



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

BUREAU OF WASTE MANAGEMENT
DIVISION OF MUNICIPAL and RESIDUAL WASTE

GENERAL PERMIT WMGR019
BENEFICIAL USE OF FOUNDRY WASTE

Issued: November 2, 2017
Expires: November 2, 2027

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A. Description.

1. This general permit authorizes the beneficial use of the following foundry wastes:
 - a. waste foundry sand from ferrous and nonferrous casting foundries;
 - b. system dust generated by ferrous metal casting foundries; or
 - c. slag and refractories generated by ferrous metal casting foundries.

2. The foundry waste must be generated by metal casting foundries that generate waste foundry sand from clay-bonded molds, or such foundries that utilize the following chemical binders or binder systems in their sand mold production processes or core making processes:
 - a. phenolic urethanes,
 - b. phenolic esters,
 - c. phenolic hotbox,
 - d. phenolic nobake,
 - e. furan nobake,
 - f. furan warmbox,
 - g. furan SO₂ (sulfur dioxide),
 - h. alkyd urethane,
 - i. alkyd oil-based core oil, or
 - j. epoxy SO₂.

3. This general permit authorizes the following beneficial uses of foundry wastes as specified in paragraphs A.1 and A.2 of this general permit:
 - a. roadway construction material;
 - b. a component or ingredient in the manufacturing of concrete or asphalt products;
 - c. a soil additive or soil substitute; and
 - d. non-roadway construction activity.

B. Determination of Applicability Requirements:

A person or municipality that proposes to operate under the terms and conditions of this general permit after the date of permit issuance must obtain a "Determination of Applicability" (DOA) from the appropriate Department of Environmental Protection (Department) Regional Office (see attached list) prior to commencing authorized activities under this general permit. A completed application on forms provided by the Department along with the application fee for a DOA must be submitted to the appropriate Department Regional Office. No activities shall commence unless approved, in writing, by the Department.

C. Operating Conditions.

1. Where used as a roadway construction material, the foundry waste must comply with the requirements of the Pennsylvania Department of Transportation (PennDOT) specifications as outlined in their Publication No. 408 (Specifications).

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2. Foundry waste used as a non-roadway construction material; soil additive; soil substitute; or component or ingredient in the manufacturing of concrete or asphalt products shall meet the applicable requirements of the American Society for Testing and Materials (ASTM) Standard or other national, state or industry standard for which it is being used.
3. The following beneficial uses of foundry waste must comply with paragraphs a, b and c of this condition:
 - A construction material for athletic fields and buildings,
 - Pipe bedding,
 - Trench backfill, and
 - Backfill on locations where underground storage tanks or petroleum-contaminated soil has been removed
 - a. For areas where foundry waste is beneficially used as a construction material, the foundry waste shall either be paved or covered with a minimum six (6) inches of vegetative supporting soil or covered by a building or other structure.
 - b. For unpaved parking lot areas, a minimum of six (6) inches of stone or other non-waste aggregate must be used to cover the foundry waste.
 - c. For embankment use, the foundry waste must be covered with a minimum six (6) inches of vegetative supporting soil or non-waste aggregate.
4. Unless otherwise approved in writing by the Department, storage of foundry waste by the permittee shall be as follows:
 - a. The foundry waste generated or received shall not be accumulated speculatively, as the term is defined at 25 Pa. Code § 287.1, before being beneficially used. The permittee must show that the foundry waste has the potential and feasible means to be beneficially used.
 - b. Generated foundry waste shall not be stored for more than one (1) year, and at any one time, the maximum amount stored may not exceed the total amount of materials in the approved application.
5. The beneficial use of foundry waste shall not be placed in direct contact with surface water or groundwater or used in any construction activity within 100 feet of a perennial stream, 300 feet of an exceptional wetland or 300 feet of a private or public water source.
6. The permittee shall inform all persons or municipalities that propose to beneficially use foundry waste covered under this permit of the terms, conditions and limitations imposed on the use of foundry waste by the Department. This notification shall be satisfied by providing a copy of Appendix A (Acceptable Uses & Restrictions) of this general permit. The permittee shall record the name, address, and intended uses for each person who purchases, trades for, or is given foundry waste. This information shall be included in the annual report required in Condition G.3.

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7. The foundry waste that is authorized under this general permit shall not be used as a valley fill material, to fill open pits from coal or non-coal mining, or to level or bring an area to grade unless one of the following applies:
 - a. Foundry waste is used as embankment material to level or bring an area to grade provided that the construction activity will commence within three (3) months after the placement of foundry waste.
 - b. For multi-phase construction projects (such as development of a commercial/industrial park), all foundry waste shall be covered (including, but not limited to soil, concrete, or asphalt) within sixty (60) days of completion of fill placement. Foundry waste may subsequently be uncovered if it is necessary as a requirement of ongoing active phase construction in accordance with a documented project timeline.
8. The foundry waste authorized under the terms and conditions of this general permit shall cease to be a waste if the following requirements are met:
 - a. The quality of foundry waste satisfies the requirements as specified in Condition D(4) of this general permit;
 - b. The foundry waste is sold, traded, distributed or given away for the uses specified in this general permit. This provision does not apply to the foundry waste that is stored for greater than 1 year or speculatively accumulated at the foundry waste generation site;
 - c. The foundry waste is not abandoned or disposed; and
 - d. The beneficial use of the foundry waste complies with the terms and conditions specified in the Appendix A (Acceptable Uses and Restrictions) of this general permit.
9. Nothing in this general permit shall be construed to supersede, amend or authorize a violation of any of the provisions of any valid and applicable local law, ordinance or regulation, provided that said local law, ordinance or regulation is not preempted by the Solid Waste Management Act (SWMA), 35 P.S. §§ 6018.101- 6018.1003 and the Municipal Waste Planning, Recycling and Waste Reduction Act of 1988, 53 P.S. §§ 4000.101, et seq.
10. Upon cessation of permitted operations, the permittee shall remove all wastes and provide for the processing and disposal of wastes in accordance with the SWMA, the environmental protection acts and the regulations promulgated thereunder.
11. The permittee shall maintain at the generating facility an updated copy of a Preparedness, Prevention, and Contingency (PPC) Plan for the facility prepared in accordance with the most recent edition of the Department's "Guidelines for the Development and Implementation of Environmental Emergency Response Plans." The PPC Plan shall be updated every 5 years.

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12. All activities conducted under the authorization granted in this permit shall be conducted in accordance with the permittee's application. Except to the extent the permit states otherwise, the permittee shall utilize materials as described in the permit application.
13. The permittee shall comply with the fugitive emissions regulations under 25 Pa. Code, Chapter 123 (relating to standards for contaminants) issued under the Air Pollution Control Act, the Act of January 8, 1960, P.L. 2119, 35 P.S. §4005, and shall comply with all the applicable provisions of 25 Pa. Code §§123.1 and 123.2 (relating to prohibition of certain fugitive emissions and fugitive particulate matter).
14. As a condition of this permit and of the permittee's authority to conduct the activities authorized by this permit, the permittee hereby authorizes and consents to allow authorized employees or agents of the Department, without advance notice or search warrant, upon presentation of appropriate credentials and without delay, to have access to and inspect all areas on which solid waste management activities are being, will be, or have been conducted. This authorization and consent shall include consent to collect samples of waste, soils, water or gases; take photographs; perform measurements, surveys and other tests; inspect any monitoring equipment; inspect the methods of operation; and inspect and/or copy documents, books, and papers required by the Department to be maintained. This permit condition is referenced in accordance with Sections 6018.608 and 6018.610(7) of the SWMA, 35 P.S. §§ 6018.608 and 6018.610(7). This condition in no way limits any other powers granted under the SWMA.
15. Any independent contractors or agents retained by the permittee in the completion of activities authorized under this general permit shall be subject to a compliance history review by the Department prior to performance of any activities, as specified by the SWMA.
16. Failure of measures herein approved to perform as intended, or as designed, or in compliance with the applicable laws, rules, and regulations and terms and conditions of this permit, for any reason, shall be grounds for the revocation or suspension of the permittee's approval to operate under this permit.
17. The activities authorized by this general permit shall not harm or present a threat of harm to the health, safety, or welfare of the people or environment of this Commonwealth. The Department may modify, suspend, revoke, and reissue the authorization granted in this general permit if it deems necessary to prevent harm or the threat of harm to the public health, and the environment or if they cannot be adequately regulated under the conditions of this general permit.
18. The permittee shall comply with the terms and conditions of this general permit and with the environmental protection acts to the same extent as if the activities were covered by an individual permit. The Department may require an individual permit be obtained if the permittee cannot comply with the conditions of this general permit or is conducting an activity that harms or presents a threat of harm to the health, safety, or welfare of the public or the environment of this Commonwealth.
19. This permit does not authorize and shall not be construed as an approval to discharge any waste, wastewater, or runoff from the site of processing to the land or waters of the Commonwealth.

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20. Best Management Practices shall be implemented to divert storm water run-on from the storage area(s). Storm water runoff shall be managed in accordance with The Clean Streams Law and regulations promulgated thereunder. Prior to beginning operations at the facility, the operator must obtain all necessary storm water management permits.
21. The permittee shall maintain in force and affect a general liability insurance policy in accordance with 25 Pa. Code, Chapter 287, Subchapter E (relating to bonding and insurance requirements) to provide continuous coverage during operation of the facility and until the Department issues a final closure certification.
22. Equipment used for the storage and transportation of foundry waste shall be maintained in good operating condition. Daily inspections of each storage area and surrounding environs shall be conducted to determine compliance with the terms and conditions of this general permit and for evidence of failure.
23. Storage and transportation of foundry waste by the permittee shall be in a manner that complies with the requirements set forth in 25 Pa. Code, Chapter 299 (relating to storage and transportation of residual waste).
24. The foundry waste shall not be mixed with other types of solid wastes, including hazardous waste, municipal waste, special handling waste, or other residual waste, as the terms are defined in 25 Pa. Code § 287.1. The Department may authorize, in writing, the mixing of foundry waste with municipal waste and/or residual waste that is covered under another general permit for beneficial use.

D. Sampling and Analysis.

1. Analytical testing required by this general permit shall be performed by a laboratory accredited under the Pennsylvania Environmental Laboratory Accreditation Act, Act of 2002, No. 90, 27 Pa C.S.A. §§ 4101-4113.
2. All samples of foundry waste taken for analysis must be taken at the point where the spent foundry waste is discharged from the generating facility prior to storage and/or beneficial use.
3. The permittee shall collect representative samples of the foundry waste generated or received and determine its quality before the waste foundry sand may be beneficially used as follows:
 - a. To obtain a representative sample of the foundry waste, the samples must be taken from multiple locations in the batch and represent the entire amount of foundry waste being sampled. In the batch process, more than one sample is necessary to accurately represent a particular batch. In general, the more samples taken, the greater the chance that the sampling results will be representative. The pollutant limits specified in Condition D(4) of this general permit pertain to the quality of the foundry waste that will be beneficially used, and therefore, samples must be collected after the final stage of the manufacturing process and prior to storage. Should knowledge of the process by which the foundry waste is generated, visual

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observations, or analytical results indicate variability in the quality of the foundry waste generated, more frequent testing shall be conducted.

- b. The permittee shall select one of the analytical options in Table 1 or 2, whichever is applicable based on the beneficial use, to determine whether foundry waste can be beneficially used. The selected option for the quality of foundry waste shall be utilized and applicable for the term of this general permit, unless:
 - (i) there is a change in the types of sand binder systems, binder chemicals, coatings, types or sources of metals or metal alloys being cast, and
 - (ii) the permittee requests and obtains, in writing, approval from the appropriate Department regional office (see attached list). The permittee may change the selected testing option by requesting approval from the appropriate Department regional office (see attached list), in writing. The permittee shall not change the selected testing option unless it is approved by the Department, in writing.
- c. If any changes are made in the types of sand binder systems, binder chemicals, coatings, types or sources of metals or metal alloys being cast, the foundry waste must be reanalyzed prior to beneficial use.
- d. Prior to the first beneficial use of any foundry waste as a roadway construction material, soil additive, soil substitute, non-roadway construction material or where placed directly into the environment under the provisions of this permit, a representative sample of the foundry waste shall be collected and analyzed for the “total” and/or “leachate” levels for each parameter listed in Table 1 of Condition D(4)(a) of this general permit.
- e. Foundry waste used as an ingredient in the manufacturing of concrete or asphalt products must be representatively sampled and analyzed for the “total” levels for each parameter listed in Table 2 of Condition D(4)(b) of this general permit, unless the permittee chooses to perform a leach analysis using a representative sample of the final product. If, prior to use as an ingredient in the manufacturing of concrete or asphalt products, the foundry waste exceeds the chemical concentration limits for “total” levels in Table 2, a leach analysis of the concrete or asphalt product fabricated with the foundry waste shall be determined by a representative sample of the product. Once a chemical analysis for “leachate” levels of the product manufactured with the foundry waste has demonstrated that the leachable levels are not exceeded, re-analysis of any product manufactured with the foundry waste as an ingredient or component will not be required, provided the foundry waste used to make the concrete or asphalt product is from the same source and production line, the chemical and physical characteristics of the foundry waste do not change, and the amount of foundry waste used to manufacture the concrete or asphalt product is not increased.

4. Beneficial Uses

- a. **Beneficial Use of Foundry Waste as a Soil Additive or Soil Substitute, or Roadway/Non-Roadway Construction Material**

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Foundry waste shall not be used as a roadway construction material, soil additive, soil substitute, non-roadway construction material, or otherwise placed directly into the environment if the chemical concentrations of foundry waste for any constituent exceeds its "Total" or "Leachable" limit listed in Table 1 of this Condition, below.

The determinations of compliance with Table 1 must be based on either the 90% upper confidence level for each metal or the 80% confidence interval for pH using the Test Methods for Evaluating Solid Waste (EPA SW-846) as guidance for the statistical treatment of data.

Options 1 and 2 may be used in combination on a constituent-specific basis.

- **Option 1** – Analyze for Total Constituent Concentration (with Attenuating Soil)

To utilize Option 1, there must be at least four (4) feet of attenuating soil between the lowest area where waste is placed and the seasonal high-water table, perched water table or bedrock unless otherwise authorized in writing by the Department.

- **Option 2** – Analyze for Total Constituent Concentration and Perform Leachability Evaluation (with Attenuating Soil)

To utilize Option 2:

- i. the total and leachate levels must be met. There must be at least four (4) feet of attenuating soil between the lowest area where waste is placed and the seasonal high-water table, perched water table or bedrock unless otherwise authorized in writing by the Department;
 - ii. Leachability evaluations shall be conducted using the Toxicity Characteristic Leaching Procedure (EPA method 1311) or the Synthetic Precipitation Leaching Procedure (EPA method 1312).
- **Option 3** – Analyze for Total Constituent Concentration and Perform Leachability Evaluation (no Attenuating Soil Requirement)

To utilize Option 3:

- i. the total and leachate levels must be met (attenuating soil is not required);
- ii. leachability evaluations shall be conducted using the Toxicity Characteristic Leaching Procedure (EPA method 1311) or the Synthetic Precipitation Leaching Procedure (EPA method 1312).

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Table 1
Chemical Concentration Limits
Beneficial Use of Foundry Waste as a Soil Additive or Soil Substitute,
or Roadway/Non-Roadway Construction Material

Inorganics					
Constituents	Option 1	Option 2		Option 3	
	Total (mg/kg)	Total (mg/kg)	Leachate (mg/L)	Total (mg/kg)	Leachate (mg/L)
Aluminum	190,000	190,000	5.0	190,000	0.1
Antimony	6.75	88	0.15	88	0.006
Arsenic	29	29	0.25	29	0.05
Barium	1,000	15,000	50	15,000	2
Beryllium	2.3	440	0.1	440	0.004
Boron	300	20,000	3.15	20,000	0.6
Cadmium	2.5	47	0.125	47	0.005
Chromium (Total)	--	--	2.5	--	0.1
Chromium (III)	1,200	15,000	--	15,000	--
Chromium (VI)	50	94	--	94	--
Copper	1,500	1,500	25	1,500	1
Cyanide (Free)	100	4,400	0.2	4,400	0.2
Fluoride	See ⁽¹⁾	-	4	-	4
Iron	66,000	66,000	7.5	66,000	0.3
Lead	112.5	500	0.125	500	0.005
Manganese	31,000	31,000	2.5	31,000	0.1
Mercury	1	66	0.05	66	0.002
Molybdenum	87.5	1,100	4.375	1,100	0.175
Nickel	50	420	2.5	420	0.1
Selenium	25	1,100	1	1,100	0.05
Silver	50	1,100	2.5	1,100	0.01
Thallium	2.2	15	0.0125	15	0.002
Zinc	1,000	2,800	50	2,800	2
pH (standard units)	5.5 – 11.5	5.5 – 11.5	-	5.5 – 11.5	-
Organics					
Constituents	Option 1	Option 2		Option 3⁽²⁾	
	Total (mg/kg)	Total (mg/kg)	Leachate (mg/L)	Total (mg/kg)	Leachate (mg/L)
Benzene	1.7	41	0.005	41	0.005
Benzoic Acid	26	430	140	430	140
Ethylbenzene	2.1	180	0.7	180	0.7
Naphthalene	1.9	140	0.1	140	0.1
PHC ⁽³⁾ (Total)	500	500	-	500	-
Phenanthrene	210	210	1.1	210	1.1
Phenols (Total)	8.7	9,300	4	9,300	4
Resorcinol ⁽⁴⁾	6.2	7,200	73	7,200	73

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Toluene	2.4	350	1	350	1
Xylenes (Total)	19	310	10	310	10
1,2,4-Trimethylbenzene	3.3	110	0.016	110	0.016
PCBs (for mined sand only):					
Residential uses ⁽⁵⁾	1	-	1	-	1
Non-residential uses ⁽⁵⁾	2	-	2	-	2

⁽¹⁾ Foundry waste must meet the limit of 80 mg/kg for fluoride, which is calculated from the 4 mg/L leachate limit using the 20:1 rule (see EPA Method 1311). If the total concentration of fluoride exceeds 80 mg/kg, then TCLP or SPLP analysis shall be performed to determine the leachate level.

⁽²⁾ The four (4) foot distance from the water table does not apply. The waste must contain a minimum of 0.5% organic carbon excluding the organic compounds in the above table.

⁽³⁾ Petroleum Hydrocarbons. The EPA methods 3560 and 8440 are recommended for demonstrating compliance with the chemical concentration limit for PHC.

⁽⁴⁾ AKA m-dihydroxybenzene or 1,3-C₆H₄(HO)₂.

⁽⁵⁾ The preparation for both residential use and non-residential use PCB determinations shall be in accordance with EPA Method 3545.

b. Beneficial Use of Foundry Waste as a Component or Ingredient In Concrete or Asphalt Products

Foundry waste shall not be used as a component or ingredient in concrete or asphalt products if the analytical results of foundry waste exceeds:

- i. the chemical concentration limits for “Total” levels, and
- ii. the chemical concentration limit of any constituent in a leachate analysis of the foundry waste for “Leachable” levels listed in Table 2 of this Condition, below (if using Option 2 or 3).

The determinations of compliance with Table 2 must be based on either the 90% upper confidence level for each metal or the 80% confidence interval for pH using the Test Methods for Evaluating Solid Waste (EPA SW-846) as guidance for the statistical treatment of data.

The permittee shall select one of the following three analytical options to determine whether foundry waste can be beneficially used. The selected option for the quality of foundry waste shall be utilized and applicable for the term of this general permit. Options 1 and 2 may be used in combination on a constituent-specific basis.

- **Option 1** – Analyze for Total Constituent Concentration (with Attenuating Soil)

To utilize Option 1, there must be at least four (4) feet of attenuating soil between the lowest area where waste is placed and the seasonal high-water table,

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perched water table or bedrock unless otherwise authorized in writing by the Department.

- **Option 2** – Analyze for Total Constituent Concentration and Perform Leachability Evaluation (with Attenuating Soil)

To utilize Option 2:

- i. the total and leachate levels must be met. There must be at least four (4) feet of attenuating soil between the lowest area where waste is placed and the seasonal high-water table, perched water table or bedrock unless otherwise authorized in writing by the Department;
- ii. Leachability evaluations shall be conducted using the Toxicity Characteristic Leaching Procedure (EPA method 1311) or the Synthetic Precipitation Leaching Procedure (EPA method 1312).

- **Option 3** – Analyze for Total Constituent Concentration and Perform Leachability Evaluation (no Attenuating Soil)

To utilize Option 3:

- i. the total and leachate levels must be met (attenuating soil is not required);
- ii. leachability evaluations shall be conducted using the Toxicity Characteristic Leaching Procedure (EPA method 1311) or the Synthetic Precipitation Leaching Procedure (EPA method 1312).

Table 2
Chemical Concentration Limits
Beneficial Use of Foundry Waste as a Component or Ingredient
In Concrete or Asphalt Products

Inorganics					
Constituents	Option 1	Option 2		Option 3	
	Total (mg/kg)	Total (mg/kg)	Leachate (mg/L)	Total (mg/kg)	Leachate (mg/L)
Aluminum	190,000	190,000	5.0	190,000	0.1
Antimony	6.75	88	0.15	88	0.006
Arsenic	29	29	0.25	29	0.05
Barium	1,000	15,000	50	15,000	2
Beryllium	2.3	440	0.1	440	0.004
Boron	300	20,000	3.15	20,000	0.6
Cadmium	2.5	47	0.125	47	0.005
Chromium (Total)	--	--	2.5	--	0.1
Chromium (III)	3,000	190,000	--	190,000	--
Chromium (VI)	50	94	--	94	--
Copper	8,200	8,200	25	1,500	1

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Cyanide (Free)	100	4,400	0.2	4,400	0.2
Fluoride	See ⁽¹⁾	-	4	-	4
Iron	66,000	66,000	7.5	66,000	0.3
Lead	112.5	500	0.125	500	0.005
Manganese	31,000	31,000	2.5	31,000	0.1
Mercury	1	66	0.05	66	0.002
Molybdenum	87.5	1,100	4.375	1,100	0.175
Nickel	50	4,400	2.5	4,400	0.1
Selenium	25	1,100	1	1,100	0.05
Silver	50	1,100	2.5	1,100	0.01
Thallium	2.2	15	0.0125	15	0.002
Zinc	1,000	66,000	50	66,000	2
pH (standard units)	5.5 – 11.5	5.5 – 11.5	-	5.5 – 11.5	-

Organics

Constituents	Option 1	Option 2		Option 3 ⁽²⁾	
	Total (mg/kg)	Total (mg/kg)	Leachate (mg/L)	Total (mg/kg)	Leachate (mg/L)
Benzene	1.7	41	0.005	41	0.005
Benzoic Acid	26	430	140	430	140
Ethylbenzene	2.1	180	0.7	180	0.7
Naphthalene	1.9	140	0.1	140	0.1
PHC ⁽³⁾ (Total)	500	500	-	500	-
Phenanthrene	210	210	1.1	210	1.1
Phenols (Total)	8.7	9,300	4	9,300	4
Resorcinol ⁽⁴⁾	6.2	7,200	73	7,200	73
Toluene	2.4	350	1	350	1
Xylenes (Total)	19	310	10	310	10
1,2,4-Trimethylbenzene	3.3	110	0.016	110	0.016
PCBs (for mined sand only):					
Residential uses ⁽⁵⁾	1	-	1	-	1
Non-residential uses ⁽⁵⁾	2	-	2	-	2

⁽¹⁾ Foundry must meet a limit of 80 mg/kg for fluoride, which is calculated from the 4 mg/L leachate limit using the 20:1 rule (see EPA Method 1311). If the total concentration of fluoride exceeds 80 mg/kg, then TCLP or SPLP analysis shall be performed to determine the leachate level.

⁽²⁾ The four (4) foot distance from the water table does not apply. The waste must contain a minimum of 0.5% organic carbon excluding the organic compounds in the above table.

⁽³⁾ Petroleum Hydrocarbons. The EPA methods 3560 and 8440 are recommended for demonstrating compliance with the chemical concentration limit for PHC.

⁽⁴⁾ AKA m-dihydroxybenzene or 1,3-C₆H₄(HO)₂.

⁽⁵⁾ The preparation for both residential use and non-residential use PCB determinations shall be in accordance with EPA Method 3545.

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5. Foundry waste obtained from the excavation or “mining” of existing storage stockpiles or disposal piles of foundry waste shall not be used for beneficial use purposes without first being analyzed for compliance with the constituents as specified in Condition D(4) of this general permit. Samples from these existing storage stockpiles or disposal piles shall be collected and analyzed as follows:
 - a. For existing stockpiles or disposal piles of foundry waste greater than or equal to 500 yd³ in volume:
 - i. the storage stockpiles or disposal piles shall be characterized in accordance with procedures and methods as specified in the most recent edition of the EPA's “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (EPA SW-846), and specific written approval from the Department shall be obtained to utilize the foundry waste for beneficial use activity authorized under this general permit. All applicable MSDSs shall also be provided with the analytical data.
 - ii. For the inorganic constituents as specified in Condition D(4), one grab sample for every 50 tons of foundry waste which is excavated or mined. These grab samples shall be composited into a single sample, which is to be analyzed after every 1,000 tons of foundry waste is excavated or mined from existing storage stockpiles or disposal piles for beneficial use.
 - iii. For the organic constituents as specified in Condition D(4), one grab sample for every 1,000 tons of foundry waste which is excavated or mined from existing stockpiles.
 - b. For existing stockpiles or disposal piles of foundry waste less than 500 yd³ in volume:
 - i. For the inorganic constituents as specified in Condition D(4), one grab sample for every 50 tons of foundry waste which is excavated or mined. These grab samples shall be composited into a single sample, which is to be analyzed after every 1,000 tons of foundry waste is excavated or mined from existing storage stockpiles or disposal piles for beneficial use.
 - ii. For the organic constituents as specified in Condition D(4), one grab sample for every 1,000 tons of foundry waste which is excavated or mined from existing stockpiles.
 - c. Should knowledge of the process used to generate the foundry waste, visual observations or analytical results indicate variability in the quality of the foundry waste in existing storage stockpiles or disposal piles, more frequent testing shall be conducted.
6. The permittee may request that individual constituent(s) be eliminated from the Table 1 or Table 2 testing requirements if, after five 1,000-ton sampling events, the results show that the constituent(s) are not detected in the analytical results. To qualify as a sampling event, the permittee shall collect a representative sample of 1,000 tons of foundry waste and analyze for the “total” and, if applicable, “leachate” levels for each constituent listed

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in Table 1 or Table 2 of Condition D(4). A sampling and analysis event cannot be conducted on the same 1,000 tons of foundry waste already sampled as part of another sampling event (i.e., five sampling events shall require at least 5,000 tons of foundry waste). Written approval from the Department must be obtained prior to implementing reduced sampling/testing.

E. Frequency of Monitoring.

1. A "total" and/or "total and leaching" analysis shall be performed on representative samples of the foundry waste annually for all the parameters listed in Tables 1 and 2 of Condition D(4) of this permit. After a satisfactory initial analysis has been completed and submitted to the Department, in lieu of the annual analysis, an authorized representative of the generator may sign and submit to the Department an analysis certification for all the parameters in Tables 1 and 2 that do not exceed 65% of the specified permit limit, and the process by which the foundry waste was generated has not changed from that specified in the original permit application. However, this analysis certification may only be used for five (5) consecutive years, after which the complete analysis required in Tables 1 and 2 of Condition D(4) must once again be completed.
2. Upon request by the Department, the permittee shall also collect for analysis representative samples of the:
 - i. foundry waste generated, and
 - ii. foundry waste from existing storage stockpiles or disposal piles, as required in Condition D of this general permit within 48 hours of the request.

F. Recordkeeping.

1. The permittee shall maintain records of all analytical evaluations conducted in accordance with this permit, and records shall be made available to the Department upon request. Required records shall be retained for a minimum of 5 years. Records of analytical evaluations must include, at a minimum, the following for each sample: the dates of sampling and testing, sampling procedures utilized, name of the individual who collected the sample, the volume or weight of the sample, each parameter tested, the analytical results, the name of the analytical laboratory used, and the analytical methodologies employed.

The permittee shall maintain records of all waste accepted by the facility, and records shall be made available to the Department upon request. Required records shall be retained for a minimum of 5 years. Records of each source of incoming waste must include, at a minimum, the following: the name, address, and phone number of each source of incoming waste; the date of receipt; the quantity of waste received; the results of visual observations; and the name, address, and phone number of the destination of each outgoing shipment of waste. The permittee shall also maintain records of spills or releases that include, at a minimum, the following: the location, date, time, identification, and quantity of spilled or released material, and a description of how the material was cleaned up. The permittee shall also maintain records of all reports submitted to the Department or to the U.S. Environmental Protection Agency.

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2. The permittee shall maintain records of volume or weight of the foundry waste generated or received for beneficial use annually.
3. The permittee shall maintain records of volume or weight and location of the foundry waste for beneficial use that is stored at the site of generation and awaiting beneficial use.

G. Reporting Requirements.

1. The permittee shall immediately notify the appropriate Department regional office (see attached list) via certified mail of any changes in: the company name, address, owners, operators and/or responsible officials of the company, compliance status, changes in facility location changes in land ownership or the right to operate on the land occupied, the physical or chemical characteristics of the foundry waste generated or previously stockpiled, the manufacturing process that generates the foundry waste and the status of any permit issued by the Department or federal government under the environmental protection acts.
2. For each new source of foundry waste, the permittee shall notify the appropriate Department regional office in writing no less than fifteen (15) working days prior to acceptance and beneficial use of the foundry waste from a new source as follows:
 - a. The permittee shall submit results of an analysis of representative samples of foundry waste to the Department for the constituents as specified in Condition D of this general permit. The chemical analysis required in this Condition G(2) shall be based on the proposed beneficial use of foundry waste, or any changes in the types of sand binder systems, binder chemicals, coatings or types of metals or metal alloys being cast.
 - b. The permittee may beneficially use foundry waste from a new source in accordance with the conditions of this general permit after the aforementioned fifteen (15) day period unless otherwise instructed by the Department.
3. Persons operating under the provisions of this general permit shall submit to the appropriate Department Regional Office (see attached list), an annual report on the beneficial use activities conducted under this permit by March 1, for the preceding calendar year. This report shall include the information required in Condition C(5) and summarize the weight and volume of the waste foundry sand sold, traded or given away during the last year. In addition, the annual report must also include the following:

A "total" and "leaching" analysis performed on a representative sample of the waste foundry sand annually for all parameters listed in Table(s) 1 and/or 2 of Condition D(4) of this permit. After a satisfactory initial analysis has been completed and submitted to the Department, in lieu of the annual analysis, an authorized representative of the generator may sign and submit to the Department, an analysis certification for all parameters listed in Table(s) 1 and/or 2 that do not exceed 65% of the specified permit limit and the process by which the waste foundry sand was generated has not changed from that specified in the original permit application. However, this analysis certification may only

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be used for (5) consecutive years, after which the complete analysis required in Condition D(4) must once again be completed.

4. The permittee shall immediately notify the Department's Emergency Hotline by telephone at 800-541-2050 and the waste management program in the appropriate Department regional office (see attached list) of any accidental spills and shall take appropriate immediate action to protect the health and safety of the public and the environment.

H. Renewal:

A generator or supplier that plans to continue the operations authorized under this general permit, after the expiration date indicated on the approval for coverage page, shall file a complete application for permit renewal at least 180 days before the expiration date of this general permit unless permission has been granted by the Department for submission at a later date. The renewal applications shall be submitted to the appropriate Department Regional Office (see attached list) and include, at a minimum, the following:

- i. General Information Form (Authorization Application for a Residual or Municipal Waste General Permit Application),
- ii. Form B (Professional Certification),
- iii. Form 20 (Application for a Municipal or Residual Waste General Permit),
- iv. Form 27R (Acceptance of General Permit Conditions), and
- v. DOA application fee in the amount identified in Section A (General Information) of the Form 20. A check shall be made payable to the "Commonwealth of Pennsylvania."

A copy of the renewal application shall also be sent to the Department's Bureau of Waste Management, Division of Municipal and Residual Waste, Rachel Carson State Office Building, 400 Market Street, P.O. Box 69170, Harrisburg, PA 17106-9170.

In the event that a timely and complete application for renewal has been submitted and the Department is unable, through no fault of the permittee, to reissue the general permit or approval for coverage before its current coverage expiration date, the terms and conditions of the approved coverage will automatically continue and will remain fully effective and enforceable pending the issuance or denial of the renewal for permit coverage, provided the permittee is, and has been, operating in compliance with the terms and conditions of the general permit.

APPENDIX A

ACCEPTABLE USES AND RESTRICTIONS GENERAL PERMIT NO. WMGR019

The following "Acceptable Uses and Restrictions" apply to persons or municipalities that receive or use the foundry waste from facilities operating under WMGR019 for beneficial use in lieu of submitting a determination of applicability to the Department of Environmental Protection (Department).

A. Acceptable Uses:

1. The beneficial use of foundry waste as a roadway construction material shall comply with the following technical standards developed by the Pennsylvania Department of Transportation (PennDOT) as outlined in its Publication 408, Specifications.
2. The beneficial use of foundry waste as a construction material in the athletic fields and buildings, as pipe bedding, as trench backfill and as backfill on locations where underground storage tanks or petroleum-contaminated soil has been removed shall comply with the following requirements:
 - a. For areas where foundry waste is beneficially used as a construction material, the foundry waste shall either be paved or covered with a minimum six (6) inches of vegetative supporting soil or covered by a building or other structure.
 - b. For unpaved parking lot areas, a minimum of six (6) inches of stone or other non-waste aggregate must be used to cover the foundry waste.
 - c. For embankment use, the foundry waste must be covered with a minimum six (6) inches of vegetative supporting soil or non-waste aggregate.
3. The foundry waste may not be beneficially used as a soil additive or soil substitute to replace soil that was previously available at a site in order to enhance soil properties and to enhance plant growth if the organic carbon fraction of the soil (before blending with foundry waste) is less than 0.25%.

B. Use Restrictions:

1. Foundry waste shall not be placed in direct contact with surface water or groundwater or used in any construction activity within 100 feet of a perennial stream, 300 feet of an exceptional wetland or 300 feet of a private or public water source.
2. Foundry waste or products manufactured using foundry waste as a component or ingredient shall not be used as a valley fill material, to fill open pits from coal or to level or bring an area to grade unless as stated below:
 - a. Foundry waste may be used as embankment material to level or bring an area to grade where a construction activity is completed or will commence within three (3) months after the placement of foundry waste.
 - b. For multi-phase construction projects (such as development of a commercial or an industrial park), all foundry waste shall be covered within sixty (60) days of

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- completion of fill placement, unless it is uncovered as a requirement of ongoing active phase construction.
3. Except for municipal waste and residual waste as specified in paragraph B(4) of this Appendix A, hazardous waste, special handling waste, municipal waste and residual waste may not be mixed and/or stored or beneficially used with the foundry waste.
 4. The Department may authorize, in writing, the mixing of foundry waste with municipal waste and/or residual waste that is covered under another general permit for beneficial use.
 5. Unless otherwise authorized by the Department in writing during the calendar year (commencing on January 1), foundry waste shall not be stored for more than one (1) year, and, at any one time, the maximum amount stored may not exceed the total amount of materials as described in the approved application.
 5. The storage, transportation or beneficial use of the foundry waste shall be in a manner, which will not create a nuisance or be harmful to public health, safety or the environment.
 6. The storage and transportation of foundry waste shall be in a manner that complies with the requirements set forth in 25 Pa. Code, Chapter 299 (relating to storage and transportation of residual waste).
 7. Best Management Practices shall be implemented to divert storm water run-on from the storage area(s). Storm water runoff shall be managed in accordance with The Clean Streams Law and regulations promulgated thereunder. Prior to beneficially using foundry waste, all necessary storm water management permits required under The Clean Streams Law and the regulations promulgated thereunder shall be obtained from the Department.

**Department of Environmental Protection
Regional Offices
(And Counties Served)**

- I. **Bucks, Chester, Delaware, Montgomery, Philadelphia**
Southeast Regional Office
2 East Main Street
Norristown, PA 19401
Phone: 484-250-5960
Fax: 484-250-5961

- II. **Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Schuylkill, Susquehanna, Wayne, Wyoming**
Northeast Regional Office
2 Public Square
Wilkes-Barre, PA 18711-0790
Phone: 570-826-2516
Fax: 570-826-5448

- III. **Adams, Bedford, Berks, Blair, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry, York**
Southcentral Regional Office
909 Elmerton Avenue
Harrisburg, PA 17110-8200
Phone: 717-705-4706
Fax: 717-705-4930

- IV. **Bradford, Cameron, Centre, Clearfield, Clinton, Columbia, Lycoming, Montour, Northumberland, Potter, Snyder, Sullivan, Tioga, Union**
Northcentral Regional Office
208 West 3rd Street, Suite 101
Williamsport, PA 17701
Phone: 570-327-3653
Fax: 570-327-3420

- V. **Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland**
Southwest Regional Office
400 Waterfront Drive
Pittsburgh, PA 15222-4745
Phone: 412-442-4000
Fax: 412-442-4194

- VI. **Butler, Clarion, Crawford, Elk, Erie, Forest, Jefferson, Lawrence, McKean, Mercer, Venango, Warren**
Northwest Regional Office
230 Chestnut Street
Meadville, PA 16335-3481
Phone: 814-332-6848
Fax: 814-332-6117