstances, and the remainder of this authorization, shall not be affected thereby.

4.6 This Order and its conditions requirements apply to the Facility owner and/or operator(s) and any contractor or subcontractor performing any activity authorized under this Order. Any person(s), including contractor(s) and/or subcontractor(s), not in compliance with the applicable requirements in this Order are in violation of State and local laws and subject to appropriate civil and criminal penalties. The Facility owner and/or operator,

and all contractor(s) or subcontractor(s) are liable for the actions and violations of their employee(s). Any violation committed by a contractor or subcontractor shall be considered a violation by the Facility owner and/or operator, and is also a violation by the contractor and/or any subcontractor(s).

4.7 Laws, rules and regulations may be superseded or revised without notice. It is the Permittee's responsibility to stay current with laws rules and regulations governing their business and therefore is expected to comply with all new laws, rules and regulations immediately upon their effective date.

4.8 All air emissions from this Facility shall be in compliance with all air emission standards at all times. It is the responsibility of the owner to make sure that air emissions are within all known and promulgated laws, rules and regulations standards.

4.9 If, or whenever the Permittee wants to change the quantity of emissions set forth in this Order, another NSR must be filed with YRCAA before any change takes place and BACT requirements must be satisfied.

4.10 This Order is invalid without paying the complete appropriate/required fees to YRCAA, pursuant to RCW 70A.15.2210 within the specified time of the invoice.

5.0 EMISSION LIMITS

5.1 Air emission from this operation generate small PM_{10}, $PM_{2.5}$, CO, VOC's, NOx, SOx, and other HAPs and TAPs as shown in Appendix A. These maximum emissions shall not be exceeded as specified in this Appendix.

5.2 Emissions of NO_x and CO from the boilers shall not exceed 9 ppm and 25 ppm, respectively, by volume, dry and corrected to three percent oxygen (9 and 25 ppmvd @ 3% O_2) when using the boilers primary fuel source.

5.3 TAPs air emissions shall always be below the Acceptable Source Impact Levels (ASIL);

6.0 MONITORING AND RECORDKEEPING REPORTING REQUIREMENTS.

6.1 The Permittee shall record the annual amount of fuel used, including the number of hours, dates and type of fuel consumed, by the respective boilers and report it along with the plant-wide total in the annual registration submitted on forms provided by the agency.

6.2 This Order and its conditions shall remain in effect in the event of any change in control of ownership or operation of the Facility. In the event of any such change in control of ownership or operation, the Permittee shall notify the succeeding owner of this Order and conditions and shall notify the YRCAA of the change by filing an "Ownership or Name

Change" form within fifteen (15) days of that change. The form can be obtained or requested from YRCAA's office or the website.

6.3 Results of the source test requirements in this Order shall be submitted to the YRCAA within 30 days following the completion date of the test.

6.4 The final source test results must be reported to YRCAA in units of ppmvd, pounds per hour and potential tons per year for each pollutant.

6.5 The Permittee shall keep all records including this Order on site. Records shall include, at minimum, the monthly number of hours of operation of all units, the fuel usage, and the O&M items performed. Forms for recordkeeping must be designed by the Permittee and shall include the date and time of maintenance performed and the operator's name.

6.6 The required records, logs and a copy of the O&M plan for this Facility shall be kept on site and shall always be readily available, organized, accessible and be made available to the APCO of the YRCAA or his designated staff during inspections or upon request. The O&M plan shall be updated to reflect any changes in operating procedures and such changes shall be routinely be implemented.

6.7 All required records shall be kept and maintained on-site for a rolling three year period, and be available to the APCO of the YRCAA or his designated staff during inspections or upon request.

6.8 Any application form, report, compliance certification, monthly record and the annual consumption report submitted to YRCAA pursuant to this Order must be signed by the responsible official.

6.9 Total air emission for each air pollutant including HAPs/TAPs, number of hours of operation must be calculated and reported to YRCAA on an annual basis as specified in the annual registration provided by YRCAA to the Facility, as long as the Facility is not a Title V source.

You may appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process and applicable requirements is governed by Chapter 43.21B RCW. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do all of the following within 30 days of the date of receipt of this Order:

- File your appeal and a copy of this Order with the PCHB, P.O. Box 40903, Olympia, WA, 98504-0903. Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on YRCAA in paper form - by mail or in person. E-mail is not accepted.

DATED at Yakima, Washington this 22nd day of February, 2023.

PREPARED BY:

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REVIEWED and ISSUED BY:

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For
Marc Thornsbury
Air Pollution Control Officer

REVIEWED BY:

Norman Hepner, P.E.
Nth Degree Engineering Solutions

Boilers

CFC-700-3300-125HW (3X) NG w/propane backup (3.3 MM e	9.9 MM Btu/hr		
CBLE-700-200-150ST (1X) Bio-Gas w/ NG backup	7.7 MM Btu/hr	25%	of the year this boiler will run
CFH-700-60--150ST (1X) NG w/ propane backup	2.45 MM Btu/hr		

Potential Emissions from Five New Boilers New Boilers - **All using Primary Fuel for** Combustion (***Actual Emission Esitimate***)

Operating Hours	8,760	hr/year
Natural Gas Heating Value [a]	1,020	Btu/scf
Maximum Heat Input Capacity [b]	14.275	MMBtu/hr

Pollutant		Natural Gas Emission Factor (lb/MMscf)	N.G. Exhaust Gas Emission Factor (lb/dry 10^6 scf)	Nat'l Gas Emission Factor (lb/MMBtu)	Bio-Gas Emission Factor (lb/MMBtu)	Emission Rate Bio-Gas (lb/hr)	Emission Rate Nat'l Gas (lb/hr)	Emission Rate (tpy)
PM_{10}	[c]	7.6	--	7.45E-03	7.45E-03	0.057	0.09	0.47
$PM_{2.5}$	[c]	7.6	--	7.45E-03	7.45E-03	0.057	0.09	0.47
SO_2	[c]	0.6	--	5.88E-04	8.00E-04	6.16E-03	7.26E-03	0.04
NO_X	[d]	--	1.25	1.09E-02	3.50E-02	0.270	0.13	0.89
VOC	[c]	5.5	--	5.39E-03	4.60E-03	0.035	0.07	0.33
CO	[c]	--	2.12	0.018	3.75E-02	0.289	0.23	1.31
CO_2e	[e]		--	--	--	906.6	1,446.2	7,327
CO_2	[f]	--	--	116.98	114.8	884.0	1,444.7	7,296
N_2O	[f]	--	--	2.20E-04	0.0093	0.0713	2.72E-03	0.09
CH_4	[f]	--	--	2.20E-03	0.0071	0.0543	0.0272	0.18

[a] The natural gas heating value uses a typical heating value from AP-42.

[b] The maximum heat input is based on vendor provided emission data at 100% firing rate.

[c] Emission factors for small boilers (<100 MMBtu/hr) are obtained from Table 1.4.1 and Table 1.4.2, AP-42 Chapter 1.4, Natural Gas Combustion.

[d] Emission factors for NO_X and CO are obtained from vendor guarantee of 9 ppm and 25 ppm corrected to 3% oxygen, respectively. The emission factors are converted from ppm to lb/MMscf using EPA Method 19 using the equations below. A conversion fuel factor of 8,710 dscf/MMBtu is used to determine the emission factor in lb/MMBtu.

NO_X EF (lb/MMscf) = NO_X concentration (ppm) × 1.194×10^{-7} (lb/scf)/(ppm-NO_X) × 20.9%/(20.9%-3%) × 10^6

CO EF (lb/MMscf) = CO concentration (ppm) × 1.660×10^{-7} (lb/scf)/(ppm-SO_2) × 28.0101 (g/mol SO_2) / 64.066 (g/mol CO) × 20.9%/(20.9%-3%) × 10^6

[e] The GHGs emissions are calculated based on the Global Warming Potentials (GWP) provided in Table A-1 of 40 CFR 98.

CO_2	1
N_2O	298
CH_4	25

[f] The emission factors are obtained from 40 CFR 98 Subpart C, Tables C-1 and C-2, and converted to values in lb/MMBtu.

	Nat'l Gas		Bio-Gas		Propane (use Nat'l Gas; from C-2 for CH_4 & N_2O)		
	(kg/mmbtu)	(lb/mmbtu)	(kg/mmbtu)	(lb/mmbtu)	(kg/mmbtu)	(lb/mmbtu)	(lb/10^3 gal)
CO_2 (Table C-1)	53	116.865	52.07	114.8	61.71	136.07	12314
N_2O (Table C-2)	0.0001	0.000221	0.0042	0.00926	0.0001	0.000221	0.02
CH_4 (Table C-2)	0.001	0.002205	0.0032	0.007056	0.001	0.002205	0.2

HAPs/TAPs Emission Summary

Heat Input Capacity	14.28 MMBtu/hr
Natural Gas Heating Value	1020 Btu/scf

	AERSCREEN Modeling Results for al Five Boilers using Nat'l Gas Using Parametrix Modeling results			
	CFC 3300 (3X) @ 550'	CBLE 200 @ 550' @ 25% capacity	CFH 60 @ 250'	Total Combined at Property Boundary
1 hr conc.	334.8	101.1	122.2	558.1
3 hr conc.	334.8	101.1	122.2	558.1
8 hr conc.	301.4	99.1	110.0	510.5
24 hr conc.	200.9	66.1	73.3	340.3
Annual conc.	33.5	2.8	12.2	48.5

				Natural Gas Combustion [a]										
Pollutant	CAS Number	HAP?	TAP?	Emission Factor (lb/MMscf)	Hourly Emissions (lb/hr)	Annual Emissions (lb/yr)	Annual Emissions (tpy)	Averaging Period	ASIL ($\mu g/m^3$)	SQER (lb/avg. period)	De Minimis (lb/avg. period)	Modeling Required?	Model Concentration ($\mu g/m^3$)	Model Concentration Exceeds ASIL
Benzene	71-43-2	Yes	Yes	2.10E-03	2.94E-05	0.26	1.29E-04	year	0.13	21	1	De Minimis	n.a.	
Formaldehyde	50-00-0	Yes	Yes	7.50E-02	1.05E-03	9.19	4.60E-03	year	0.167	27	1.4	No	n.a.	
Toluene	108-88-3	Yes	Yes	3.40E-03	4.76E-05	0.42	2.08E-04	24-hr	5000	370	19	De Minimis	n.a.	
2-Methylnaphthalene	91-57-6	Yes	No	2.40E-05	3.36E-07	2.94E-03	1.47E-06	--	--	--	--	--	n.a.	
3-Methylchloranthrene	56-49-5	Yes	Yes	1.80E-06	2.52E-08	2.21E-04	1.10E-07	year	0.000096	0.016	0.00078	De Minimis	n.a.	
7,12-Dimethylbenz(a)anthrancen	--	Yes	No	1.60E-05	2.24E-07	1.96E-03	9.81E-07	--	--	--	--	--	n.a.	
Acenaphthylene	203-96-8	Yes	No	1.80E-06	2.52E-08	2.21E-04	1.10E-07	--	--	--	--	--	n.a.	
Benzo(a)pyrene	50-32-8	Yes	Yes	1.20E-06	1.68E-08	1.47E-04	7.36E-08	year	0.001	0.16	0.0082	De Minimis	n.a.	
Benzo(b)fluoranthene	205-99-2	Yes	Yes	1.80E-06	2.52E-08	2.21E-04	1.10E-07	year	0.0055	0.89	0.045	De Minimis	n.a.	
Benzo(k)fluoranthene	207-08-9	Yes	Yes	1.80E-06	2.52E-08	2.21E-04	1.10E-07	year	0.0055	0.89	0.045	De Minimis	n.a.	
Dibenzo(a,h)anthracene	53-70-3	Yes	Yes	1.20E-06	1.68E-08	1.47E-04	7.36E-08	year	0.0005	0.082	0.0041	De Minimis	n.a.	
Dichlorobenzene	25321-22-6	Yes	No	1.20E-03	1.68E-05	0.15	7.36E-05	--	--	--	--	--	n.a.	
Hexane	110-54-3	Yes	Yes	1.80	0.03	220.67	0.11	24-hr	700	52	2.6	De Minimis	n.a.	
Naphthalene	91-20-3	Yes	Yes	6.10E-04	8.54E-06	0.07	3.74E-05	year	0.0294	4.8	0.24	De Minimis	n.a.	
Acenaphthene	83-32-9	Yes	No	1.80E-06	2.52E-08	2.21E-04	1.10E-07	--	--	--	--	--	n.a.	
Anthracene	120-12-7	Yes	No	2.40E-06	3.36E-08	2.94E-04	1.47E-07	--	--	--	--	--	n.a.	
Benz[a]anthracene	56-55-3	Yes	Yes	1.80E-06	2.52E-08	2.21E-04	1.10E-07	year	0.0055	0.89	0.045	De Minimis	n.a.	
Benzo(b,k)fluoranthene	--	Yes	No	--	-	-	-	--	--	--	--	--	n.a.	
Benzo(g,h,i)perylene	--	Yes	No	1.20E-06	1.68E-08	1.47E-04	7.36E-08	--	--	--	--	--	n.a.	
Chrysene	218-01-9	Yes	Yes	1.80E-06	2.52E-08	2.21E-04	1.10E-07	year	0.055	8.9	0.45	De Minimis	n.a.	
Ethylbenzene	100-41-4	Yes	Yes	--	-	-	-	year	0.4	65	3.2	De Minimis	n.a.	
1,1,1-Trichloroethane	71-55-6	Yes	Yes	--	-	-	-	24-hr	5000	370	19	De Minimis	n.a.	
o-Xylene	95-47-6	Yes	Yes	--	-	-	-	24-hr	220	16	0.82	De Minimis	n.a.	
OCDD	3268-87-9	Yes	Yes	--	-	-	-	year	0.000091	0.015	0.00074	De Minimis	n.a.	
Fluoranthene	206-44-0	Yes	No	3.00E-06	4.20E-08	3.68E-04	1.84E-07	--	--	--	--	--	n.a.	
Fluorene	86-73-7	Yes	No	2.80E-06	3.92E-08	3.43E-04	1.72E-07	--	--	--	--	--	n.a.	
Indeno(1,2,3-cd)pyrene	193-39-5	Yes	Yes	1.80E-06	2.52E-08	2.21E-04	1.10E-07	year	0.0055	0.89	0.045	De Minimis	n.a.	
Phenanthrene	85-01-8	Yes	No	1.70E-05	2.38E-07	2.08E-03	1.04E-06	--	--	--	--	--	n.a.	
Pyrene	129-00-0	Yes	No	5.00E-06	7.00E-08	6.13E-04	3.06E-07	--	--	--	--	--	n.a.	
Arsenic	7440-38-2	Yes	Yes	2.00E-04	2.80E-06	0.02	1.23E-05	year	0.0003	0.049	0.0025	No	n.a.	
Beryllium	7440-41-7	Yes	Yes	1.20E-05	1.68E-07	1.47E-03	7.36E-07	year	0.00042	0.068	0.0034	De Minimis	n.a.	
Cadmium	7440-43-9	Yes	Yes	1.10E-03	1.54E-05	0.13	6.74E-05	year	0.00024	0.039	0.0019	Yes	0.00009398	NO
Chromium	7440-47-3	Yes	No	1.40E-03	1.96E-05	0.17	8.58E-05	--	--	--	--	--	n.a.	
Chromium (VI) [d]	18540-29-9	Yes	Yes	5.60E-05	7.84E-07	6.87E-03	3.43E-06	year	0.000004	0.00065	0.000033	Yes	0.00000478	YES
Cobalt	7440-48-4	Yes	Yes	8.40E-05	1.18E-06	1.03E-02	5.15E-06	24-hr	0.1	0.0074	0.00037	De Minimis	n.a.	
Copper	7440-50-8	No	Yes	8.50E-04	1.19E-05	0.10	5.21E-05	1-hr	100	0.19	0.0093	De Minimis	n.a.	
Lead	7439-92-1	Yes	Yes	5.00E-04	7.00E-06	0.06	3.06E-05	year	0.0833	14	10	De Minimis	n.a.	
Manganese	7440-96-5	Yes	Yes	3.80E-04	5.32E-06	0.05	2.33E-05	24-hr	0.3	0.022	0.0011	De Minimis	n.a.	
Mercury	7439-97-6	Yes	Yes	2.60E-04	3.64E-06	0.03	1.59E-05	24-hr	0.03	0.0022	0.00011	De Minimis	n.a.	
Nickel	7440-02-0	Yes	No	2.10E-03	2.94E-05	0.26	1.29E-04	--	--	--	--	--	n.a.	
Selenium	7782-49-2	Yes	Yes	2.40E-05	3.36E-07	2.94E-03	1.47E-06	24-hr	20	1.5	0.074	De Minimis	n.a.	
Vanadium	7440-62-2	No	Yes	2.30E-03	3.22E-05	0.28	1.41E-04	24-hr	0.1	0.0074	0.0028	De Minimis	n.a.	
SO_2	7446-09-05	No	Yes	--	8.40E-03	73.56	0.04	1-hr	660	1.2	0.46	De Minimis	n.a.	
NO_2 [e]	10102-44-0	No	Yes	--	0.16	1366.59	0.68	1-hr	470	0.87	0.46	De Minimis	n.a.	
CO	630-08-0	No	Yes	--	0.26	2307.42	1.15	1-hr	23000	43	1.1	De Minimis	n.a.	

[a] Natural gas emission factors are obtained from Table 1.4-2, Table 1.4-3, and Table 1.4-4, AP-42, for all the HAPs and TAPs with available emission factors. Annual emissions are based on 8,760 hours per year operation.

[b] Fuel oil emission factors are obtained from Table 1.3-9 and Table 1.3-10, AP-42. Annual emissions are based on 500 hours per year operation, which is the maximum number of hours expected including during gas curtailment period under worst-case scenario. The emission factors are considered conservative because the emission factors are for residual oil fired boilers instead of No.2 fuel oil. All fuel oil trace elements emissions are conservatively assumed to be elemental metal and metal compounds. Only metal compounds are considered HAP.

[c] The total annual emission rates for HAPs and TAPs are the greater of the emissions from two scenarios: 1) continuous 8,760 hours operation firing natural gas; 2) 8,260 hours operation firing natural gas and 500 hours firing fuel oil. The maximum hourly emissions are the greater of hourly

[d] Chromium compounds are assumed to be 4% chromium (VI) for gaseous fuel combustion and 18% for fuel oil combustion, from EPA 2005 National Emissions Inventory Data and Documentation chromium speciation data for utility boilers, which can be found here: http://www3.epa.gov/ttn/chief/net/2005inventory.html.

[e] It's conservatively assumed that all NO_x is emitted in the form of NO_2.

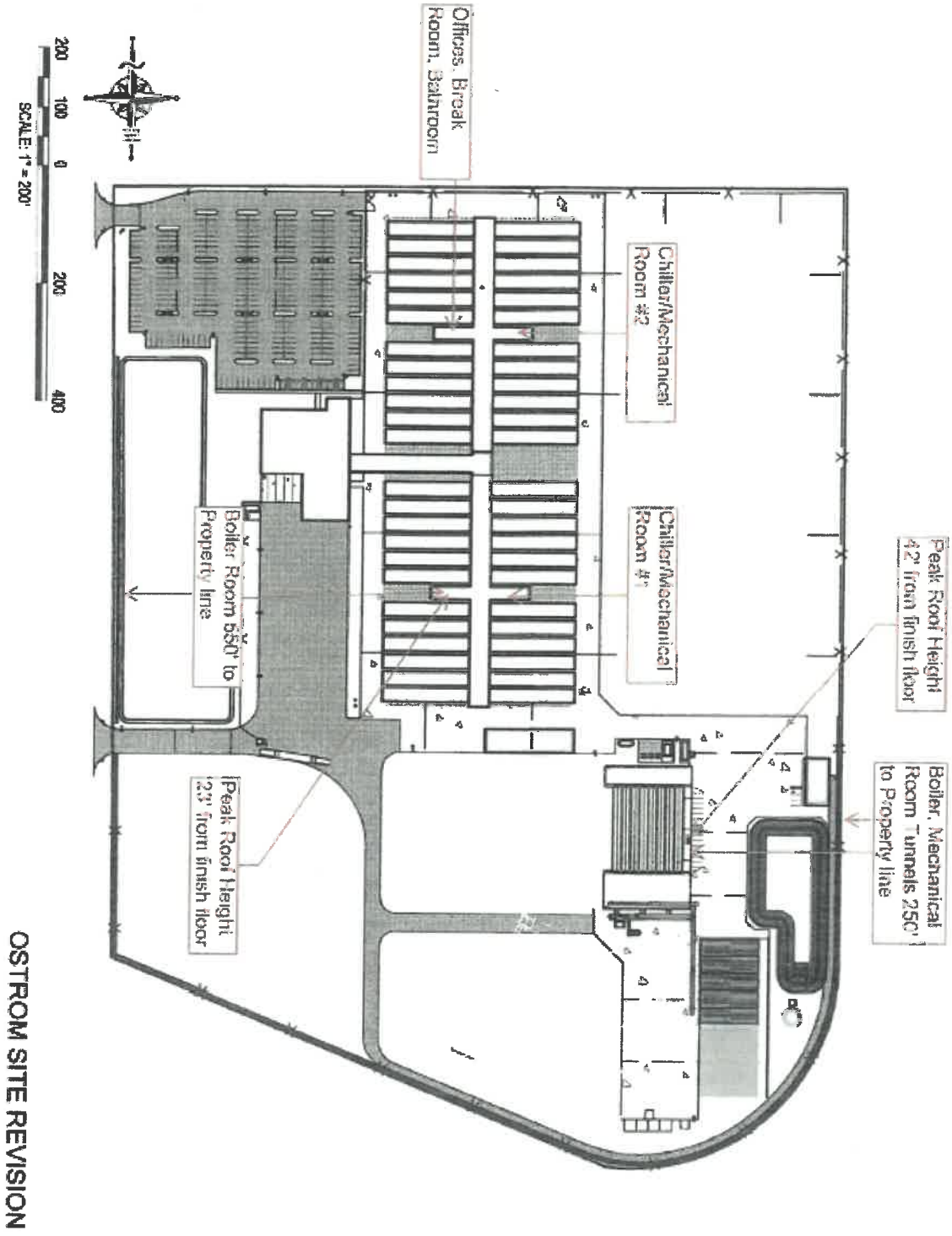

Figure 1: Site Plan of location of the Facility and the Boilers; with CFC hot water boiler and CBLE 200hp steam boiler in shared boiler room at 550' from property line, and CFH 60 hp steam boiler in mechanical room tunnel at 250' from property line.

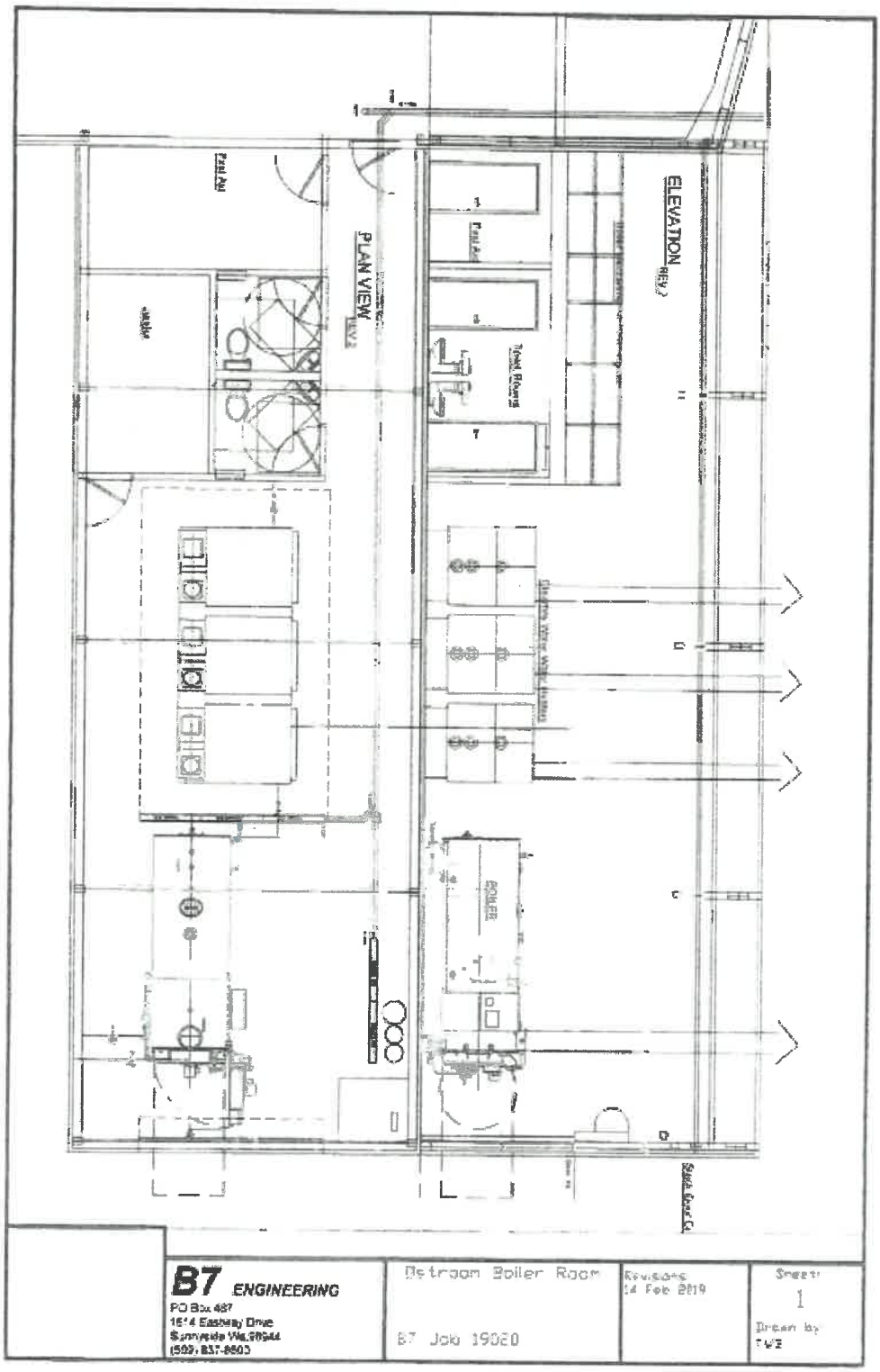

Figure 2: CFC Hot water boilers (3X) and CBLE 200 hp steam boiler.

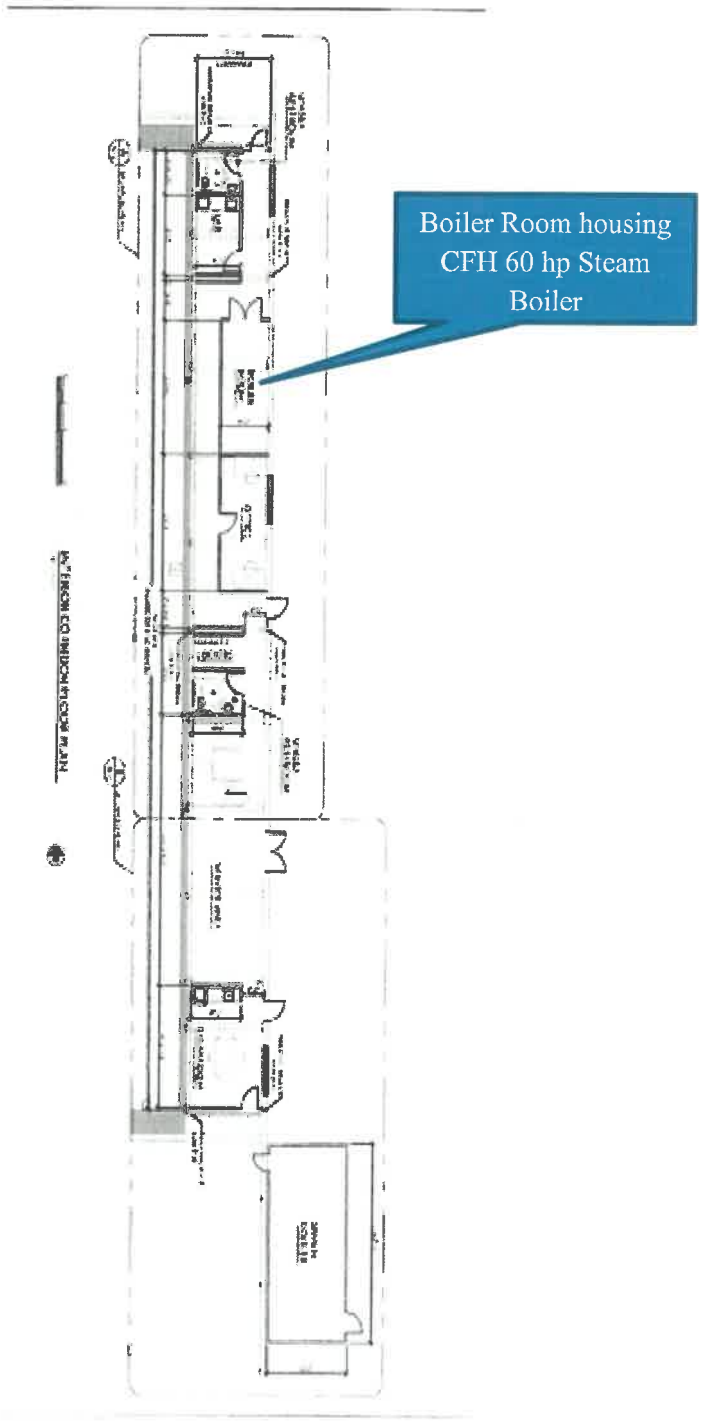

Figure 3: Interior corridor floor plan with CFH 60 hp steam boiler location.