

**Appendix A**  
**Definitions, Abbreviations and Acronyms**

## **Appendix A. Definitions, Abbreviations, and Acronyms (for the purposes of this permit).**

**Action Area** – all areas to be affected directly or indirectly by the stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related activities, and not merely the immediate area involved in these discharges and activities.

**EPA Approved or Established Total Maximum Daily Loads (TMDLs)** – “Approved TMDLs” are those that are developed by a State and approved by EPA. “Established TMDLs” are those that are developed by EPA.

**Arid Climate** – areas where annual rainfall averages from 0 to 10 inches.

**Best Management Practices (BMPs)** – schedules of activities, practices (and prohibitions of practices), structures, vegetation, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. See 40 CFR 122.2.

**Co-located Industrial Activities** – Any industrial activities, excluding your primary industrial activity(ies), located on-site that are defined by the stormwater regulations at 122.26(b)(14)(i)-(ix) and (xi). An activity at a facility is not considered co-located if the activity, when considered separately, does not meet the description of a category of industrial activity covered by the stormwater regulations and identified by the SIC code list in Appendix D.

**Control Measure** – refers to any BMP or other method (including effluent limitations) used to prevent or reduce the discharge of pollutants to waters of the United States.

**Director** – a Regional Administrator of the Environmental Protection Agency or an authorized representative. See 40 CFR 122.2.

**Discharge** – when used without qualification, means the "discharge of a pollutant." See 40 CFR 122.2.

**Discharge of a pollutant** – any addition of any “pollutant” or combination of pollutants to “waters of the United States” from any “point source,” or any addition of any pollutant or combination of pollutants to the waters of the “contiguous zone” or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. See 40 CFR 122.2.

**Discharge-related activities** – activities that cause, contribute to, or result in stormwater and allowable non-stormwater point source discharges, and measures such as the siting, construction and operation of BMPs to control, reduce, or prevent pollution in the discharges.

**Drought-stricken area** – a period of below average water content in streams, reservoirs, ground-water aquifers, lakes and soils.

**Existing Discharger** – an operator applying for coverage under this permit for discharges authorized previously under an NPDES general or individual permit.

**Facility or Activity** – any NPDES “point source” (including land or appurtenances thereto) that is subject to regulation under the NPDES program. See 40 CFR 122.2.

**Federal Facility** – any buildings, installations, structures, land, public works, equipment, aircraft, vessels, and other vehicles and property, owned by, or constructed or manufactured for the purpose of leasing to, the federal government.

**Impaired Water** (or “Water Quality Impaired Water” or “Water Quality Limited Segment”) – A water is impaired for purposes of this permit if it has been identified by a State or EPA pursuant to Section 303(d) of the Clean Water Act as not meeting applicable State water quality standards (these waters are called “water quality limited segments” under 40 C.F.R. § 130.2(j)). Impaired waters include both waters with approved or established TMDLs, and those for which a TMDL has not yet been approved or established.

**Indian Country** – (a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation; (b) all dependent Indian communities within the borders of the United States, whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a State, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same. This definition includes all land held in trust for an Indian tribe. (18 U.S.C. 1151)

**Industrial Activity** – the 10 categories of industrial activities included in the definition of “stormwater discharges associated with industrial activity” as defined in 40 CFR §122.26(b)(14)(i)-(ix) and (xi).

**Industrial Stormwater** – stormwater runoff from industrial activity.

**Municipal Separate Storm Sewer** – a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;

(ii) Designed or used for collecting or conveying stormwater;

(iii) Which is not a combined sewer; and

(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2. See 40 CFR 122.26(b)(4) and (b)(7).

**New Discharger** – a facility from which there is a discharge, that did not commence the discharge at a particular site prior to August 13, 1979, which is not a new source, and which has never received a finally effective NPDES permit for discharges at that site. See 40 CFR 122.2.

**New Source** – any building, structure, facility, or installation from which there is or may be a “discharge of pollutants,” the construction of which commenced:

- after promulgation of standards of performance under section 306 of the CWA which are applicable to such source, or
- after proposal of standards of performance in accordance with section 306 of the CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal. See 40 CFR 122.2.

**New Source Performance Standards (NSPS)** – technology-based standards for facilities that qualify as new sources under 40 CFR 122.2 and 40 CFR 122.29.

**No exposure** – all industrial materials or activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. See 40 CFR 122.26(g).

**Operator** – any entity with a stormwater discharge associated with industrial activity that meets either of the following two criteria:

- (i) The entity has operational control over industrial activities, including the ability to modify those activities; or
- (ii) The entity has day-to-day operational control of activities at a facility necessary to ensure compliance with the facility's SWPPP or with other permit conditions (e.g., the entity is authorized to direct workers at a facility to carry out activities required by the SWPPP or to comply with other permit conditions).

**Person** – an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof. See 40 CFR 122.2.

**Point source** – any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff. See 40 CFR 122.2.

**Pollutant** – dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal and agricultural waste discharged into water. See 40 CFR 122.2.

**Pollutant of concern** – A pollutant which causes or contributes to a violation of a water quality standard, including a pollutant which is identified as causing an impairment in a state's 303(d) list.

**Primary industrial activity** – includes any activities performed on-site which are (1) identified by the facility's primary SIC code; or (2) included in the narrative descriptions of 122.26(b)(14)(i), (iv), (v), or (vii), and (ix). [For co-located activities covered by multiple SIC codes, it is recommended that the primary industrial determination be based on the value of receipts or revenues or, if such information is not available for a particular facility, the number of employees or production rate for each process may be compared. The operation that generates the most revenue or employs the most personnel is the operation in which the facility is primarily engaged.] Narrative descriptions in 40 CFR 122.26(b)(14) identified above include: (i) activities subject to stormwater effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards; (iv) hazardous waste treatment storage, or disposal facilities including those that are operating under interim status or a permit under subtitle C of the Resource Conservation and Recovery Act (RCRA); (v) landfills, land application sites and open dumps that receive or have received industrial wastes; (vii) steam electric power generating facilities; and (ix) sewage treatment works with a design flow of 1.0 mgd or more.

**Qualified Personnel** – Qualified personnel are those who possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at your facility, and who can also evaluate the effectiveness of control measures.

**Reportable Quantity Release** – a release of a hazardous substance at or above the established legal threshold that requires emergency notification. Refer to 40 CFR Parts 110, 117, and 302 for complete definitions and reportable quantities for which notification is required.

**Runoff coefficient** – the fraction of total rainfall that will appear at the conveyance as runoff. See 40 CFR 122.26(b)(11).

**Semi-Arid Climate** – areas where annual rainfall averages from 10 to 20 inches.

**Significant materials** – includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges. See 40 CFR 122.26(b)(12).

**Special Aquatic Sites** – sites identified in 40 CFR 230 Subpart E. These are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife

protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region.

**Stormwater** – stormwater runoff, snow melt runoff, and surface runoff and drainage. See 40 CFR § 122.26(b)(13).

**Stormwater Discharges Associated with Construction Activity** – a discharge of pollutants in stormwater runoff from areas where soil disturbing activities (e.g., clearing, grading, or excavating), construction materials, or equipment storage or maintenance (e.g., fill piles, borrow areas, concrete truck washout, fueling), or other industrial stormwater directly related to the construction process (e.g., concrete or asphalt batch plants) are located. See 40 CFR 122.26(b)(14)(x) and 40 CFR 122.26(b)(15).

**Stormwater Discharges Associated with Industrial Activity** – the discharge from any conveyance that is used for collecting and conveying stormwater and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under Part 122. For the categories of industries identified in this section, the term includes, but is not limited to, stormwater discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at part 401 of this chapter); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater. For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with stormwater drained from the above described areas. Industrial facilities include those that are federally, State, or municipally owned or operated that meet the description of the facilities listed in Appendix D of this permit. The term also includes those facilities designated under the provisions of 40 CFR 122.26(a)(1)(v). See 40 CFR § 122.26(b)(14).

**Tier 2 Waters** – For antidegradation purposes, pursuant to 40 CFR 131.12(a)(2), Tier 2 waters are characterized as having water quality that exceeds the levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water.

**Tier 3 Waters** – For antidegradation purposes, pursuant to 40 CFR 131.12(a)(3), Tier 3 waters are identified by states as having high quality waters constituting an Outstanding Resource Water (ORW).

**Total Maximum Daily Loads (TMDLs)** – A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL includes wasteload allocations (WLAs) for point source discharges; load allocations (LAs) for nonpoint sources and/or natural background, and must include a margin of safety (MOS) and account for seasonal variations. (See section 303(d) of the Clean Water Act and 40 CFR §130.2 and §130.7).

**Water Quality Impaired** – See ‘Impaired Water’.

**Water Quality Standards** – A water quality standard defines the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses. States and EPA adopt water quality standards to protect public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act (See CWA sections 101(a)2 and 303(c)). Water quality standards also include an antidegradation policy. See P.U.D. o. 1 of Jefferson County et al v. Wash Dept of Ecology et al, 511 US 701, 705 (1994).

**“You” and “Your”** – as used in this permit are intended to refer to the permittee, the operator, or the discharger as the context indicates and that party’s facility or responsibilities. The use of “you” and “your” refers to a particular facility and not to all facilities operated by a particular entity. For example, “you must submit” means the permittee must submit something for that particular facility. Likewise, “all your discharges” would refer only to discharges at that one facility.

## **A.2. ABBREVIATIONS AND ACRONYMS**

BAT – Best Available Technology Economically Achievable

BOD5 – Biochemical Oxygen Demand (5-day test)

BMP – Best Management Practice

BPJ – Best Professional Judgment

BPT – Best Practicable Control Technology Currently Available

CERCLA – Comprehensive Environmental Response, Compensation and Liability Act

CGP – Construction General Permit

COD – Chemical Oxygen Demand

CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 *et seq*)

CWT – Centralized Waste Treatment

DMR – Discharge Monitoring Report

EPA – U. S. Environmental Protection Agency

ESA – Endangered Species Act

FWS – U. S. Fish and Wildlife Service

LA – Load Allocations

MDMR – MSGP Discharge Monitoring Report

MGD – Million Gallons per Day

MOS – Margin of Safety

MS4 – Municipal Separate Storm Sewer System

MSDS – Material Safety Data Sheet

MSGP – Multi-Sector General Permit

NAICS – North American Industry Classification System

NEPA – National Environmental Policy Act

NHPA – National Historic Preservation Act

NMFS – U. S. National Marine Fisheries Service

NOI – Notice of Intent

NOT – Notice of Termination

NPDES – National Pollutant Discharge Elimination System

NRC – National Response Center

NRHP – National Register of Historic Places

NSPS – New Source Performance Standard

NTU – Nephelometric Turbidity Unit

OMB – U. S. Office of Management and Budget

ORW – Outstanding Resource Water

OSM – U. S. Office of Surface Mining

POTW – Publicly Owned Treatment Works

RCRA – Resource Conservation and Recovery Act

RQ – Reportable Quantity

SARA – Superfund Amendments and Reauthorization Act

SHPO – State Historic Preservation Officer

SIC – Standard Industrial Classification

SMCRA – Surface Mining Control and Reclamation Act

SPCC – Spill Prevention, Control, and Countermeasures

SWPPP – Stormwater Pollution Prevention Plan

THPO – Tribal Historic Preservation Officer

TMDL – Total Maximum Daily Load

TSDf – Treatment, Storage, or Disposal Facility

TSS – Total Suspended Solids

USGS – United States Geological Survey

WLA – Wasteload Allocation

WQS – Water Quality Standard

**Appendix B**  
**Standard Permit Conditions**

## **Appendix B. Standard Permit Conditions.**

Standard permit conditions in Appendix B are consistent with the general permit provisions required under 40 CFR 122.41.

### **B.1 Duty To Comply.**

You must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of 10 VSA Chapter 47 and the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

- A. You must comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards, even if the permit has not yet been modified to incorporate the requirement.
- B. Penalties for Violations of Permit Conditions: Violations of the terms and conditions of this permit are subject to enforcement pursuant to 10 VSA Chapter 201. In addition and without limitation, the terms and conditions of this permit are enforceable as follows:

- 1. **Criminal Penalties.** 10 VSA §1275(a) provides that any person who violates any provision of Subchapter 1 of Vermont's Water Pollution Control Law, 10 VSA §§ 1250-1283, or who fails, neglects or refuses to obey or comply with any order or the terms of any permit issued in accordance with this subchapter, shall be fined not more than \$25,000 or be imprisoned not more than six months, or both. Each violation may be a separate offense and, in the case of a continuing violation, each day's continuance may be deemed a separate offense.

10 VSA §1275(b) provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained under this subchapter, or by any permit, rule, regulation or order issued under this subchapter, or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this subchapter, shall upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than six months, or by both.

The Secretary retains the authority to enforce the Clean Water Act and compliance with this permit pursuant to Section 309 of the CWA, 33 U.S.C. § 1319.

- 1.1 Negligent Violations. The CWA provides that any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to criminal penalties of not less than \$2,500 nor more than \$25,000 per day of violation, or imprisonment of not more than one year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of

violation or by imprisonment of not more than two years, or both.

1.2. **Knowing Violations.** The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both.

1.3. **Knowing Endangerment.** The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he or she is placing another person in imminent danger of death or serious bodily injury shall upon conviction be subject to a fine of not more than \$250,000 or by imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision be subject to a fine of not more than \$1,000,000 and can fined up to \$2,000,000 for second or subsequent convictions.

1.4. **False Statement.** The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

**2. Civil Penalties.** 10 VSA §1275(a) provides that any person who violates any provision of Subchapter 1 of Vermont's Water Pollution Control Law, 10 VSA §§ 1250-1283, or who fails, neglects or refuses to obey or comply with any order or the terms of any permit issued in accordance with this subchapter, shall be fined not more than \$25,000 or be imprisoned not more than six months, or both. Each violation may be a separate offense and, in the case of a continuing violation, each day's continuance may be deemed a separate offense.

10 VSA §1275(b) provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or

other document filed or required to be maintained under this subchapter, or by any permit, rule, regulation or order issued under this subchapter, or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this subchapter, shall upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than six months, or by both.

The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$32,500 per day for each violation).

3. **Administrative Penalties.** 10 VSA §8010(c) provides that a penalty of not more than \$25,000 may be assessed for each determination of violation. In addition, if the Secretary determines that a violation is continuing the Secretary may assess a penalty of not more than \$10,000 for each day the violation continues, up to a total of \$100,000.

The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty, as follows:

- 3.1. Class I Penalty. Not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$11,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$32,500).
- 3.2. Class II Penalty. Not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$11,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$157,500).

## **B.2 Duty to Reapply.**

If you wish to continue an activity regulated by this permit after the expiration date of this permit, you must apply for and obtain authorization as required by the new permit once the Secretary issues it.

### **B.3 Need to Halt or Reduce Activity Not a Defense.**

It shall not be a defense for you in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

### **B.4 Duty to Mitigate.**

You must take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

### **B.5 Proper Operation and Maintenance.**

You must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by you to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by you only when the operation is necessary to achieve compliance with the conditions of this permit.

### **B.6 Permit Actions.**

This permit may be modified, revoked and reissued, or terminated for cause, including but not limited to, violation of any term or condition of this permit, obtaining authorization to discharge by misrepresentation or failure to disclose all relevant facts, or a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge. Your filing of a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

### **B.7 Property Rights.**

Coverage under this permit, does not convey property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

### **B.8 Duty to Provide Information.**

You must furnish to the Secretary or his/her authorized representative (including an authorized contractor acting as a representative of the Secretary), within a reasonable time, any information which may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. You must also furnish to the Secretary upon request, copies of records required to be kept by this permit. If you become aware that you have failed to submit any relevant facts or submitted incorrect information in the

NOI, SWPPP or in any other report to the Secretary, you must promptly submit such facts or information.

### **B.9 Inspection and Entry.**

You must allow the Secretary or his/her authorized representative (including an authorized contractor acting as a representative of the Secretary), upon presentation of credentials and other documents as may be required by law, to:

- A. Enter upon your premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- D. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act or Vermont law, any substances or parameters at any location.

### **B.10 Monitoring and Records.**

- A. Samples and measurements taken for the purpose of monitoring must be representative of the volume and nature of the monitored activity.
- B. You must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date the permit expires or the date the permittee's authorization is terminated. This period may be extended by request of the Secretary at any time.
- C. Records of monitoring information must include:
  - 1. The date, exact place, and time of sampling or measurements;
  - 2. The individual(s) who performed the sampling or measurements;
  - 3. The date(s) analyses were performed;
  - 4. The individual(s) who performed the analyses;
  - 5. The analytical techniques or methods used; and

6. The results of such analyses.
- D. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in the permit.
  - E. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

### **B.11 Signatory Requirements.**

- A. All applications, including NOIs, must be signed as follows:
  1. For a corporation: By a responsible corporate officer. For the purpose of this subsection, a responsible corporate officer means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
  2. For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or
  3. For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this subsection, a principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
- B. Your SWPPP, including changes to your SWPPP to address corrective action required by Part 3.1, and all reports submitted to the Secretary, must be signed by a person described in Appendix B, Subsection 11.A above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described in Appendix B, Subsection 11.A;
  2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
  3. The signed and dated written authorization is included in the SWPPP. A copy must be submitted to the Secretary, if requested.
- C. All other changes to your SWPPP and compliance documentation required under Part 5.2 must be signed and dated by the person preparing the change or documentation.
- D. Changes to Authorization. If an authorization under Appendix B, Subsection 11.B is no longer accurate because the industrial facility has been purchased by a different entity, a new NOI satisfying the requirements of Subsection 11.B must be submitted to the Secretary. See Table 1-2 in Part 1.3.1 of the permit. However, if the only change that is occurring is a change in contact information or a change in the facility's address, the operator need only make a modification to the existing NOI submitted for authorization.
- E. Any person signing documents in accordance with Appendix B, Subsections 11.A or 11.B above must include the following certification:
- “I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”
- F. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

## **B.12 Reporting Requirements.**

- A. Planned changes. You must give notice to the Secretary as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b); or
  2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR §122.42(a)(1).
- B. Anticipated noncompliance. You must give advance notice to the Secretary of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- C. Transfers. This permit is not transferable to any person except in accordance with the requirements of this subsection and Vermont Water Pollution Control Regulations § 13.12[C][4]. Any new owner or operator of a facility, including those who replace an owner or operator who has previously obtained permit coverage, must submit an NOI to be covered for discharges for which they are the owner or operator. The new owner or operator must complete and file an NOI on forms provided by the Secretary at least thirty (30) days prior to taking over ownership or operational control of the facility. The old owner or operator must file a Notice of Termination in accordance with Part 1.5 within thirty (30) days after the new owner or operator has assumed responsibility for the facility. The Secretary may require the owner and operator to apply for and obtain an individual permit as stated in Part 1.7.1 of this permit.
- D. Monitoring reports. Monitoring results must be reported at the intervals specified elsewhere in this permit.
1. If you monitor any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or as specified in the permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the DMR.
  2. Calculations for all limitations which require averaging of measurements must use an arithmetic mean. For averaging purposes, use a value of zero for any individual sample parameter, which is determined to be less than the method detection limit. For sample values that fall between the method detection level and the quantitation limit (i.e., a confirmed detection but below the level that can be reliably quantified), use a value halfway between zero and the quantitation limit.

- E. Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date.
- F. Twenty-four hour reporting.
  - 1. You must report any noncompliance which may endanger health or the environment. Any information must be provided orally within 24 hours from the time you become aware of the circumstances. A written submission must also be provided within five days of the time you become aware of the circumstances. The written submission must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
  - 2. The following shall be included as information which must be reported within 24 hours under this paragraph.
    - a. Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR § 122.41(m)(3)(ii))
    - b. Any upset which exceeds any effluent limitation in the permit
    - c. Violation of a maximum daily discharge limit for any numeric effluent limitation. (See 40 CFR §122.44(g).)
  - 3. The Secretary may waive the written report on a case-by-case basis for reports under Appendix B, Subsection 12.F.2 if the oral report has been received within 24 hours.
- G. Other noncompliance. You must report all instances of noncompliance not reported under Appendix B, Subsections 12.D, 12.E, and 12.F, at the time monitoring reports are submitted. The reports must contain the information listed in Appendix B, Subsection 12.F.
- H. Other information. Where you become aware that you failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Agency, you must promptly submit such facts or information.

### **B.13 Bypass.**

#### **A. Definitions.**

- 1. Bypass means the intentional diversion of waste streams from any portion of a

treatment facility See 40 CFR §122.41(m)(1)(i).

2. Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. See 40 CFR §122.41(m)(1)(ii).
- B. Bypass not exceeding limitations. You may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Appendix B, Subsections 13.C and 13.D. See 40 CFR §122.41(m)(2).
- C. Notice.
1. Anticipated bypass. If you know in advance of the need for a bypass, you must submit prior notice, if possible at least ten days before the date of the bypass. See 40 CFR §122.41(m)(3)(i).
  2. Unanticipated bypass. You must submit notice of an unanticipated bypass as required in Appendix B, Subsection 12.F (24-hour notice). See 40 CFR §122.41(m)(3)(ii).
- D. Prohibition of bypass. See 40 CFR §122.41(m)(4).
1. Bypass is prohibited, and the Secretary may take enforcement action against you for bypass, unless:
    - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
    - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
    - c. You submitted notices as required under Appendix B, Subsection 13.C.
  2. The Secretary may approve an anticipated bypass, after considering its adverse effects, if the Secretary determines that it will meet the three conditions listed above in Appendix B, Subsection 13.D.1.

## **B.14 Upset.**

- A. Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond your reasonable control. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. See 40 CFR §122.41(n)(1).
- B. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Appendix B, Subsection 14.C are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. See 40 CFR §122.41(n)(2).
- C. Conditions necessary for a demonstration of upset. See 40 CFR §122.41(n)(3). A permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
  - 1. An upset occurred and that you can identify the cause(s) of the upset;
  - 2. The permitted facility was at the time being properly operated; and
  - 3. You submitted notice of the upset as required in Appendix B, Subsection 12.F.2.b (24 hour notice).
  - 4. You complied with any remedial measures required under Appendix B, Subsection 4.
- D. Burden of proof. In any enforcement proceeding, you, as the one seeking to establish the occurrence of an upset, have the burden of proof. See 40 CFR §122.41(n)(4).

## **B.15 State Environmental Laws.**

- A. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve a permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Clean Water Act.
- A. No condition of this permit releases a permittee from any responsibility or requirements under other environmental statutes or regulations.

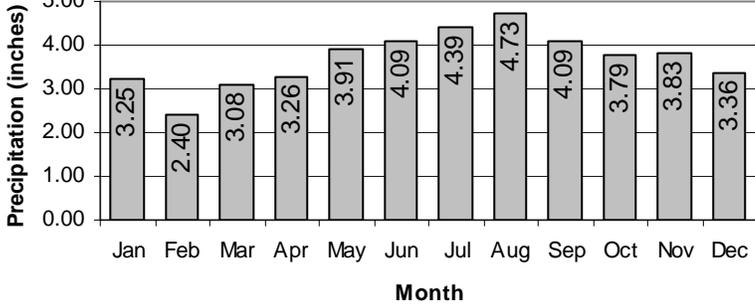
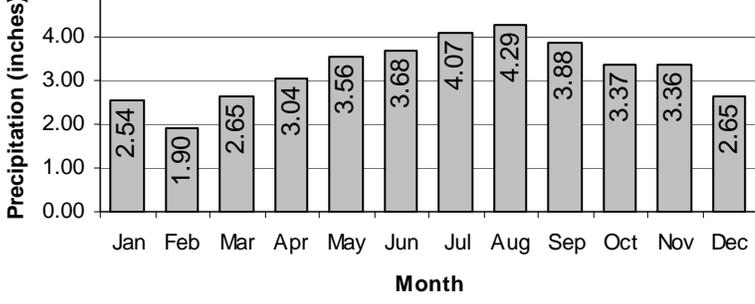
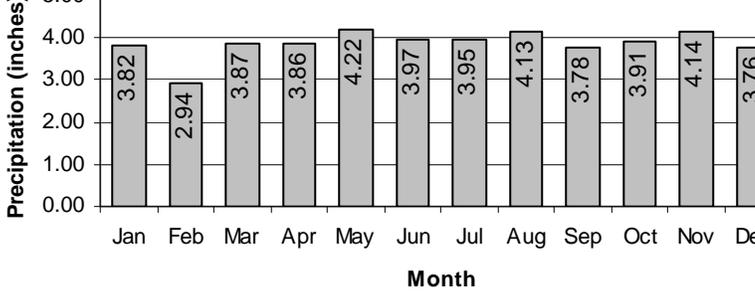
**B.16 Severability.**

Invalidation of a portion of this permit does not necessarily render the whole permit invalid. The Secretary's intent is that the permit is to remain in effect to the extent possible; in the event that any part of this permit is invalidated, the Secretary will advise the regulated community as to the effect of such invalidation.

**Appendix C**  
**Rainfall Data**

**Appendix C. Rainfall Data.**

**Table 1: Vermont Monthly Precipitation Normals by Month, 1971-2000\***

 <p><b>Division 1: Northeastern</b></p>	 <table border="1"> <thead> <tr> <th>Month</th> <th>Precipitation (inches)</th> </tr> </thead> <tbody> <tr><td>Jan</td><td>3.25</td></tr> <tr><td>Feb</td><td>2.40</td></tr> <tr><td>Mar</td><td>3.08</td></tr> <tr><td>Apr</td><td>3.26</td></tr> <tr><td>May</td><td>3.91</td></tr> <tr><td>Jun</td><td>4.09</td></tr> <tr><td>Jul</td><td>4.39</td></tr> <tr><td>Aug</td><td>4.73</td></tr> <tr><td>Sep</td><td>4.09</td></tr> <tr><td>Oct</td><td>3.79</td></tr> <tr><td>Nov</td><td>3.83</td></tr> <tr><td>Dec</td><td>3.36</td></tr> </tbody> </table>	Month	Precipitation (inches)	Jan	3.25	Feb	2.40	Mar	3.08	Apr	3.26	May	3.91	Jun	4.09	Jul	4.39	Aug	4.73	Sep	4.09	Oct	3.79	Nov	3.83	Dec	3.36
Month	Precipitation (inches)																										
Jan	3.25																										
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 <p><b>Division 2: Western</b></p>	 <table border="1"> <thead> <tr> <th>Month</th> <th>Precipitation (inches)</th> </tr> </thead> <tbody> <tr><td>Jan</td><td>2.54</td></tr> <tr><td>Feb</td><td>1.90</td></tr> <tr><td>Mar</td><td>2.65</td></tr> <tr><td>Apr</td><td>3.04</td></tr> <tr><td>May</td><td>3.56</td></tr> <tr><td>Jun</td><td>3.68</td></tr> <tr><td>Jul</td><td>4.07</td></tr> <tr><td>Aug</td><td>4.29</td></tr> <tr><td>Sep</td><td>3.88</td></tr> <tr><td>Oct</td><td>3.37</td></tr> <tr><td>Nov</td><td>3.36</td></tr> <tr><td>Dec</td><td>2.65</td></tr> </tbody> </table>	Month	Precipitation (inches)	Jan	2.54	Feb	1.90	Mar	2.65	Apr	3.04	May	3.56	Jun	3.68	Jul	4.07	Aug	4.29	Sep	3.88	Oct	3.37	Nov	3.36	Dec	2.65
Month	Precipitation (inches)																										
Jan	2.54																										
Feb	1.90																										
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Nov	3.36																										
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 <p><b>Division 3: Southeastern</b></p>	 <table border="1"> <thead> <tr> <th>Month</th> <th>Precipitation (inches)</th> </tr> </thead> <tbody> <tr><td>Jan</td><td>3.82</td></tr> <tr><td>Feb</td><td>2.94</td></tr> <tr><td>Mar</td><td>3.87</td></tr> <tr><td>Apr</td><td>3.86</td></tr> <tr><td>May</td><td>4.22</td></tr> <tr><td>Jun</td><td>3.97</td></tr> <tr><td>Jul</td><td>3.95</td></tr> <tr><td>Aug</td><td>4.13</td></tr> <tr><td>Sep</td><td>3.78</td></tr> <tr><td>Oct</td><td>3.91</td></tr> <tr><td>Nov</td><td>4.14</td></tr> <tr><td>Dec</td><td>3.76</td></tr> </tbody> </table>	Month	Precipitation (inches)	Jan	3.82	Feb	2.94	Mar	3.87	Apr	3.86	May	4.22	Jun	3.97	Jul	3.95	Aug	4.13	Sep	3.78	Oct	3.91	Nov	4.14	Dec	3.76
Month	Precipitation (inches)																										
Jan	3.82																										
Feb	2.94																										
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\*Data obtained from: National Climatic Data Center. *Climatology of the United States No. 85: Divisional Normals and Standard Deviations of Temperature, Precipitation, and Heating and Cooling Degree Days 1971-2000*. Obtained December 9th, 2005 from the World Wide Web: [http://www5.ncdc.noaa.gov/climate\\_normals/clim85/CLIM85\\_PRCP02.pdf](http://www5.ncdc.noaa.gov/climate_normals/clim85/CLIM85_PRCP02.pdf)

**Table 2: Rainfall Depths Associated with the 1-Year, 2-Year, 10-Year, and 100-Year, 24-Hour Storm Event in Vermont**

Vermont County	1-yr, 24-hr Rainfall Depth	2-yr, 24-hr Rainfall Depth	10-yr, 24-hr Rainfall Depth	100-yr, 24-hr Rainfall Depth
Addison	2.2	2.4	3.4	5.4
Bennington	2.3	2.8	4.0	6.8
Caledonia	2.2	2.3	3.1	5.4
Chittenden	2.1	2.3	3.2	5.2
Essex	2.2	2.3	3.1	5.1
Franklin	2.1	2.3	3.1	5.2
Grand Isle	2.1	2.2	3.1	5.1
Lamoille	2.1	2.4	3.4	5.7
Orange	2.2	2.4	3.4	5.7
Orleans	2.1	2.2	3.1	5.0
Rutland	2.3	2.5	3.7	5.9
Washington	2.2	2.4	3.4	5.4
Windham	2.3	2.8	4.0	6.8
Windsor	2.3	2.5	3.7	5.9

**Appendix D**  
**Activities Covered**

## Appendix D. Facilities and Activities Covered

Your permit eligibility is limited to discharges from facilities in the “sectors” of industrial activity summarized in Table D-1. These sector descriptions are based on Standard Industrial Classification (SIC) Codes and Industrial Activity Codes. References to “sectors” in this permit (e.g., sector-specific monitoring requirements) refer to these groupings.

<b>Table D-1. Sectors of Industrial Activity Covered by This Permit</b>		
<b>Subsector (May be subject to more than one sector/subsector)</b>	<b>SIC Code or Activity Code<sup>1</sup></b>	<b>Activity Represented</b>
<b>SECTOR A: TIMBER PRODUCTS</b>		
A1	2421	General Sawmills and Planing Mills
A2	2491	Wood Preserving
A3	2411	Log Storage and Handling
A4	2426	Hardwood Dimension and Flooring Mills
	2429	Special Product Sawmills, Not Elsewhere Classified
	2431-2439 (except 2434)	Millwork, Veneer, Plywood, and Structural Wood (see Sector W)
	2448	Wood Pallets and Skids
	2449	Wood Containers, Not Elsewhere Classified
	2451, 2452	Wood Buildings and Mobile Homes
	2493	Reconstituted Wood Products
A5	2499	Wood Products, Not Elsewhere Classified
A5	2441	Nailed and Lock Corner Wood Boxes and Shook
<b>SECTOR B: PAPER AND ALLIED PRODUCTS</b>		
B1	2631	Paperboard Mills
B2	2611	Pulp Mills
	2621	Paper Mills
	2652-2657	Paperboard Containers and Boxes
	2671-2679	Converted Paper and Paperboard Products, Except Containers and Boxes
<b>SECTOR C: CHEMICALS AND ALLIED PRODUCTS</b>		
C1	2873-2879	Agricultural Chemicals
C2	2812-2819	Industrial Inorganic Chemicals
C3	2841-2844	Soaps, Detergents, and Cleaning Preparations; Perfumes, Cosmetics, and Other Toilet Preparations
C4	2821-2824	Plastics Materials and Synthetic Resins, Synthetic Rubber, Cellulosic and Other Manmade Fibers Except Glass
C5	2833-2836	Medicinal Chemicals and Botanical Products; Pharmaceutical Preparations; in vitro and in vivo Diagnostic Substances; and Biological Products, Except Diagnostic Substances

**Table D-1. Sectors of Industrial Activity Covered by This Permit**

<b>Subsector (May be subject to more than one sector/subsector)</b>	<b>SIC Code or Activity Code<sup>1</sup></b>	<b>Activity Represented</b>
	2851	Paints, Varnishes, Lacquers, Enamels, and Allied Products
	2861-2869	Industrial Organic Chemicals
	2891-2899	Miscellaneous Chemical Products
	3952 (limited to list of inks and paints)	Inks and Paints, Including China Painting Enamels, India Ink, Drawing Ink, Platinum Paints for Burnt Wood or Leather Work, Paints for China Painting, Artist's Paints and Artist's Watercolors
	2911	Petroleum Refining
<b>SECTOR D: ASPHALT PAVING AND ROOFING MATERIALS AND LUBRICANTS</b>		
D1	2951, 2952	Asphalt Paving and Roofing Materials
D2	2992, 2999	Miscellaneous Products of Petroleum and Coal
<b>SECTOR E: GLASS, CLAY, CEMENT, CONCRETE, AND GYPSUM PRODUCTS</b>		
E1	3251-3259	Structural Clay Products
	3261-3269	Pottery and Related Products
E2	3271-3275	Concrete, Gypsum, and Plaster Products
E3	3211	Flat Glass
	3221, 3229	Glass and Glassware, Pressed or Blown
	3231	Glass Products Made of Purchased Glass
	3241	Hydraulic Cement
	3281	Cut Stone and Stone Products
3291-3299	Abrasive, Asbestos, and Miscellaneous Nonmetallic Mineral Products	
<b>SECTOR F: PRIMARY METALS</b>		
F1	3312-3317	Steel Works, Blast Furnaces, and Rolling and Finishing Mills
F2	3321-3325	Iron and Steel Foundries
F3	3351-3357	Rolling, Drawing, and Extruding of Nonferrous Metals
F4	3363-3369	Nonferrous Foundries (Castings)
F5	3331-3339	Primary Smelting and Refining of Nonferrous Metals
	3341	Secondary Smelting and Refining of Nonferrous Metals
	3398, 3399	Miscellaneous Primary Metal Products
<b>SECTOR G: METAL MINING (ORE MINING AND DRESSING)</b>		
G1	1021	Copper Ore and Mining Dressing Facilities
G2	1011	Iron Ores
	1021	Copper Ores
	1031	Lead and Zinc Ores
	1041, 1044	Gold and Silver Ores
	1061	Ferroalloy Ores, Except Vanadium
	1081	Metal Mining Services
1094, 1099	Miscellaneous Metal Ores	

<b>Table D-1. Sectors of Industrial Activity Covered by This Permit</b>		
<b>Subsector (May be subject to more than one sector/subsector)</b>	<b>SIC Code or Activity Code<sup>1</sup></b>	<b>Activity Represented</b>
<b>SECTOR H: COAL MINES AND COAL MINING-RELATED FACILITIES</b>		
H1	1221-1241	Coal Mines and Coal Mining-Related Facilities
<b>SECTOR I: OIL AND GAS EXTRACTION AND REFINING</b>		
I1	1311	Crude Petroleum and Natural Gas
	1321	Natural Gas Liquids
	1381-1389	Oil and Gas Field Services
<b>SECTOR J: MINERAL MINING AND DRESSING</b>		
J1	1442	Construction Sand and Gravel
	1446	Industrial Sand
J2	1411	Dimension Stone
	1422-1429	Crushed and Broken Stone, Including Rip Rap
	1481	Nonmetallic Minerals Services, Except Fuels
	1499	Miscellaneous Nonmetallic Minerals, Except Fuels
J3	1455, 1459	Clay, Ceramic, and Refractory Materials
	1474-1479	Chemical and Fertilizer Mineral Mining
<b>SECTOR K: HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES</b>		
K1	HZ	Hazardous Waste Treatment, Storage, or Disposal Facilities, including those that are operating under interim status or a permit under subtitle C of RCRA
<b>SECTOR L: LANDFILLS, LAND APPLICATION SITES, AND OPEN DUMPS</b>		
L1	LF	All Landfill, Land Application Sites and Open Dumps
L2	LF	All Landfill, Land Application Sites and Open Dumps, except Municipal Solid Waste Landfill (MSWLF) Areas Closed in Accordance with 40 CFR 258.60
<b>SECTOR M: AUTOMOBILE SALVAGE YARDS</b>		
M1	5015	Automobile Salvage Yards
<b>SECTOR N: SCRAP RECYCLING FACILITIES</b>		
N1	5093	Scrap Recycling and Waste Recycling Facilities except Source-Separated Recycling
N2	5093	Source-separated Recycling Facility
<b>SECTOR O: STEAM ELECTRIC GENERATING FACILITIES</b>		
O1	SE	Steam Electric Generating Facilities, including coal handling sites
<b>SECTOR P: LAND TRANSPORTATION AND WAREHOUSING</b>		
P1	4011, 4013	Railroad Transportation
	4111-4173	Local and Highway Passenger Transportation
	4212-4231	Motor Freight Transportation and Warehousing
	4311	United States Postal Service
	5171	Petroleum Bulk Stations and Terminals

**Table D-1. Sectors of Industrial Activity Covered by This Permit**

Subsector (May be subject to more than one sector/subsector)	SIC Code or Activity Code <sup>1</sup>	Activity Represented
<b>SECTOR Q: WATER TRANSPORTATION</b>		
Q1	4412-4499	Water Transportation Facilities
<b>SECTOR R: SHIP AND BOAT BUILDING AND REPAIRING YARDS</b>		
R1	3731, 3732	Ship and Boat Building or Repairing Yards
<b>SECTOR S: AIR TRANSPORTATION FACILITIES</b>		
S1	4512-4581	Air Transportation Facilities
<b>SECTOR T: TREATMENT WORKS</b>		
T1	TW	Treatment Works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR Part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with section 405 of the CWA
<b>SECTOR U: FOOD AND KINDRED PRODUCTS</b>		
U1	2041-2048	Grain Mill Products
U2	2074-2079	Fats and Oils Products
U3	2011-2015	Meat Products
	2021-2026	Dairy Products
	2032-2038	Canned, Frozen, and Preserved Fruits, Vegetables, and Food Specialties
	2051-2053	Bakery Products
	2061-2068	Sugar and Confectionery Products
	2082-2087	Beverages
	2091-2099	Miscellaneous Food Preparations and Kindred Products
2111-2141	Tobacco Products	
<b>SECTOR V: TEXTILE MILLS, APPAREL, AND OTHER FABRIC PRODUCT MANUFACTURING; LEATHER AND LEATHER PRODUCTS</b>		
V1	2211-2299	Textile Mill Products
	2311-2399	Apparel and Other Finished Products Made from Fabrics and Similar Materials
	3131-3199	Leather and Leather Products (note: see Sector Z1 for Leather Tanning and Finishing)
<b>SECTOR W: FURNITURE AND FIXTURES</b>		
W1	2434	Wood Kitchen Cabinets
	2511-2599	Furniture and Fixtures
<b>SECTOR X: PRINTING AND PUBLISHING</b>		
X1	2711-2796	Printing, Publishing, and Allied Industries

**Table D-1. Sectors of Industrial Activity Covered by This Permit**

Subsector (May be subject to more than one sector/subsector)	SIC Code or Activity Code <sup>1</sup>	Activity Represented
<b>SECTOR Y: RUBBER, MISCELLANEOUS PLASTIC PRODUCTS, AND MISCELLANEOUS MANUFACTURING INDUSTRIES</b>		
Y1	3011	Tires and Inner Tubes
	3021	Rubber and Plastics Footwear
	3052, 3053	Gaskets, Packing and Sealing Devices, and Rubber and Plastic Hoses and Belting
	3061, 3069	Fabricated Rubber Products, Not Elsewhere Classified
Y2	3081-3089	Miscellaneous Plastics Products
	3931	Musical Instruments
	3942-3949	Dolls, Toys, Games, and Sporting and Athletic Goods
	3951-3955 (except 3952 – see Sector C)	Pens, Pencils, and Other Artists' Materials
	3961, 3965	Costume Jewelry, Costume Novelties, Buttons, and Miscellaneous Notions, Except Precious Metal
	3991-3999	Miscellaneous Manufacturing Industries
<b>SECTOR Z: LEATHER TANNING AND FINISHING</b>		
Z1	3111	Leather Tanning and Finishing
<b>SECTOR AA: FABRICATED METAL PRODUCTS</b>		
AA1	3411-3499 (except 3479)	Fabricated Metal Products, Except Machinery and Transportation Equipment, and Coating, Engraving, and Allied Services.
	3911-3915	Jewelry, Silverware, and Plated Ware
AA2	3479	Fabricated Metal Coating and Engraving
<b>SECTOR AB: TRANSPORTATION EQUIPMENT, INDUSTRIAL OR COMMERCIAL MACHINERY</b>		
AB1	3511-3599 (except 3571- 3579)	Industrial and Commercial Machinery, Except Computer and Office Equipment (see Sector AC)
	3711-3799 (except 3731, 3732)	Transportation Equipment Except Ship and Boat Building and Repairing (see Sector R)
<b>SECTOR AC: ELECTRONIC, ELECTRICAL, PHOTOGRAPHIC, AND OPTICAL GOODS</b>		
AC1	3571-3579	Computer and Office Equipment
	3812-3873	Measuring, Analyzing, and Controlling Instruments; Photographic and Optical Goods, Watches, and Clocks
	3612-3699	Electronic and Electrical Equipment and Components, Except Computer Equipment
<b>SECTOR AD: NON-CLASSIFIED FACILITIES</b>		
AD1	Other stormwater discharges designated by the Director as needing a permit (see 40 CFR 122.26(a)(9)(i)(C) & (D)) or any facility discharging stormwater associated with industrial activity not described by any of Sectors A-AC. NOTE: Facilities may not elect to be covered under Sector AD. Only the Director may assign a facility to Sector AD.	

<sup>1</sup> A complete list of SIC Codes (and conversions from the newer North American Industry Classification System” (NAICS)) can be obtained from the Internet at [www.census.gov/epcd/www/naics.html](http://www.census.gov/epcd/www/naics.html) or in paper form from various locations in the document titled *Handbook of Standard Industrial Classifications*, Office of Management and Budget, 1987.

**Appendix E**  
**Procedures Relating to Endangered Species Protection**

## **Appendix E. Compliance and screening procedures relating to species listed and critical habitat designated under the Endangered Species Act.**

The Secretary may determine that non-compliance with the requirements of this Appendix results in ineligibility under this permit. You must meet one or more of the following six criteria (A-F) in order to comply with this permit:

- Criterion A. No state or federally-listed threatened or endangered species or their federally-designated critical habitat are in proximity to your facility; or
- Criterion B. Consultation has been performed for a separate federal action regarding your facility under Section 7 of the federal Endangered Species Act between a Federal agency and the federal Fish and Wildlife Service and/or the National Marine Fisheries Service (together, the “Services”). Consultations can be either formal or informal, and would have occurred only as a result of a separate action (e.g., during application for an individual wastewater discharge permit, the issuance of a wetlands dredge and fill permit, or as a result of a NEPA review).

The consultation must have addressed the effects of the facility’s stormwater discharges, allowable non-stormwater discharges, and stormwater discharge-related activities on state and federally-listed threatened or endangered species and federally-designated critical habitat, and resulted in either:

- i. a biological opinion finding no jeopardy to federally-listed species or destruction/adverse modification of federally-designated critical habitat; or
  - ii. written concurrence from the Services with a finding that the facility’s stormwater discharges associated with industrial activity and allowable non-stormwater discharges are not likely to adversely affect any federally-listed species or federally-designated critical habitat; or
- Criterion C. In the case that a State listed species is identified, the industrial activities are authorized through the issuance of an Endangered and Threatened Species permit under 10 VSA section 5408 and that authorization addresses the effects of the stormwater discharges associated with industrial activity and allowable non-stormwater discharges on state-listed species. In the case that a Federally listed species is identified, the industrial activities are authorized through the issuance of a permit under section 10 of the ESA and the issuance of an Endangered and Threatened Species permit under 10 VSA section 5408, and those authorizations address the effects of the stormwater discharges associated with industrial activity and allowable non-stormwater discharges on listed species and designated critical habitat; or
- Criterion D. Coordination between the operator and the Services has been concluded or between the operator and Vermont Fish and Wildlife has been concluded. The coordination must have addressed the effects of the facility’s storm water discharges associated with industrial activity and allowable non-storm water discharges on federally-listed threatened or endangered species and federally-designated critical habitat, or upon State listed threatened or endangered species

as required. The result of the coordination must be a written statement from the Services or from the State, as applicable, that there are not likely to be any adverse effects to federally-listed species or federally-designated critical habitat, or State-listed species as applicable. Any conditions or prerequisites deemed necessary to achieve no adverse effects become compliance conditions for MSGP coverage; or

- Criterion E. Authorizing your stormwater discharges associated with industrial activity, discharge-related activities, and allowable non-stormwater discharges is consistent with the determination that the issuance of the MSGP is not likely to adversely affect any federally-listed endangered and threatened (“listed”) species or designated critical habitat (“critical habitat”). To support your determination that you meet Criterion E, you must provide supporting documentation for your determination.

If you are an existing discharger, you must provide the following information with your completed Notice of Intent (NOI) form: (1) a list of the federally-listed threatened or endangered species or their designated critical habitat that are likely to occur in the “action area”; (2) a list of the pollutant parameters for which you have ever exceeded the benchmark or applicable effluent limitations guideline, or for which you have ever been found to have caused or contributed to an exceedance of an applicable water quality standard or to have violated a State or Tribal water quality requirement (Part 9); and (3) your rationale supporting your determination that you meet Criterion E, including appropriate measures to be undertaken to avoid or eliminate the likelihood of adverse effects.

If you are a new discharger, you must provide the following information with your completed NOI form: (1) a list of the federally-listed threatened or endangered species or their designated critical habitat that are likely to occur in the “action area”; (2) a list of the potential pollutants in your discharge; and (3) your rationale supporting your determination that you meet Criterion E, including appropriate measures to be undertaken to avoid or eliminate the likelihood of adverse effects; or

- Criterion F. The facility’s stormwater discharges associated with industrial activity and allowable non-stormwater discharges were already addressed in another operator’s SWPPP under Criteria A-D which included the industrial activities and there is no reason to believe that state and federally-listed species or state and federally-designated critical habitat not considered in the prior certification may be present or located in proximity to the facility. To certify compliance under this criterion there must be no lapse of coverage in the other operator’s certification. By certifying compliance under this criterion, you agree to comply with any measures or controls upon which the other operator's certification was based. You must comply with any applicable terms, conditions, or other requirements developed in the process of meeting the eligibility requirements of the criteria in this section to remain in compliance with this permit. Such terms and conditions

must be documented and incorporated into your Stormwater Pollution Prevention Plan (SWPPP).

## **Assessing Your Facility Discharges**

You must follow these procedures to assess the potential effects of stormwater discharges and stormwater discharge-related activities on state and federally listed species and the critical habitat of any federally-listed species. When evaluating these potential effects, you must evaluate your entire facility. For purposes of these procedures, the term “facility” is inclusive of the term “Action Area.” Action area is defined in 50 CFR §402.02 as all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action. This includes areas beyond the footprint of the facility that may be affected by stormwater discharges and stormwater discharge related activities. “Facility” is defined in Appendix A. Note that dischargers who are able to certify compliance under Criterion B, C, D, or F because they have both a previously issued ESA section 10 permit and an Endangered and Threatened Species permit under 10 VSA section 5408 , a previously completed ESA section 7 consultation and consultation with the Vermont Department of Fish and Wildlife, or because their activities were already addressed in another discharger’s certification of compliance, may proceed directly to Step Four.

**Step One:** Determine if Listed Threatened or Endangered Species and Federally Designated Critical Habitat are Present On or Near Your Facility.

You must first determine whether state or federally-listed species commonly reside in your area. The Vermont Agency of Natural Resources maintains a web site showing the location of all State and Federally listed species in Vermont. If you know the location or the latitude and longitude of your facility, you can visit: <http://www.anr.state.vt.us/site/html/maps.htm> and obtain the necessary information. A species is in “proximity” to a storm water or allowable non-storm water discharge when the species is located in the path or down gradient area through which or over which the point source discharge flows from industrial activities to the point of discharge into the receiving water, and once discharged into the receiving water, in the immediate vicinity of, or nearby, the discharge point. A species is also in “proximity” if it is located in the area of a site where discharge-related activities occur. If you determine there are no species in proximity to the storm water or allowable non-storm water discharges, or discharge-related activities, then there is no likelihood of jeopardizing the species and you are eligible for permit coverage, having satisfied your compliance obligations under Criterion A. If there are listed species or critical habitat on or near your project area you should contact the Vermont Department of Fish and Wildlife and you will need to do one or more of the following:

- Conduct visual inspections. This method may be particularly suitable for facilities that are smaller in size or located in non-natural settings such as highly urbanized areas or industrial parks where there is little or no natural habitat, or for facilities that discharge directly into municipal separate storm sewer systems; or
- Conduct a formal biological survey (typically performed by environmental consulting firms). In some cases, particularly for larger facilities with extensive stormwater

discharges, biological surveys may be an appropriate way to assess whether species are located on or near the project area and whether there are likely adverse effects to such species. A biological survey may in some cases be useful in conjunction with Steps Two, Three or Four of these instructions; or

- Conduct an environmental assessment under the National Environmental Policy Act (NEPA), if applicable. Such reviews may indicate if listed species are in proximity to the facility. Coverage under this MSGP may trigger such a review for new sources (that is, dischargers subject to New Source Performance Standards under section 306 of the Clean Water Act). Other facilities might require review under NEPA for other reasons, such as federal funding or other federal involvement in the facility. If listed threatened or endangered species or critical habitat are present in the project area, you must look at impacts to species and/or habitat when following Steps Two through Four. Note that many but not all measures imposed to protect listed species under these steps will also protect critical habitat. Thus, meeting the compliance requirements of this MSGP may require measures to protect critical habitat that are separate from those to protect listed species.

**Step Two:** Determine if your facility's Stormwater Discharge Associated With Industrial Activity or Allowable Non-Stormwater Discharges Are Likely to Adversely Affect Listed Threatened or Endangered Species or Designated Critical Habitat

To ensure MSGP compliance, you must assess whether your stormwater discharges associated with industrial activity or allowable non-stormwater discharges are likely to adversely affect listed threatened or endangered species or designated critical habitat that are present on or near your facility. Potential adverse effects from stormwater discharges associated with industrial activity include:

- **Hydrological.** Stormwater discharges may cause siltation, sedimentation or induce other changes in receiving waters such as temperature, salinity or pH. These effects will vary with the amount of stormwater discharged and the volume and condition of the receiving water. Where a stormwater discharge constitutes a minute portion of the total volume of the receiving water, adverse hydrological effects are less likely. Industrial activity itself may also alter drainage patterns on a site where construction occurs that can impact listed species or critical habitat.
- **Habitat.** Site development, grading or other surface disturbances from industrial activities, including storage of materials and the installation or placement of stormwater BMPs, may adversely affect listed species or their habitat. Stormwater may drain or inundate listed species habitat.
- **Toxicity.** In some cases pollutants in stormwater may have toxic effects on listed species.

The scope of effects to consider will vary with each site. If you are having difficulty determining whether your facility is likely to adversely affect listed species or critical habitat, or the State of Vermont Department of Fish and Wildlife or a Federal agency has already raised concerns with your discharge, you must contact the appropriate office for assistance. If adverse effects are not likely, you have ensured compliance under Criterion E and can apply for coverage under the

MSGP. If your stormwater discharge may adversely affect listed species or critical habitat, you must follow Step Three.

**Step Three:** Determine if Measures Can Be Implemented to Avoid Adverse Effects.

If you make a preliminary determination that adverse effects to listed species and/or critical habitat are likely to occur, you can still ensure compliance under Criterion E if immediate measures are undertaken to avoid or eliminate the likelihood of adverse effects and such measures are included in your SWPPP. These measures may be relatively simple, e.g., re-routing a stormwater discharge to bypass an area where species are located, relocating BMPs, or changing the “footprint” of the industrial activity. If you cannot ascertain which measures to implement to avoid the likelihood of adverse effects, you must follow Step Four (iii).

**Step Four:** Determine if the Compliance Requirements of Criterion B, C, D or F Can Be Met.

Where adverse effects are likely and you are uncertain about how to avoid or eliminate the likelihood of adverse effects, you must contact the Vermont Department of Fish and Wildlife and/or a Federal agency (see subpart iii below). However, you may still ensure compliance with the MSGP if any likely adverse effects can be addressed through meeting Criterion B, C, D, or F as follows:

- i. A consultation under ESA Section 7 has been performed for your industrial activity (see Criterion B).
- ii. In the case that a State listed species is identified, an Endangered and Threatened Species permit under 10 VSA § 5408 has been issued (see Criterion C). Stormwater discharges from your industrial facility may be in compliance with this MSGP if some activity is authorized through the issuance of a permit under 10 VSA § 5408 and that authorization addressed the effects of your stormwater discharges on state-listed species and any designated habitat.

In the case that a Federally listed species is identified, you must have both the Endangered and Threatened Species permit under 10 VSA § 5408 listed above and an incidental taking permit under Section 10 of the ESA that has been issued for your activity (see Criterion C). Stormwater discharges from your industrial facility may comply with this MSGP if some activity is authorized through the issuance of a permit under both 10 VSA § 5408 and section 10 of the ESA. These authorizations must address the effects of your stormwater discharges on state and federally-listed species and federally designated critical habitat. You must follow FWS and/or NOAA Fisheries Service procedures when applying for an ESA Section 10 permit (see 50 CFR §17.22(b)(1) for FWS and §222.22 for NOAA Fisheries Service). Application instructions for section 10 permits for FWS and NOAA Fisheries Service can be obtained by accessing the FWS and NOAA Fisheries Service websites (<http://www.fws.gov> and <http://www.nmfs.noaa.gov>) or by contacting the appropriate FWS and NOAA Fisheries Service regional office.

- iii. In the case of a state-listed species you have coordinated your activities with the

Vermont Department of Fish and Wildlife (see Criterion D). In the absence of any other conditions set forth in Step Four, you may still be able to comply with the MSGP if the Vermont Department of Fish and Wildlife provides a letter or memorandum concluding that the direct and indirect effects of permitting your stormwater discharges will be unlikely to adversely affect listed species or to adversely modify designated critical habitat. If you adopt measures to avoid or eliminate adverse effects, per the Vermont Department of Fish and Wildlife requirements or recommendations, you must abide by those measures for the duration of your coverage under the MSGP. Any such measures must be described in the Stormwater Pollution Prevention Plan and are enforceable MSGP conditions and/or conditions of this permit.

In the case of a federally listed species, you must have coordinated your activities with the Vermont Department of Fish and Wildlife as stated above and you must have coordinated your activities with the appropriate Federal agency (see Criterion D). In the absence of any other conditions set forth in Step Four, you may still be able to comply with the MSGP if a Federal agency provides a letter or memorandum concluding that the direct and indirect effects of permitting your stormwater discharges will be unlikely to adversely affect listed species or to adversely modify designated critical habitat. If you adopt measures to avoid or eliminate adverse effects, per the Service's requirements or recommendations, you must abide by those measures for the duration of your coverage under the MSGP. Any such measures must be described in the Stormwater Pollution Prevention Plan and are enforceable MSGP conditions and/or conditions of this permit.

- iv. You are covered under the compliance certification of another operator for the project area (see Criterion F). Your stormwater discharges were already addressed in another discharger's certification of compliance under Criteria A through E, which also included your facility and determined that state and federally listed endangered or threatened species or federally designated critical habitat would not be jeopardized. To certify compliance under this criterion there must be no lapse of coverage in the other operator's certification. By certifying compliance under Criterion F, you agree to comply with any measures or controls upon which the other discharge certification under Criterion B, C, or D was based.

You must comply with any terms and conditions imposed under the compliance requirements of Criterion A through F to ensure that your stormwater discharges are protective of listed species and/or federally-designated critical habitat. Such terms and conditions must be incorporated in the project's Stormwater Pollution Prevention Plan (SWPPP). If the compliance requirements cannot be met, then you are in violation of this permit and the Secretary may determine that you are not eligible for coverage under this MSGP. In these instances, you may consider applying to State of Vermont for an individual permit.

**Appendix F**  
**Calculating Hardness in Receiving Waters for Hardness Dependent Metals**

## Appendix F. Calculating Hardness in Receiving Waters for Hardness Dependent Metals

### Overview

The Agency adjusted the benchmarks for six hardness-dependent metals (i.e., cadmium, copper, lead, nickel, silver, and zinc) in order to further ensure compliance with water quality standards and provide additional protection for endangered species and their critical habitat. This change affects all or a portion of 12 sectors. For any sectors required to conduct benchmark samples for a hardness-dependent metal, the Agency includes ‘hardness ranges’ from which benchmark values are determined. In order for operators to determine where they fall within the hardness ranges, they must first determine the hardness value of their receiving water. Once the site-specific hardness data have been collected, the corresponding benchmark value for each metal is determined by comparing where the hardness data fall within 25 mg/L ranges, as shown in Table 1.

**Table 1. Hardness Ranges to Be Used to Determine Benchmark Values for Cadmium, Copper, Lead, Nickel, Silver, and Zinc.**

All Units mg/L	Cadmium	Copper	Lead	Nickel	Silver	Zinc
0-25 mg/L	0.0005	0.0038	0.014	0.15	0.0007	0.04
25-50 mg/L	0.0008	0.0056	0.023	0.20	0.0007	0.05
50-75 mg/L	0.0013	0.0090	0.045	0.32	0.0017	0.08
75-100 mg/L	0.0018	0.0123	0.069	0.42	0.0030	0.11
100-125 mg/L	0.0023	0.0156	0.095	0.52	0.0046	0.13
125-150 mg/L	0.0029	0.0189	0.122	0.61	0.0065	0.16
150-175 mg/L	0.0034	0.0221	0.151	0.71	0.0087	0.18
175-200 mg/L	0.0039	0.0253	0.182	0.80	0.0112	0.20
200-225 mg/L	0.0045	0.0285	0.213	0.89	0.0138	0.23
225-250 mg/L	0.0050	0.0316	0.246	0.98	0.0168	0.25
250+ mg/L	0.0053	0.0332	0.262	1.02	0.0183	0.26

### How to Determine Hardness for Hardness-Dependent Parameters.

Your may select one of three methods to determine hardness, including; individual grab sampling, grab sampling by a group of operators which discharge to the same receiving water, or using third-party data. Regardless of the method used, you are responsible for documenting the procedures used for determining hardness values. Once the hardness value is established, you are required to include this information in your first benchmark report submitted so that the Agency can make appropriate comparisons between your benchmark monitoring results and the corresponding benchmark. All report and monitoring data must be retained by each permittee in accordance with Part 7.5 of the permit. The three method options for determining hardness are detailed in the following sections.

#### *(1) Permittee Samples for Receiving Stream Hardness*

This method involves collecting samples in the receiving water and submitting these to a laboratory for analysis. If you elect to sample your receiving water(s) and submit samples for analysis, hardness must be determined from the closest intermittent or perennial stream

downstream of the point of discharge. The sample can be collected during either dry or wet weather. Collection of the sample during wet weather is more representative of conditions during stormwater discharges; however, collection of in-stream samples during wet weather events may be impracticable or present safety issues.

Hardness must be sampled and analyzed using approved methods as described in 40 CFR Part 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants).

### *(2) Group Monitoring for Receiving Stream Hardness*

You can be part of a group of permittees discharging to the same receiving waters and collect samples that are representative of the hardness values for all members of the group. In this scenario, hardness of the receiving water must be determined using 40 CFR Part 136 procedures and the results shared by group members. To use the same results, hardness measurements must be taken on a stream reach within a reasonable distance of the discharge points of each of the group members.

### *(3) Collection of Third-Party Hardness Data*

You can submit receiving stream hardness data collected by a third party provided the results are collected consistent with the approved 40 CFR Part 136 methods. These data may come from a local water utility, previously conducted stream reports, TMDLs, peer reviewed literature, other government publications, or data previously collected by the permittee. Data should be less than 10 years old.

Water quality data for many of the nation's surface waters are available on-line or by contacting EPA or a state environmental agency. EPA's data system STORET, short for STORage and RETrieval, is a repository for receiving water quality, biological, and physical data and is used by state environmental agencies, EPA and other federal agencies, universities, private citizens, and many others. Similarly, state environmental agencies and the U.S. Geological Service (USGS) also have water quality data available that, in some instances, can be accessed online. "Legacy STORET" codes for hardness include: 259 hardness, carbonate; 260 hardness, noncarbonated; and 261 calcium + magnesium, while more recent, "Modern STORET" data codes include: 00900 hardness, 00901 carbonate hardness, and 00902 noncarbonate hardness; or the discrete measurements of calcium (00915) and magnesium (00925) can be used to calculate hardness. Hardness data historically has been reported as "carbonate," "noncarbonate," or "Ca + Mg." If these are unavailable, then individual results for calcium (Ca) and magnesium (Mg) may be used to calculate hardness using the following equation:

$$\text{mg/L CaCO}_3 = 2.497 (\text{Ca mg/L}) + 4.118 (\text{Mg mg/L})$$

When interpreting the data for carbonate and non-carbonate hardness, note that total hardness is equivalent to the sum of carbonate and noncarbonate hardness if both forms are reported. If only carbonate hardness is reported, it is more than likely that noncarbonate hardness is absent and the total hardness is equivalent to the available carbonate hardness.

