ATTACHMENT A
GENERAL CONDITIONS

1. The process or process equipment covered by this general permit to install shall not be reconstructed, relocated, or modified unless a Permit to Install pursuant to Rule 201 authorizing such action is issued by the Department, or an application for coverage under a General Permit to Install pursuant to Rule 201a, is submitted to and approved by the Department. For the purpose of a general permit to install, the permittee is defined as any person who owns or operates a process or process equipment at the source for which coverage under the general permit has been granted.

2. Operation of any process or process equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**

3. Operation of this equipment shall not interfere with the attainment or maintenance of the air quality standard for any air contaminant. **(R 336.1207(1)(b))**

4. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal conditions or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5).

5. Coverage under this general permit to install does not exempt the permittee from complying with any future regulation, which may be promulgated under Part 55 of 1994 PA 451.

6. Coverage under this general permit to install does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

7. The permittee shall notify any public utility of any excavation, tunneling and discharging of explosives or demolition of buildings which may affect said utility's facilities in accordance with Act 53 of the Public Acts of 1974, being sections 460.701 to 460.718 of the Michigan Compiled laws and comply with each of the requirements of that Act.

8. The restrictions and conditions of this general permit to install shall apply to any person or legal entity which now or shall hereafter own or operate the equipment for which coverage under this general permit to install is issued. A written request to the Department for a change in ownership or operational control of the process or process equipment shall be made pursuant to Rule 219.

9. If the installation of the equipment for which coverage under this general permit to install has been issued, has not commenced within, or has been interrupted for, 18 months, then the general permit to install shall become void unless otherwise authorized by the Department as a condition of the permit. Furthermore, the permittee shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation or construction of the equipment allowed by this general permit to install. **(R 336.1201(4))**

10. Except as provided in subrules (2) and (3) or unless the special conditions of the general permit to install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of a density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301(1))**
    a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
    b) A visible emission limit specified by an applicable federal new source performance standard.
    c) A visible emission limit specified as a condition of this general permit to install.

11. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**

12. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

13. Any required testing protocol shall conform to a format acceptable to the AQD. **(R 336.2003(1))**

14. Any required test results, which must be submitted to the AQD, shall conform to a format acceptable to the AQD. **(R 336.2001(4))**

15. Any air cleaning device shall be installed, maintained, and operated in a satisfactory manner and in accordance with the Michigan Air Pollution Control rules and existing law. **(R 336.1910)**

16. For a stationary source that becomes a major source, as defined by R 336.1211(1)(a), upon receipt of approval for coverage under this general permit to install, an administratively complete application for a renewable operating permit shall be submitted not more than 12 months after the stationary source commences operation as a major source. Commencing operation as a major source occurs upon commencement of trial operation of the new or modified process or process equipment that increased the potential to emit of the stationary source to more than or equal to the applicable major source definition specified in R 336.1211(1)(a).

17. For a stationary source that is already a major source with an existing renewable operating permit, the source shall notify the Department of the installation of the process or process equipment covered by this general permit, pursuant to R 336.1215(3) or apply for a modification pursuant to R 336.1216(2) prior to commencing operation. The notification or application to modify the renewable operating permit shall be made using a form approved by the Department.

ATTACHMENT A
SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Description - Emission Unit(s)Included in Group
FG-REMEDIATION	Air strippers, soil vapor extraction systems, and air sparging systems; associated equipment and pollution control devices. For sources with total potential VOC or gasoline emissions greater than 10 tons per year and/or total potential BTEX emissions greater than 1 ton per year, a pollution control device shall consist of a dual-stage granular activated carbon unit, a thermal oxidizer, a catalytic oxidizer, an internal combustion engine with dual catalytic converters, or a biofilter in combination with one of the other controls listed in this paragraph.
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.	

The following conditions apply to: FG-REMEDIATION

I. EMISSION LIMITS

Pollutant	Limit	Time Period	Equipment	Testing/ Monitoring Method	Applicable Requirement
1. Total VOC	10.0 tpy	12-month rolling time period as determined at the end of each calendar month	FG-REMEDIATION	SC VI.1, VI.2, VI.3, VI.4	R 336.1205, R 336.1225, R 336.1702(a)
2. Total Gasoline	10.0 tpy	12-month rolling time period as determined at the end of each calendar month	FG-REMEDIATION	SC VI.1, VI.2, VI.3, VI.4	R 336.1205, R 336.1225, R 336.1702(a)
3. BTEX	1.0 tpy	12-month rolling time period as determined at the end of each calendar month	FG-REMEDIATION	SC VI.1, VI.2, VI.3, VI.4	R 336.1225
BTEX = Total combined benzene, toluene, ethylbenzene and xylene emissions.					

4. There shall be no BTEX or gasoline emissions at the stationary source other than those covered by this general permit. **(R 336.1225)**

II. MATERIAL LIMITS Not Applicable (N/A)

III. PROCESS/OPERATIONAL RESTRICTIONS

1. For sources with total potential VOC or gasoline emissions greater than 10 tons per year and/or total potential BTEX emissions greater than 1 ton per year, the permittee shall not operate FG-REMEDIATION unless the associated control device(s) are installed, maintained, and operated properly according to the manufacturer's specifications. A copy of the manufacturer's specification for the control device shall be maintained on file. Specific operating parameters for the various control devices are as follows: **(R 336.1702(a), R 336.1225)**

   a) **Dual-stage granulated activated carbon system**. Proper operation requires a minimum of 95% reduction of hydrocarbon emissions to the atmosphere. The first canister of the dual-stage granulated activated carbon system shall be monitored for breakthrough and replaced if breakthrough is detected. See SC VI.3 for detailed monitoring requirements.

   b) **Thermal oxidizer (incinerator).** Proper operation requires a minimum of 98% reduction of hydrocarbon emissions to the atmosphere. The oxidizer shall be operated at a minimum temperature of 1400°F and a minimum residence time of 0.5 seconds in the combustion chamber. A temperature indication device, which continuously displays the operating temperature of the combustion chamber of the thermal oxidizer shall be installed and maintained in accordance with manufacturer's specifications.

   c) **Catalytic oxidizer (incinerator).** Proper operation requires a minimum of 98% reduction of hydrocarbon emissions to the atmosphere. The oxidizer shall be operated at a minimum temperature of 600°F at the inlet of the catalyst bed and a maximum space velocity of 40,000 hr^{-1}. A temperature indication device, which continually displays the operating temperature of the inlet to the catalyst bed of the catalytic oxidizer shall be installed and maintained in accordance with manufacturer's specifications.

   d) **Internal combustion engine**. Proper operation requires a minimum of 98% reduction of hydrocarbon emissions to the atmosphere. The engine shall be equipped with two catalytic converters in series operated at a minimum temperature of 650°F at the inlet of the first catalytic converter. A temperature indication device, which continually displays the operating temperature of the inlet to the first catalytic converter of the internal combustion engine shall be installed and maintained in accordance with manufacturer's specifications.

   e) **Biologically based filtration system (biofilter).** If a biofilter is used, it shall be used in combination with one of the controls described above.

IV. DESIGN/EQUIPMENT PARAMETERS N/A

V. TESTING/SAMPLING N/A

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. For ground water remediation: The permittee shall monitor and record the water flow rate and the VOC, gasoline or BTEX concentrations in the influent and effluent water streams of each air stripper, using Appendix R-1. The monitoring frequency shall be once per week until four valid samples are obtained. Thereafter, the monitoring frequency shall be once per month for five months. Thereafter, the monitoring frequency shall be quarterly. The influent and effluent ground water samples shall be analyzed using the analytical method SW-846 - Method 8260 (analysis for methyl(tert)butyl ether must be specifically requested). **(R 336.1702(a), R 336.1225)**

2. For soil remediation: The permittee shall monitor and record the gas flow rate and the VOC, gasoline or BTEX concentrations at the outlet of the soil vapor extraction system using Appendix R-2. The monitoring frequency shall be once per week until four valid samples are obtained. Thereafter, the monitoring frequency shall be once per month for five months. Thereafter, the monitoring frequency shall be quarterly. The vapor stream(s) shall be analyzed using 40 CFR Part 60 - Method 18, Measurement of Gaseous Organic Compound Emissions by Gas Chromatography or equivalent. **(R 336.1702(a), R 336.1225)**

3. For a dual-stage granulated activated carbon system: The permittee shall monitor, in a satisfactory manner, the dual-stage activated carbon system for breakthrough of the first canister at least once every two weeks. Breakthrough will be evaluated via Tedlar bag sampling followed by laboratory analysis; by use of a hand-held instrument capable of detecting concentrations at the levels expected; or an equivalent method. An initial monitoring test shall be conducted and the initial reading shall be recorded as soon as the process has reached a steady state condition, but not later than 12 hours after start-up of the process. A reading at the point between the first and second canisters that is 20 percent or more of the influent concentration into the first canister is considered to be breakthrough. If breakthrough is detected, the permittee shall not operate the system until the carbon in the first canister has been replaced and the operating order of the vessels has been reversed. The initial monitoring test shall be repeated each time a carbon canister is replaced and the resulting influent concentration shall be used to establish breakthrough. **(R 336.1702(a), R 336.1225)**

4. The permittee shall keep, in a satisfactory manner, monthly and annual records of the total VOC, gasoline or BTEX emissions from FG-REMEDIATION. Annual records shall be based on a 12-month rolling time period as determined at the end of each calendar month. All records, including Appendix R-1 and/or R-2, shall be kept on file and made available to the Department upon request. **(R 336.1205, R 336.1702(a), R 336.1225)**

5. The permittee shall keep, in a satisfactory manner, records of the date, duration, and description of any malfunction of the control equipment, any maintenance performed, any replacement of catalyst or control equipment media and any testing results for FG-REMEDIATION. All records shall be kept on file and made available to the Department upon request. **(R 336.1702(a), R 336.1910)**

VII. REPORTING N/A

VIII. STACK/VENT RESTRICTIONS

1. The exhaust gases from FG-REMEDIATION shall be discharged unobstructed vertically upwards to the ambient air at an exit point at least 1.5 times the building height (from ground level to point of discharge), but not less than 20 feet above ground level, with a minimum exit velocity of 30 feet per second. **(R 336.1225)**

IX. OTHER REQUIREMENTS

1. The permittee shall not replace or modify any portion of FG-REMEDIATION, including control equipment, nor install additional remediation processes, unless all of the following conditions are met: **(R 336.1201)**

   a) The permittee shall update the general permit by submitting a new Process Information form (EQP5758) to the Permit Section and District Supervisor, identifying the existing and new

equipment a minimum of 10 days before the replacement, modification, or installation of new equipment.

b) The permittee shall continue to meet all general permit to install applicability criteria after the replacement, modification or installation of new equipment is complete.

c) The permittee shall keep records of the date and description of the replacement, modification, or installation of a control device or an additional remediation process at the source. All records shall be kept on file for a period of at least five years and made available to the Department upon request.

APPENDIX R-1 - GROUNDWATER REMEDIATION
EMISSION CALCULATION AND RECORDKEEPING

PERMITTEE (SOURCE NAME)	CONTACT PERSON
SITE LOCATION	COUNTY
RECORDKEEPING PERIOD Start Date: End Date:	GENERAL PERMIT TO INSTALL NUMBER

DATE	WATER FLOW (gallons/minute) (G)	CONCENTRATIONS IN WATER (ppm)*			CONTROL EFFICIENCY (Percent) (E_G)	EMISSIONS** (pounds/hour) (P_G)
		Inlet (I)	Outlet (O)	Inlet - Outlet (D)		
EXAMPLE	*100*	*210*	*10*	*200*	*95*	*0.5*

* parts per million by weight, which is equivalent to milligrams per liter **in water**
**Emissions of VOC, gasoline or BTEX. Identify which pollutant the emissions are being calculated for.

BASIC EQUATIONS TO CALCULATE EMISSIONS: $D = I - O$ $P_G = G*D*(100 - E_G)*5*10^{-6}$

Signature:	Date: Telephone No.

APPENDIX R-2 - SOIL REMEDIATION
EMISSION CALCULATION AND RECORDKEEPING

PERMITTEE (SOURCE NAME)	CONTACT PERSON
LOCATION	COUNTY
RECORDKEEPING PERIOD: Start Date: End Date:	GENERAL PERMIT TO INSTALL NUMBER

DATE	AIR VOLUME FLOW RATE (cubic feet/minute) (V)	INLET CONCENTRATION (milligrams/ cubic meter)* (C)	CONTROL EFFICIENCY (Percent) (E_S)	EMISSIONS** (pounds/hour) (P_S)
EXAMPLE	*1,000*	*10,000*	*95*	*1.9*

*parts per million in air is *by volume* and **does not equal** milligrams per liter
**Emissions of VOC, gasoline or BTEX. Identify which pollutant the emissions are being calculated for.

BASIC EQUATION TO CALCULATE EMISSIONS: $P_S = V*C*(100 - E_S)*3.75*10^{-8}$

Signature:	Date: Telephone No.