

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM
HIGH-VOLUME HYDRAULIC FRACTURING

GP-0-XX-00X

**Issued pursuant to Article 17, Titles 7 and 8, and Article 70 of the Environmental
Conservation Law**

Effective Date: _____

Expiration Date: _____

Chief Permit Administrator

Authorized Signature

Date

Address: NYSDEC
 Division of Environmental Permits
 625 Broadway, 4th Floor
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PREFACE

Pursuant to Section 402 of the Clean Water Act (CWA), stormwater *discharges* associated with an industrial activity from a *point source* (including *discharges* through an *MS4*) to *waters of the state* are unlawful, unless authorized by a *National Pollutant Discharge Elimination System (NPDES)* permit. In New York, the United States Environmental Protection Agency (EPA) has approved the state program which is enacted through the administration of the *State Pollutant Discharge Elimination System (SPDES)* program in accordance with the *Environmental Conservation Law (ECL)*. This *SPDES* general permit (general permit) is issued pursuant to Article 17, titles 7 and 8, and Article 70 of the *ECL*. Through the *SPDES* program, New York may regulate activities, which are not regulated under the CWA, but which New York determines require a *SPDES* permit according to the *ECL*. *High Volume Hydraulic Fracturing (HVHF) Operations*, as used in this general permit, consist of three parts: 1) the *Construction phase* during which an *access road* and a *well pad* are constructed; 2) the *HVHF Phase*, during which a variety of well drilling equipment, *chemical additives* and material *storage* and mixing areas, vehicles and other miscellaneous equipment and supplies may be present; and 3) the *Production Phase*, where natural gas is extracted from the well. *HVHF* operations are an industrial activity that is exposed to stormwater, which has the potential to include a significant number of contaminants.

An *owner or operator* of an *HVHF* operation who is subject to the stormwater *SPDES* regulations may be eligible to obtain coverage under this general permit by submitting a Notice of Intent (NOI) to the New York State Department of Environmental Conservation (*Department*) prior to commencing the *Construction phase*. Copies of this general permit and the NOI are available by calling the *Department's* Central Office or at any regional office (see Appendix C). They are also available at the *Department's* website.

Activities that fit the definition of “*construction activity*”, as defined under 40 CFR 122.26(b)(14)(x), (15)(i), and (15)(ii), constitute construction of a *point source* and therefore, pursuant to Article §17-0505 of the *ECL*, the *owner or operator* must have coverage under a *SPDES* permit prior to commencing the *Construction phase*. An *owner or operator* cannot wait until there is an actual *discharge* from the *construction activity* to obtain general permit coverage.

Terms defined in Appendix A of this general permit are italicized.

Part I. GENERAL PERMIT COVERAGE AND LIMITATIONS

A. General Permit Area

This general permit is intended to provide *ECL* Article 17 SPDES coverage to *HVHF* operations with stormwater *discharges* to *waters of the state* from a *point source*. This general permit does not authorize stormwater *discharges* listed as ineligible under Part I.D. of this general permit. The jurisdiction of this general permit covers all areas of New York State. Except if done in compliance with this general permit or with a duly authorized individual permit from the *Department*, stormwater *discharges* associated with the *HVHF* operation by any person shall be unlawful.

B. Maintaining Water Quality

1. It is a violation of *ECL* §17-0501 for any *discharge* authorized by this general permit to either cause or contribute to a violation of *water quality standards* as contained in 6 NYCRR Parts 700 through 705, including but not limited to:
 - a. There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions;
 - b. There shall be no suspended, colloidal and settleable solids from sewage, industrial wastes or other wastes that will cause deposition or impair the waters for their best usages; and
 - c. There shall be no residue from oil and floating substances attributable to sewage, industrial wastes or other wastes, nor visible oil film, sheens, nor globules or grease.
2. Where a *discharge* authorized under this general permit is later determined to directly or indirectly cause or contribute to the violation of an applicable *water quality standard*, the *Department* will notify the *owner or operator* of such violation(s) and may take enforcement actions for such violations. The *owner or operator* must take all necessary actions to ensure future *discharges* do not directly or indirectly cause or contribute to the violation of a *water quality standard*, and the owner or operator must document these actions as required by this general permit. Compliance with this requirement does not preclude, limit, or eliminate any enforcement activity as provided by the Federal and/or State law for the underlying violation. Additionally, if violations of applicable *water quality standards* occur, then coverage under this SPDES general permit may be terminated by the *Department* in accordance with 6 NYCRR 750-1.21(e) and the *Department* may require an application for an alternative SPDES general permit or individual *SPDES permit*.

C. Eligibility

1. While covered under this general permit, the *owner or operator* must maintain eligibility to *discharge* under this general permit. Any *discharges* that are not

compliant with the eligibility conditions of this general permit are not authorized and the *owner or operator* must apply for a separate permit to cover those ineligible *discharges* or take steps necessary to make the *discharge* eligible for coverage under this general permit, or terminate the *discharge*.

2. Prohibition of Non-Stormwater Discharges -The following discharges are ineligible for coverage under this general permit: discharges of sanitary wastewater; vehicle and equipment washwater, including tank cleaning operations or substances (hazardous, non-hazardous, etc.) resulting from an on-site spill and materials collected in drip pans; washwaters from material handling and processing areas; or washwaters from drum, tank, or container rinsing and cleaning. Alternatively, sanitary wastewater and washwater *discharges* must be authorized under a separate *SPDES permit*, or be *discharged* to a sanitary sewer in accordance with applicable industrial pretreatment requirements, or be transported off-site for proper disposal.
3. Non-Stormwater Discharges - The following non-stormwater *discharges* may be authorized by this general permit provided that the non-stormwater component of the *discharge* is in compliance with Part I.B. of this general permit:
 - a. Potable water sources including waterline flushings;
 - b. *Discharges* from fire fighting activities;
 - c. Fire hydrant flushings;
 - d. Uncontaminated air conditioning or compressor condensate, and other uncontaminated condensate such as condensate from the surface of pressurized gas cylinders stored outside;
 - e. Irrigation drainage;
 - f. Landscape watering provided that all pesticides and fertilizers have been applied in accordance with manufacturer's instructions;
 - g. Routine external building washdown which does not use detergents;
 - h. Pavement wash waters where detergents are not used and where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed);
 - i. Uncontaminated ground water or spring water;
 - j. Foundation or footing drains where flows are not contaminated with process materials such as solvents; or
 - k. Uncontaminated *discharges* from *well site* dewatering operations.

D. Activities Which are Ineligible for Coverage under this General Permit

The following *discharges* are not authorized by this general permit:

1. Construction of a centralized *flowback* impoundment;
2. *HVHF* operations:
 - a. where the *discharges* from the *construction activities* are tributary to *waters of the state* classified as AA or AA-s; and
 - b. that disturb land with no existing *impervious* cover; and
 - c. where the Soil Slope Phase is identified as an E or F, or the map unit name is inclusive of 25% or greater slope on the United States Department of Agriculture (USDA) Soil Survey for the surface area where the disturbance will occur.
3. *HVHF* operations where the top of the target fracture zone at any point along the entire proposed length of the *wellbore* is shallower than 2,000 feet below surface; and where the top of the target fracture zone at any point along the entire proposed length of the *wellbore* is less than 1,000 feet below the base of a known fresh water supply;
4. *HVHF* operations sited within the following buffers (calculated from the edge of the *well pad*):

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| <i>Principal Aquifer</i> | 500 feet |
| Wetland | 100 feet |
| Storm drains, lakes, or ponds, and perennial or intermittent streams, as described in 6 NYCRR Parts 800-910 | 150 feet |
| Perennial or intermittent streams, as described in 6 NYCRR Parts 800-910, and that are tributary to surface public drinking water supplies | 500 feet |

5. Contaminated stormwater *discharges* from drilling operations that are subject to nationally established Best Available Technology Economically Achievable (BAT) or Best Practicable Control Technology Currently Available (BPT) guidelines found at 40 CFR Part 435. Note: most contaminated *discharges* from drilling facilities are subject to these effluent guidelines and are not eligible for coverage under this general permit;
6. *Discharges* from *HVHF* operations that are mixed with sources of non-stormwater other than those expressly authorized under either this general permit or a different *SPDES permit*;
7. *Discharges* from *HVHF* operations that are subject to an existing *SPDES* individual or general permit located at the *HVHF* operation where a *SPDES permit* has been terminated or denied, or which are issued an individual or alternative general permit;
8. *Discharges* from *HVHF* operations, which either cause or contribute to a violation of *water quality standards* adopted pursuant to the *ECL* and its accompanying regulations;
9. *Discharges* from *HVHF* operations that adversely affect a listed or proposed to be listed endangered or threatened species or its critical habitat; and
10. *Discharges* from *HVHF* operations that adversely affect a property that is listed or is eligible for listing on the State or National Register of Historic Places (Note: includes Archeological sites), unless there are written agreements in place with the NYS Office of Parks, Recreation and Historic Preservation (OPRHP) or other governmental agencies to mitigate the effects, or there are local land use approvals evidencing the same.

PART II. OBTAINING GENERAL PERMIT COVERAGE

A. Notice of Intent (NOI) Submittal

An owner or operator must first develop a *Comprehensive Stormwater Pollution Prevention Plan (SWPPP)*, which includes both the *Construction SWPPP* and *HVHF SWPPP*, in accordance with all applicable requirements of this general permit, and then submit a completed NOI form to the following address in order to be authorized to *discharge* under this general permit:

HVHF Stormwater General Permit Coordinator
NYSDEC
Bureau of Water Permits
625 Broadway
Albany, New York 12233-3505

The NOI form shall be one which is associated with this general permit, signed in accordance with Part XXI.H. of this general permit.

The *owner or operator* shall have the *SWPPP* preparers sign the “*SWPPP* Preparer Certification” statements, for both the *Construction SWPPP* and *HVHF SWPPP*, on the NOI prior to submitting the form to the *Department*. The *SWPPP* preparer for the *Construction SWPPP* is identified in Part III.A.4. of this general permit. The *SWPPP* preparer for the *HVHF SWPPP* is identified in Part VII.A.5 of this general permit.

As of the date the NOI is submitted to the *Department*, the *owner or operator* shall make the NOI and Comprehensive *SWPPP* available for review and copying in accordance with the requirements in Part XXI.F. of this general permit. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.

B. General Permit Authorization

1. An *owner or operator* shall not commence the *Construction phase* until its authorization to *discharge* under this general permit goes into effect. An *owner or operator* cannot begin the *HVHF Phase* until the *Department* is notified that Construction Phase is complete, as more fully described in Part VI.A.1. of this general permit. An *owner or operator* cannot begin the *Production Phase* until the *Department* is provided a copy of the certification that partial site reclamation is complete, as more fully described in Part IX.A.18. of this general permit.
2. Authorization to *discharge* under this general permit will be effective, in accordance with the schedule below, if all of the following criteria have been satisfied:
 - a. Project review pursuant to SEQRA has been satisfied, where applicable;
 - b. Where required, all necessary *Department* permits subject to the Uniform Procedures Act (UPA) (see 6 NYCRR Part 621) have been obtained, unless otherwise notified by the *Department* pursuant to 6 NYCRR 621.3(a)(4). Owners or operators that are required to obtain UPA permits must submit a preliminary Comprehensive *SWPPP* to the appropriate *Department* regional office in Appendix C at the time all other necessary UPA permit applications are submitted. The preliminary Comprehensive *SWPPP* must include sufficient information to demonstrate that the *HVHF* operation qualifies for authorization under this general permit;
 - c. The final Comprehensive *SWPPP* has been prepared; and
 - d. A complete NOI, which contains the well permit American Petroleum

Institute (API) number, has been submitted to the *Department* in accordance with the requirements of this general permit.

3. Unless otherwise notified by the *Department* in writing to the contrary, an *owner or operator* who has satisfied the requirements of Part II.B.2 will be authorized to *discharge* stormwater from their *HVHF* operations under the terms and conditions of this general permit in accordance with the following schedule:
 - a. 30 (calendar) days after the date that the *Department* receives the complete NOI, where the *Construction SWPPP* has been prepared in conformance with the 2005 New York State Standards and Specifications for Erosion and Sediment Control and 2010 New York State Stormwater Management Design Manual (collectively, the “technical standards”) referenced in Part IV of this general permit; or
 - b. 60 (calendar) days after the date that the *Department* receives the complete NOI, where the *Construction SWPPP* has not been prepared in conformance with the technical standards referenced in Part IV. of this general permit.
4. The *Department* will send the *owner or operator* an *NOI Acknowledgment Letter*. However, receipt of the *NOI Acknowledgment Letter* does not affect the effective date for authorization as described in Part II.B.3 of this general permit.
5. An exception to the schedule in Part II.B.3 of this general permit as to when coverage is effective under this general permit is for transfers of ownership for which coverage under this general permit is effective once the conditions of Part XX of this general permit are met.
6. The *Department* may suspend or deny an *owner or operator*’s coverage under this general permit if the *Department* determines that the Comprehensive *SWPPP* does not meet the general permit requirements.
7. In accordance with statute, regulation, and the terms and conditions of this general permit, the *Department* may deny coverage under this general permit and require submittal of an application for an individual *SPDES permit* based on a review of the NOI or other information pursuant to Part II.
8. Coverage under this general permit authorizes stormwater *discharges* from *construction activities* only from those areas of disturbance that are identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional areas of disturbance authorized, they must submit an amendment to the NOI that addresses that phase of the development, unless otherwise notified by the *Department*.
9. Coverage under this general permit authorizes stormwater *discharges* from

only the *HVHF* activities identified in the NOI. If an *owner or operator* wishes to have stormwater *discharges* from future or additional *HVHF* activities authorized, they must submit an amendment to the NOI that addresses those *HVHF* activities, unless otherwise notified by the *Department*.

C. Impaired Waters

If stormwater *discharges* to an *impaired CWA §303(d) listed water*, when authorization under this general permit is obtained, the *owner or operator* must, by application of its Comprehensive *SWPPP*, ensure no increase in the *discharge* of the listed *pollutant* of concern to the 303(d) listed water. The 303(d) list is updated approximately every two years and is available on the *Department's* website.

D. Total Maximum Daily Load Strategy

If a *Total Maximum Daily Load (TMDL)* has already been approved by EPA pursuant to CWA §303(d) for any waterbody or *watershed* into which the *HVHF* operation *discharges*, at the time authorization under this general permit is obtained, the *owner or operator* must, within two (2) calendar months of authorization, meet the *TMDL* stormwater allocations for the *pollutant* of concern. Additionally, the *owner or operator* must, through modification of the *Construction SWPPP* and/or *HVHF SWPPP* ensures that reduction of the *pollutant* of concern specified in the *TMDL* is achieved. The *TMDL* list is updated as needed and is available on the *Department's* website.

PART III. DEVELOPMENT AND ADMINISTRATION OF THE CONSTRUCTION SWPPP

A. Development of the Construction SWPPP

1. The *Construction SWPPP* shall be prepared and provide for compliance with the terms of this general permit on or before the date of submission of an NOI to be covered under this general permit.
2. The *Construction SWPPP* must be part of the Comprehensive *SWPPP*. Additional coverage under the SPDES General Permit for Stormwater Discharges from Construction Activity is not needed.
3. Stormwater runoff from all land disturbances associated with *well site*, including the construction of *access roads, well pads*, pipelines, staff accommodations, impoundments and equipment *storage* areas must be addressed in the *Construction SWPPP*.
4. A *Qualified Professional* that is knowledgeable in the principles and practices of stormwater management and treatment must prepare the *Construction SWPPP*.

5. In accordance with statute, regulations, and the terms and conditions of this general permit, the *Department* may suspend or revoke an owner's or operator's coverage under this general permit at any time if the *Department* determines that the *Construction SWPPP* does not meet the general permit requirements.
6. Upon a finding of significant non-compliance with the practices described in the *Construction SWPPP* or violation of this general permit, the *Department* may order an immediate stop to all activity at the site until the non-compliance is remedied. The stop work order shall be in writing, describe the non-compliance in detail, and be sent to the *owner or operator*.

B. Obligations of the owner or operator

1. The *owner or operator* shall ensure that the provisions of the *Construction SWPPP* are implemented from the commencement of Construction Phase until all areas of disturbance have achieved *final stabilization* and the *Department* has been notified in accordance with Part VI.D. of this general permit. This includes any changes made to the *Construction SWPPP* pursuant to Part III.D. of this general permit.
2. The *owner or operator* shall maintain a copy of this general permit, NOI, *NOI Acknowledgment Letter*, *Construction SWPPP*, and all reports at the *well site* until all disturbed areas have achieved *final stabilization* and the *Department* has been notified in accordance with Part VI of this general permit. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox . The secure location must be accessible at all times to an individual performing a compliance inspection.
3. The *owner or operator* must also comply with all recordkeeping requirements of this general permit, including those that would apply after the notice of Construction Phase completion is submitted in accordance with Part VI.A.1. of this general permit.
4. Prior to the commencement of the *Construction phase*, the *owner or operator* must identify the individuals responsible for the implementation of the *Construction SWPPP* as follows:
 - a. Identify the contractor(s) and subcontractor(s) that will be responsible for installing, constructing, repairing, inspecting and maintaining the erosion and sediment control practices included in the *Construction SWPPP*;
 - b. Identify the contractor(s) that will be responsible for the construction of post-construction management practices included in the *Construction SWPPP*;
 - c. Have each of these contractors and subcontractors identify at least one

trained contractor from their company that will be responsible for implementation of the *Construction SWPPP*;

- d. Ensure that at least one of the identified individuals is on site on a daily basis when soil disturbance activities are being performed;
- e. The *owner or operator* shall have each of the contractors and subcontractors identified above sign and date a copy of the following certification statement:

“I hereby certify that I understand and agree to comply with the terms and conditions of the Construction SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the State Pollutant Discharge Elimination System (SPDES) permit and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this general permit and the laws of New York State and could subject me to criminal, civil and/or administrative proceedings.”

- f. In addition to providing the certification statement above, the certification page must also identify:
 - (1) The specific elements of the *Construction SWPPP* that each contractor or subcontractor will be responsible for including the name and title of the person providing the signature;
 - (2) The name and title of the individual(s) responsible for *Construction SWPPP* implementation;
 - (3) The name, address and telephone number of the contracting firm;
 - (4) The address (or other identifying description) of the site; and
 - (5) The date the certification is signed.
- g. The *owner or operator* shall attach a copy of the certification statement(s) to the copy of the *Construction SWPPP* that is maintained at the *well site*; and
- h. New or additional construction contractors, which are hired to implement measures identified in the *Construction SWPPP* after the Construction Phase has commenced, must also sign the certification statement and provide the information listed above.

C. Disturbance of more than five (5) acres

1. The *owner or operator* shall not disturb greater than five (5) acres of soil at any one time without prior written authorization from the *Department*. At a minimum, the *owner or operator* must comply with the following requirements in order to be authorized to disturb greater than five (5) acres of soil at any one time:
 - a. The *owner or operator* shall have a *qualified inspector* conduct at least two (2) site inspections in accordance with Part V.B. of this general permit every seven (7) calendar days, for as long as greater than five (5) acres of soil remain disturbed. The two (2) inspections shall be separated by a minimum of two (2) full calendar days;
 - b. In areas where soil disturbance activity has been temporarily or permanently ceased, temporary and/or permanent soil stabilization measures shall be installed and/or implemented within seven (7) calendar days from the date the soil disturbance activity ceased. The soil stabilization measures selected shall be in conformance with the 2005 New York State Standards and Specifications for Erosion and Sediment Control or demonstrate equivalence to the technical standards;
 - c. The *owner or operator* shall prepare a phasing plan that defines maximum disturbed area per phase and shows required cuts and fills;
 - d. The *owner or operator* shall install any additional site specific practices needed to protect water quality;
 - e. The *owner or operator* shall include the requirements above in the *Construction SWPPP*.

D. Amendments to the SWPPP

1. The *owner or operator* must keep the *Construction SWPPP* current so that it at all times accurately documents the erosion and sediment control practices that are being used or will be used during construction, and all post-construction stormwater management practices that will be constructed on the *well site*.
2. The *owner or operator* shall notify the *Department* in writing of any planned amendments or modifications to the post-construction stormwater management practice component of the *Construction SWPPP* required by Part IV.D. of this general permit. Unless otherwise notified by the *Department*, where the planned amendments or modifications to the *Construction SWPPP* are not in accordance with the technical standards, the *owner or operator* shall have the *Construction SWPPP* amendments or modifications reviewed and accepted by the *Department* prior to commencing construction of the post-construction stormwater management practice.

3. Unless otherwise notified by the *Department*, within twenty-four (24) hours, the *owner or operator* shall amend the *Construction SWPPP*:
 - a. Whenever the current provisions prove to be ineffective in minimizing *pollutants* from stormwater *discharges* from the *well site*;
 - b. Whenever there is a change in design, construction, operation or maintenance at the *well site* that has or could have an effect on the *discharge of pollutants*; and
 - c. To address issues or deficiencies identified during an inspection by the *qualified inspector*, the *Department* or other regulatory agency.

Part IV. CONTENTS OF THE CONSTRUCTION SWPPP

A. What the Construction SWPPP Must Achieve

1. The *owner or operator* shall design the drill site and select locations of drill pads, fresh water impoundments, *reserve pits*, *access roads* and other appurtenances using green planning tools and runoff reduction techniques found in the 2010 New York State Stormwater Management Design Manual. Well sites must be designed to minimize environmental impacts through the following:
 - a. Minimize clearing and grading;
 - b. Avoid sensitive areas such as erodible soils, steep areas and critical habitats; and
 - c. Infrastructure and appurtenances such as roads, pipelines and surface water impoundments must be *co-located* to the maximum extent practicable.

B. Effluent Limitation Requirements

At a minimum, the *owner or operator* shall comply with the following effluent limitations representing the degree of effluent reduction attainable by application of the BPT:

1. Erosion and Sediment Controls - The *owner or operator* shall design, install and maintain effective erosion controls and sediment controls to minimize the *discharge of pollutants*. At a minimum, such controls must be designed, installed and maintained to:
 - a. Control stormwater volume and velocity within the site to minimize soil erosion;
 - b. Control stormwater *discharges*, including both peak flow rates and total stormwater volume, to minimize erosion at outlets and to minimize

- downstream channel and streambank erosion;
- c. Minimize the amount of soil exposed during the Construction Phase;
 - d. Minimize the disturbance of steep slopes;
 - e. Minimize sediment *discharges* from the *well site*. The design, installation and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the *well site*;
 - f. Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible; and
 - g. Minimize soil compaction and, unless infeasible, preserve topsoil.
2. Soil Stabilization - Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the *well site*, or temporarily ceased on any portion of the *well site* and will not resume for a period exceeding seven (7) calendar days and stabilization must be complete within that same seven (7) calendar days.
 3. Dewatering - *Discharges* from dewatering activities, including *discharges* from dewatering of trenches and excavations, are prohibited unless managed by appropriate controls.
 4. Pollution Prevention Measures - The *owner or operator* shall design, install, implement, and maintain effective pollution prevention measures to minimize the *discharge of pollutants*.

At a minimum, such measures must be designed, installed, implemented and maintained to:

- a. Minimize the *discharge of pollutants* from equipment and vehicle washing, wheel wash water, and other wash waters;
 - b. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater; and
 - c. Minimize the *discharge of pollutants* from spills and leaks and implement chemical spill and leak prevention and response procedures.
5. Prohibited *Discharges* - The following *discharges* are prohibited:

- a. Wastewater from washout of concrete;
 - b. Wastewater from washout and cleanout of oils, curing compounds and other construction materials;
 - c. Fuels, oils, or other *pollutants* used in vehicle and equipment operation and maintenance; and
 - d. Soaps or solvents used in vehicle and equipment washing.
6. Surface Outlets - When discharging from basins and impoundments, utilize outlet structures that withdraw water from the surface.

C. Erosion and sediment control components

1. The *Construction SWPPP* shall include erosion and sediment control practices designed in conformance with the 2005 New York Standards and Specifications for Erosion and Sediment Control. Where erosion and sediment control practices are not designed in conformance with this standard, the *owner or operator* must demonstrate equivalence to the technical standards. At a minimum, the erosion and sediment control component of the *Construction SWPPP* shall include the following:
 - a. Background information about the scope of the *construction activity*, including the location, type and size of *construction activity*;
 - b. A site map/construction drawing(s) for the *construction activity*, including a general location map. At a minimum, the site map shall show:
 - i. The total site area;
 - ii. All improvements;
 - iii. Areas of disturbance;
 - iv. Areas that will not be disturbed;
 - v. Existing vegetation;
 - vi. On-site and adjacent off-site surface water(s), wetlands and drainage patterns that could be affected by the *construction activity*;
 - vii. Existing and final slopes;
 - viii. Locations of different soil types with boundaries;
 - ix. Material, waste, borrow or equipment *storage* areas located on adjacent properties; and
 - x. Location(s) of the stormwater *discharge(s)*.

- c. A description of the soil(s) present at the site, including an identification of the Hydrologic Soil Group (HSG);
- d. A construction phasing plan and sequence of operations describing the intended order of *construction activities*, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance;
- e. A description of the minimum erosion and sediment control practices to be installed or implemented. Include a schedule that identifies the timing of initial placement or implementation of each erosion and sediment control practice and the minimum time frames that each practice should remain in place or be implemented;
- f. A *well site* map/construction drawing(s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice;
- g. A temporary and permanent soil stabilization plan that meets the requirements of the 2005 New York Standards and Specifications for Erosion and Sediment Control, for each stage of the project, including initial land clearing and grubbing to *Construction phase* completion and achievement of *final stabilization*;
- h. The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices. Include the location and sizing of any temporary sediment basins and structural practices that will be used to divert flows from exposed soils;
- i. An inspection schedule for the owner or operator, or the contractor(s) or subcontractor(s) identified in Part V.B. of this general permit, to ensure continuous and effective operation of the erosion and sediment control practices. The inspection schedule shall be in accordance with the requirements in the 2005 New York Standards and Specifications for Erosion and Sediment Control;
- j. A description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a *pollutant* source in the storm water *discharges*;
- k. A description and location of any stormwater *discharges* associated with industrial activity other than construction at the *well site*;
- l. Identification of any elements of the design that are not in conformance with the 2005 New York Standards and Specifications for Erosion and Sediment Control. Include the reason for the deviation or alternative design and provide information which demonstrates that the deviation or alternative design is equivalent to the 3005 New York Standards and

Specifications for Erosion and Sediment Control; and

- m. All soil-lined roadside ditches must be stabilized to prevent mobilization of sediment during storms or snow-melt events.

D. Post-construction stormwater management practice component

1. The *Construction SWPPP* shall also include post-construction practices designed in conformance with the 2010 New York State Stormwater Management Design Manual. Where post-construction stormwater management practices are not designed in conformance with these technical standards, the *owner or operator* must demonstrate equivalence to the technical standards. At a minimum, the post-construction stormwater management practice component of the Construction *SWPPP* shall include the following:
 - a. Identification of all post-construction stormwater management practices to be constructed;
 - b. A *well site* map/construction drawing(s) showing the specific location and size of each post-construction stormwater management practice;
 - c. The dimensions, material specifications and installation details for each post-construction stormwater management practice;
 - d. Identification of any elements of the design that are not in conformance with the 2010 New York State Stormwater Management Design Manual. Include the identification of and justification for any deviations from the 2010 New York State Stormwater Management Design Manual, and identification of any design criteria that are not required based on the redevelopment criteria or waiver criteria included in the 2010 New York State Stormwater Management Design Manual;
 - e. A hydrologic and hydraulic analysis for all structural components of the stormwater management control system;
 - f. A detailed summary (including calculations) of the sizing criteria that was used to design all post-construction stormwater management practices. At a minimum, the summary shall address the required design criteria from the applicable chapter of the 2010 New York State Stormwater Management Design Manual; and
 - g. An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post-construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice.

E. Enhanced Phosphorus Removal Standards

All operations located in the Susquehanna and Chemung *Watersheds* shall prepare a *Construction SWPPP* that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards (Chapter 10) included in the 2010 New York State Stormwater Design Manual.

Part V. CONSTRUCTION OF WELL SITE - INSPECTION, MAINTENANCE, AND RECORDKEEPING REQUIREMENTS

A. Owner or Operator Inspection Requirements

1. The *owner or operator* must ensure that all erosion and sediment control practices and all post-construction stormwater management practices identified in the *Construction SWPPP* are maintained in effective operating condition at all times.
2. The *owner or operator* shall inspect, in accordance with the requirements in the 2005 New York State Standards and Specifications for Erosion and Sediment Control, the erosion and sediment controls identified in the *SWPPP* to ensure that they are being maintained in effective operating condition at all times.
3. Where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *owner or operator* shall inspect the site once every thirty (30) calendar days. The *owner or operator* shall begin conducting the maintenance inspections in accordance with Part V.B. as soon as soil disturbance activities resume.

B. Qualified Inspector Inspection Requirements

1. The *owner or operator* shall have a *qualified inspector* conduct *well site* inspections in conformance with requirements of Part V.B.¹

¹ Note: The *trained contractor* identified in Part III.B.4. of this general permit cannot conduct the *qualified inspector* site inspections unless they meet the *qualified inspector* qualifications included in Appendix A. In order to perform these inspections, the *trained contractor* must be a:

- Licensed Professional Engineer;
- Certified Professional in Erosion and Sediment Control (CPESC);
- Registered Landscape Architect; or
- Someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided they have received four (4) hours of *Department* endorsed training in proper

2. All inspection reports shall be signed by the *qualified inspector*
3. Unless otherwise notified by the *Department*, the *qualified inspector* shall conduct *well site* inspections in accordance with the following timetable:
 - a. For *well sites* where soil disturbance activities are on-going, the *qualified inspector* shall conduct a *well site* inspection at least once every seven (7) calendar days.
 - b. Where soil disturbance activities are on-going and the *owner or operator* has received authorization in accordance with Part III.C. of this general permit to disturb greater than five (5) acres of soil at any one time, the *qualified inspector* shall conduct at least two (2) *well site* inspections every seven (7) calendar days. The two (2) inspections shall be separated by a minimum of two (2) full calendar days.
 - c. Where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and *temporary stabilization* measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a *well site* inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the Regional Office stormwater contact person (see contact information in Appendix C) in writing prior to reducing the frequency of inspections. The *owner or operator* shall notify the *Department* Regional Office stormwater contact person in writing fourteen (14) calendar days before resuming soil disturbance activities and the inspection schedule for ongoing soil disturbance activities will resume per Part V.B.3. of this general permit. Notification shall include the anticipated date activities will be resumed.
 - d. Where soil disturbance activities have been shut down, the *qualified inspector* shall conduct *well site* inspections at least once every thirty (30) calendar days.
4. At a minimum, the *qualified inspector* shall inspect: all erosion and sediment control practices and all post-construction stormwater management practices to ensure integrity and effectiveness and that they are constructed in conformance with the *Construction SWPPP*; all areas of disturbance that have not achieved *final stabilization*; all points of *discharge* to natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the Construction Phase; and all points of *discharge* from the *well site*.
5. The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or

erosion and sediment control principles from a Soil and Water Conservation District, or other *Department* endorsed entity.

address the following:

- a. Date and time of inspection;
- b. Name and title of person(s) performing inspection;
- c. A description of the weather and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;
- d. A description of the condition of the runoff at all points of *discharge* from the *well site*. This shall include identification of any *discharges* of sediment from the *well site*. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
- e. A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the *well site* which receive runoff from disturbed areas. This shall include identification of any *discharges* of sediment to the surface waterbody;
- f. Identification of all erosion and sediment control practices that need repair or maintenance;
- g. Identification of all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
- h. Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection;
- i. Current phase of construction of all stormwater management practices and identification of all construction that is not in conformance with the *Construction SWPPP* and the technical standards;
- j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s); and
- k. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

C. Maintenance

1. Within one (1) business day of the completion of an inspection, the *qualified inspector* shall notify the *owner or operator* and appropriate contractor or subcontractor identified in Part III.B. of this general permit of any corrective actions that need to be taken.
2. The contractor or subcontractor shall begin implementing the corrective actions within one (1) business day of this notification and shall complete the corrective actions within seven (7) calendar days.

D. Recordkeeping

1. All inspection reports shall be maintained on *well site* with the *Construction SWPPP*.

Part VI. CONSTRUCTION PHASE COMPLETION

A. Criteria

An *owner or operator* must notify the *Department* in writing, within seven (7) calendar days, when one or more the following conditions have been met:

1. Total *Construction phase* completion - All construction activities identified in the *Construction SWPPP* have been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the *Construction SWPPP* and are operational; or
2. Planned shutdown with partial project completion - All soil disturbance activities have ceased; and all areas disturbed as of the project shutdown date have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the *Construction SWPPP* and are operational.

B. Inspections

For *construction activities* meeting Part VI.A.1. of this general permit, the *owner or operator* shall have the *qualified inspector* perform a final site inspection prior to notifying the *Department* of *Construction Phase* completion. The *qualified inspector* shall, by signing the “*Final stabilization*” certification statements, certify that all disturbed areas have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the *Construction SWPPP*.

C. Construction Phase Completion Notification

1. The Construction Phase Completion form must be sent to the *HVHF* Stormwater Coordinator at the address provided below, as well as the appropriate Regional Water Engineer, at the address provided in Appendix C of this general permit:

HVHF Stormwater General Permit Coordinator
NYSDEC
Division of Water, Bureau of Water Permits
625 Broadway
Albany, NY 12233-3505

2. The form shall contain a certification from the *owner or operator* that the requirements of this Part of the general permit have been met and include a signed *Final stabilization* certification statement. This notification must be received by the *Department*, before the *HVHF Phase* may begin.
3. The *Department* will send the *owner or operator* a *Construction Phase Completion Acknowledgment Letter*. However, receipt of the *Construction Phase Completion Acknowledgment Letter* does not affect the ability of the owner or operator to commence the *HVHF Phase*.

Part VII. DEVELOPMENT AND ADMINISTRATION OF THE HVHF SWPPP

A. Development of the HVHF SWPPP

1. The *HVHF SWPPP* shall be prepared and provide for compliance with the terms of this general permit on or before the date of submission of an NOI to be covered under this general permit.
2. The *HVHF SWPPP* must be part of the Comprehensive *SWPPP*.
3. The *HVHF SWPPP* shall be developed and implemented by the *owner or operator* for the *HVHF* operation covered by this general permit.
4. The *HVHF SWPPP* shall be prepared in accordance with sound engineering practices and in accordance with the factors outlined in 40 CFR 125.3(d)(2) or (3) as appropriate.
5. The *HVHF SWPPP* must be developed by someone who is knowledgeable in the principals and practices of stormwater management and *groundwater* protection associated with the *HVHF Phase* and the *Production Phase*, such as a Professional Engineer.
6. The *HVHF SWPPP* must, at a minimum, include all requirements in Part IX.A. of this general permit (*HVHF SWPPP* General Requirements); Part IX.C. of this general permit (Structural BMPs); Part IX.B. of this general permit (Non-

structural BMPs); and Part X. of this general permit (Activity Specific *SWPPP* Requirements) when such activities occur on the *well site*. BMPs that achieve the same or greater water quality protections may be proposed by the owner/operator and must be authorized by the Department prior to implementation.

7. The *HVHF SWPPP* shall identify potential sources of pollution, which may reasonably be expected to affect the quality of stormwater *discharges* associated with the *HVHF Phase* and the *Production Phase*.
8. The *HVHF SWPPP* shall describe and ensure the implementation of practices, which are to be used to reduce the *pollutants* in stormwater *discharges* associated with the *HVHF Phase* and the *Production Phase* and to assure compliance with the terms and conditions of this general permit.
9. The *HVHF SWPPP* requirements of this general permit may be fulfilled by incorporating by reference other plans or documents, such as a spill prevention control and countermeasure (SPCC) plan developed for the *HVHF Phase* and the *Production Phase*, or *best management practices* (BMPs) programs otherwise required for the *HVHF Phase* and *Production Phase*. Such can be done provided that the incorporated plan meets or exceeds the plan requirements of Part IX. of this general permit (Contents of the *HVHF SWPPP*). All plans incorporated by reference into the *HVHF SWPPP* become enforceable under this general permit; however, this enforcement is limited only to those aspects of these other plans that are specifically referenced to provide information or practices required for the *HVHF SWPPP*.
10. In accordance with statute, regulation, and the terms and conditions of this general permit, the *Department* may suspend or revoke an *owner's or operator's* coverage under this general permit at any time the *Department* determines that the *HVHF SWPPP* does not meet the general permit requirements.
11. Upon a finding of significant non-compliance with the practice described in the *HVHF SWPPP* or violation of this general permit, the *Department* may order an immediate stop to all activity associated with the *HVHF Phase* or the *Production Phase* until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

B. Obligations of the Owner or Operator

1. The *owner or operator* shall ensure that the provisions of the *HVHF SWPPP* are implemented from the commencement of the *HVHF Phase* until the Notice of Termination (NOT) has been submitted to the *Department* in accordance with Part XX of this general permit. This includes any changes made to the *HVHF SWPPP* pursuant to Part VII.C. of this general permit.
2. The *owner or operator* shall maintain a copy of this general permit, NOI, *NOI Acknowledgment Letter*, *Final stabilization* certification statement *Construction*

phase Completion Acknowledgment Letter, *HVHF SWPPP*, *Partial Site Reclamation* certification statement, *Partial Site Reclamation Acknowledgment Letter*, and all reports at the site until the NOT has been submitted to the *Department* in accordance with Part XX of this general permit. The documents must be maintained in a secure location, such as a job trailer, on-site construction office, or mailbox. The secure location must be accessible during normal business hours to an individual performing a compliance inspection.

3. The *owner or operator* must also comply with all recordkeeping requirements of this general permit, including those that apply after the NOT is submitted.

C. Amendments to the SWPPP

1. The *owner or operator* must keep the *HVHF SWPPP* current so that at all times it accurately documents the applicable *best management practices* (BMPs).
2. The *owner or operator* shall notify the *Department* in writing of any planned amendments or modifications to the *HVHF SWPPP* required by this Part of this general permit. Such information shall be sent to:

HVHF Stormwater General Permit Coordinator
NYSDEC
Bureau of Water Permits
625 Broadway
Albany, New York 12233-3505

3. Unless otherwise notified by the *Department*, within twenty-four (24) hours, the *owner or operator* shall amend the *HVHF SWPPP*:
 - a. Whenever the current provisions prove to be ineffective in minimizing *pollutants* from stormwater *discharges* from the *well site*;
 - b. Whenever there is a change in design, construction, operation or maintenance at the *well site* that has or could have an effect on the *discharge of pollutants*; and
 - c. To address issues or deficiencies identified during an inspection, by the *owner or operator*, *Department* or other regulatory agency.

Part VIII. HVHF OPERATION REQUIREMENTS

The following conditions of this general permit apply to all *owners or operators* of *HVHF operations*:

A. General Requirements

1. *HVHF Phase Fluid Additives*-To reduce the potential for *HVHF additives* to impact water resources, the *owner or operator* shall develop and evaluate alternatives for the proposed *HVHF Phase fluid additives* that are efficacious, but

which exhibit reduced aquatic toxicity and pose less risk to water resources and the environment. The owner or operator must use the alternatives unless it demonstrates to the *Department's* satisfaction that the alternatives are not equally effective or feasible. The criteria to be used for the evaluation of such *additives* will be: 1) impact to the environment caused by the available alternative *additive*; 2) the toxicity and mobility of available alternatives; 3) persistence in the environment; 4) effectiveness of the available alternative to achieve desired results in the engineered fluid system; and 5) feasibility of implementing the available alternative.

2. *HVHF Phase Fluid Additives Used On-Site*-To ensure the health and safety of humans and the environment in the event of a release, the *owner or operator* must maintain a list of the *HVHF Phase* fluid *additives* on-site. This list must include the volumes and amounts of all *chemical additives* used for each *HVHF* stage. This list may exclude any information that has been determined to be confidential business information. Additionally, a Material Safety Data Sheet (MSDS) for each *HVHF additive* used must also be maintained on site.
3. *Proper Transport and Disposal of Wastewater*-To ensure proper transport and disposal of wastewater (*flowback* and brine) associated with the *HVHF Phase* and the *Production Phase*, the *owner or operator* shall operate in accordance with the approved Fluid Disposal Plan required by the *Department*.
4. *Construction Phase Completion* -The *owner or operator* shall develop and implement measures to ensure all *construction activity* identified in the *Construction SWPPP* has been completed; and all areas of disturbance have achieved *final stabilization*; and all temporary, structural erosion and sediment control measures have been removed; and all post-construction stormwater management practices have been constructed in conformance with the *Construction SWPPP* and are operational in accordance with the requirements of this general permit. This requirement must be satisfied prior to initiating the *HVHF Phase*.
5. *Secondary Containment*-To prevent the *discharge* of hazardous substances, the *owner or operator* shall provide, implement, and operate secondary containment measures. The specific requirements for secondary containment are in Appendix B of this general permit and are requirements of this general permit.
6. *Partial Site Reclamation*-The *owner or operator* shall develop and implement measures to ensure proper and adequate completion of the *HVHF Phase*. *Partial Site Reclamation* has occurred when the *HVHF Phase* is complete for all planned wells at the *well pad*, the *Department* inspector verifies that the drilling/fracturing equipment has been removed and pits used for those operations have been reclaimed in accordance with the *HVHF SWPPP* requirements (Part IX of this *general permit*).
7. *Gas Well Plugging and Abandonment*-To ensure adequate closure of gas wells,

and to address *pollutants* related to the plugging of gas wells, the *owner or operator* must *plug and abandon* the gas wells pursuant to 6 NYCRR Part 555 prior to termination of this general permit. The *owner or operator* shall notify the *Department* and modify the *HVHF SWPPP*, prior to *plugging and abandonment*, to include stormwater controls during *plugging and abandonment* operations including any reclamation done in accordance 6 NYCRR Part 560 as part of plugging and abandonment.

Part IX. CONTENTS OF THE HVHF SWPPP

A. HVHF General SWPPP Requirements

A *HVHF SWPPP* must contain:

1. Evaluation of HVHF Phase Fluid Additives – Documentation of the evaluation of the *HVHF Phase fluid additives* in accordance with Part VIII.A.1. of this general permit. If the evaluation has been conducted in accordance with another *Department* approval, that approval can be incorporated by reference into the *HVHF SWPPP*. If the *HVHF Phase fluid additives* are modified, the *HVHF SWPPP* must be modified.
2. Site Map - A site map (e.g., USGS quadrangle or other map) with enough detail to identify the location of the *HVHF* operation, including a description of the *HVHF activities*, and the following:
 - a. Property boundaries and tax map identification number;
 - b. Directions of stormwater flow (e.g., use arrows to show which ways stormwater will flow);
 - c. Locations of all existing structural BMPs;
 - d. Locations and names of all surface water bodies within one (1) mile of the well site;
 - e. Locations where any of the following may be exposed to precipitation/surface runoff:
 - i. Specific *HVHF* activities occurring at the *well site* with additional structural BMPs, non-structural BMPs, and benchmark monitoring;
 - ii. Reportable quantity (RQ) releases;
 - iii. Locations used for the treatment, *storage* or disposal of wastes;
 - iv. Processing areas and *storage* areas;
 - v. Chemical mixing areas;

- vi. *Storage* areas for vehicle/equipment with actual or potential fluid leaks;
 - vii. Areas where treatment, *storage* or disposal of wastes, if on-site, occur;
 - viii. Liquid *storage* tanks;
 - ix. *Access roads*;
 - x. Areas where substances are transferred in bulk; and where machinery is operated;
 - xi. Snow stockpile areas;
 - xii. Soil stockpile areas;
 - xiii. Freshwater impoundments;
 - xiv. Note separation distances from water resources identified in Part I.D. of this general permit;
- f. Locations where reportable spills or leaks identified under Part IX.A.10. of this general permit have occurred, if applicable;
 - g. Locations of stormwater *outfalls* and an approximate outline of the area draining to each *outfall* or sufficient density of flow arrows to show the drainage area outline;
 - h. Location and description of non-stormwater *discharges*, including those listed in Part I.C.3. of this general permit;
 - i. Locations of stormwater flows with significant potential for causing erosion; and
 - j. Location and source of runoff from adjacent property containing significant quantities of *pollutants* of concern to the *well site* (the *owner or operator* may include an evaluation of how the quality of the stormwater running onto the site impacts the site's stormwater *discharges*).
3. Narrative for the Site Map – A narrative associated with the *well site* map including the following:
- a. Location of off-site freshwater impoundments, including piping and conveyances;
 - b. Location relative to *primary/principal aquifer*, within 1 mile of the *well pad*; and
 - c. Location relative to the boundary of an unfiltered water supply;
4. Receiving Waters - The name, classification, and distance from the nearest edge

of the *well pad* to the nearest receiving water(s), including intermittent streams, and the areal extent and description of wetlands (mapped and federally regulated wetlands) that may receive *discharges* from the site.

5. Municipal separate storm sewer systems (MS4s) - If stormwater is *discharged* to an *MS4*, identify the *MS4* operator and the receiving water to which the *MS4* *discharges*.
6. Other SPDES permitted Discharges - Describe any *discharges* that are currently covered by another *SPDES permit* at the site (e.g., process wastewater, sanitary wastewater, non-contact cooling water, etc.).
7. Impervious Surface Estimate - Provide an estimate of the total *imperviousness* of the *well site*:

Area of Roofs + Area of Paved and Other *Impervious* Surfaces, including gravel and roads = Total Area of *Well site*.

8. Summary of Potential Pollutant Sources - Identify each separate area at the *well site* where industrial materials or activities are exposed to stormwater, including those noted on the *Well site* Map in accordance with Part IX.A.2.e. of this general permit. Industrial materials or activities include:
 - a. Chemical loading, unloading and/or mixing;
 - b. Cement, mud or gel mixing activities;
 - c. Drilling activities;
 - d. Equipment cleaning and rehabilitation activities;
 - e. On-site waste *storage* or disposal;
 - f. Dirt/gravel parking areas for vehicles;
 - g. Staging areas for vehicles awaiting maintenance;
 - h. Fueling areas;
 - i. Outdoor *storage* of salt, pallets, drums, containers;
 - j. Description of on-site areas and/or the name and address of off-site facilities where the treatment, *storage* or disposal of waste/wastewater occurs;
 - k. Areas where logs or lumber are stored or processed;
 - l. *Storage* tanks and other containers;
 - m. Processing and *storage* areas;

- n. *Access roads* areas where the transfer of substances in bulk occurs; and
- o. Areas where machinery operates:

For each separate area identified, the description must include:

- i. *Activities in area* - A list of the activities (e.g., material *storage*, equipment fueling and cleaning, cutting steel beams);
- ii. *Pollutants* - A list of the associated *pollutant(s)* or *pollutant* parameter(s) (e.g., crankcase oil, iron, biochemical oxygen demand, pH, etc.) for each activity;
- iii. *Potential for presence in stormwater* - For each area of the *well site* that generates *discharges* with a reasonable potential to contaminate stormwater, a prediction of the direction of flow, and an identification of the types of *pollutants* which are likely to be present in stormwater *discharges* associated with industrial activity. Factors to consider include the toxicity of chemicals; quantity of chemicals used, produced or *discharged*; the likelihood of contact with stormwater; and history of reportable leaks or spills of toxic or hazardous *pollutants*.

9. Spills and Releases - Identify areas where potential spills or releases can contribute to *pollutants* in stormwater *discharges* and their accompanying drainage points. For areas that are exposed to precipitation or that otherwise drain to a stormwater conveyance at the *well site* to be covered under this general permit, the *HVHF SWPPP* must include a list of reportable spills or releases of petroleum or hazardous substances or other *pollutants* that may adversely affect water quality that occurred during the three year period prior to the submission of the NOT. This general permit does not relieve the *owner or operator* of any reporting or other requirements related to spills or other releases of petroleum or hazardous substances.

10. Reportable Quantity (RQ) release(s) -Information, where applicable, including:

- a. The *Department* Spill Identification number;
- b. The nature of the release (e.g., spill of oil from a drum *storage* area);
- c. The amount of oil or hazardous substance release;
- d. Amount of substance recovered;
- e. Date of the release;
- f. Cause of the release (e.g., poor handling techniques and lack of containment in the area);
- g. Areas affected by the release, including land and waters;

- h. Procedure to cleanup release;
 - i. Actions or procedures implemented to prevent or improve response to a release; and
 - j. Remaining potential contamination of stormwater from release (taking into account human health risks, the control of drinking water intakes, and the designated uses of the receiving water).
11. Sampling Data - A summary of stormwater *discharge* sampling data collected during the term of this general permit must be maintained on the *well site* as an appendix to the *HVHF SWPPP*.
12. Pollution Prevention Team - The staff individuals (by name and title), including contact information, that comprise the *HVHF* operation's stormwater pollution prevention team. The pollution prevention team is responsible for assisting the *HVHF SWPPP* preparer in developing, implementing, maintaining, and revising the *HVHF SWPPP*. Responsibilities of each staff individual on the team must be listed. The activities and responsibilities of the team shall address all aspects of the *HVHF SWPPP*.
13. Water Sources - The proposed sources of any water, including freshwater sources, *municipalities*, *flowback* water, *production* brine, wastewater, or combination thereof to be used at the *well site*.
14. HVHF Additives – Records of the volumes/amounts of all *chemical additives* used for each *HVHF* stage, listed by name and type/purpose, excluding any information that has been determined to be confidential business information. The record shall include a list of the individual *chemical additives* with Chemical Abstract Services (CAS) registry number and Material Safety Data Sheets (MSDS).
15. Schedule of Pickup and Disposal of Waste – A schedule for regular pickup and disposal of garbage, wastewater and waste materials, or adopt other appropriate measures to reduce the potential for the *discharge* of stormwater that has come into contact with garbage or waste material.
16. Best Management Practices (BMPs) - A description of storm water management controls appropriate for the *well site*. The description of controls shall address the following minimum components:
- a. Description of existing and planned BMPs - The *HVHF SWPPP* shall describe the type and location of existing nonstructural and structural BMPs selected for each of the areas where *HVHF* operations or related materials are exposed to stormwater. All the areas identified in Part IX.A.8. of this general permit (summary of potential *pollutant* sources) must have a BMP(s) identified for the areas' *discharges*. For areas where BMPs are not currently in place, include a description of appropriate BMPs that will be used to control *pollutants* in stormwater *discharges*.

Selection of BMPs should take into consideration:

- i. The quantity and nature of the *pollutants*, and their potential to impact the water quality of receiving waters;
- ii. Opportunities to combine the dual purposes of water quality protection and local flood control benefits, including physical impacts of high flows on streams (e.g., bank erosion, impairment of aquatic habitat, etc.); and
- iii. Opportunities to offset the impact of *impervious* areas of the *well site* on ground water recharge and base flows in local streams, taking into account the potential for ground water contamination.

17. Monitoring - A schedule of monitoring requirements, inspections and reporting required under this general permit.

18. Partial Site Reclamation- Information about the following:

- a. Equipment and any BMPs that will remain in effect during the *Production Phase* of the well and operation and maintenance procedures for such;
- b. Procedures for the proper management and removal of overburden, raw material, intermediate *products*, finished *products*, *byproducts*, or waste material associated with construction, well drilling and development;
- c. Procedures for removal of drilling/fracturing equipment;
- d. Procedures for fuel/chemical tank and fluid removal;
- e. Procedures for removal of piping/conveyance systems;
- f. Procedures for closure/*reclamation* of pits/impoundments and the Fluid Disposal Plan approved by the *Department*;
- g. Measures to ensure surface disturbances not associated with *production* activities have been reclaimed in accordance with this section;
- h. Identify *Outfalls* that will remain in use during the *Production Phase*;
- i. The anticipated date *partial site reclamation* will be achieved;
- j. Measures to ensure that surface disturbances not associated with the *Production Phase* are scarified or ripped to alleviate compaction prior to replacement of topsoil in a manner in accordance with the NYS Deep Ripping and Decompaction Guidance;
- k. Reclaimed areas must be:
 - i. seeded and mulched after topsoil replacement and vegetative cover

reestablished that will ultimately return the well site to pre-construction conditions;

- ii. stabilized; and
- iii. done in accordance with a *Department* approved plan pursuant to 6 NYCRR Part 560.

B. Required Non-Structural BMPs

1. Good housekeeping

The *owner or operator* must keep all exposed areas of the *well site* in a clean, orderly manner where such exposed areas could contribute *pollutants* to stormwater *discharges*. Common problem areas include around trash containers, *storage* areas and loading areas. Measures must also include a schedule for regular pickup and disposal of garbage and waste materials; routine inspections for leaks and conditions of drums, tanks and containers. The following practices shall be included in the *HVHF SWPPP* and implemented in all areas:

- a. Maintain up-to-date material inventory;
- b. Identify all chemicals present on the *well site*;
- c. Label all containers showing name and type of substance, stock number, etc.;
- d. Schedule routine cleanup operations;
- e. Maintain well-organized work areas;
- f. Collect wastes and properly dispose using a licensed waste disposal company;
- g. Label and track the recycling of waste material (e.g., used oil, spent solvents, batteries);
- h. Prevent and contain spills and drips;
- i. Whenever possible, do all cleaning at a centralized station so the solvents stay in one area;
- j. If parts are dipped in liquid, remove them slowly to avoid spills;
- k. Use drip pans, drain boards, and drying racks to direct drips back into a fluid holding tank for reuse;
- l. Promptly transfer used fluids to the proper container;
- m. Do not leave full drip pans or other open containers exposed;

- n. Empty and clean drip pans and containers;
- o. Clean up leaks, drips, and other spills without using large amounts of water;
- p. Use absorbents for dry cleanup whenever possible;
- q. Prohibit the practice of hosing down an area where the practice would result in the *discharge of pollutants* to the environment;
- r. Never pour liquid waste into storm drains or sewer connections;
- s. Eliminate or reduce the number and amount of hazardous materials and waste by substituting nonhazardous or less hazardous materials;
- t. Dispose of greasy rags, oil filters, air filters, batteries, spent coolant, and degreasers in compliance with Resource Conservation and Recovery Act (RCRA) regulations; and
- u. Identify equipment or systems that may malfunction and cause spills or leaks, or may otherwise contaminate storm water runoff. Typical equipment to be inspected includes pipes, pumps, *storage* tanks and bins, pressure vessels, pressure release valves, process and material handling equipment and storm water management devices.

2. Minimizing exposure

Where practicable, industrial materials and *HVHF* activities should be protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, or runoff.

3. Preventive maintenance

The *owner or operator* must have a preventive maintenance program that includes timely inspection and maintenance of stormwater management devices (e.g., cleaning oil/water separators, catch basins), as well as inspection, testing, maintenance and repairing of *well site* equipment and systems to avoid breakdowns or failures that could result in *discharges of pollutants* to surface waters. The *HVHF SWPPP* shall include, at a minimum, the following items:

- a. Promptly repair or replace defective equipment found during inspection and testing;
- b. Maintain a supply of spare parts for equipment that needs frequent repairs;
- c. Use an organized record-keeping system to schedule tests and document inspections. Ensure that records are complete and detailed, and that they record test results and follow-up actions. Preventive maintenance inspection records should be kept with other visual inspection records;

- d. Implement measures to minimize contaminants from maintenance areas (such as drip pans, indoor *storage*, etc.); and
 - e. Maintain material and *additive storage* areas in good condition.
4. Spill Prevention and Response Procedures

A Spill Prevention Control and Countermeasures (SPCC) plan shall be incorporated by reference in the *HVHF SWPPP*. The SPCC plan must describe the procedures that will be followed for cleaning up spills or leaks. The procedures and necessary spill response equipment must be made available to those employees who may cause or detect a spill or leak. The SPCC plan must include an explanation of existing or planned material handling procedures, *storage* requirements, secondary containment, and equipment (e.g., diversion valves), that are intended to minimize spills or leaks at the *well site*. Even though not specifically required by regulation for *discharges* covered by this general permit, measures for cleaning up spills or leaks must be consistent with the procedures for petroleum bulk *storage*, chemical bulk *storage* or hazardous waste management.

At a minimum, the SPCC plan must include the following items:

- a. Identify a local spill response team to implement the SPCC plan;
- b. Identify safety measures, including, but not limited to, a well blowout control plan;
- c. Identify conspicuous locations where the *Department* Spill Hotline Number must be posted;
- d. Describe spill containment, diversion, isolation, and cleanup practices;
- e. Include procedures for notifying appropriate authorities (*Department*, police, fire, hospital, Publicly Owned Treatment Works (POTWs), drinking water suppliers, etc.) in the event of a spill;
- f. Instructions indicating that the source of the spill must be identified and controlled immediately upon discovery;
- g. Liquids must be contained until cleanup is complete;
- h. Oil containment booms must be readily available and deployed as needed;
- i. Spills must be covered with absorbent material;
- j. Disposal of cleanup materials must be performed in the same manner as the spilled material; and
- k. Emulsifiers or dispersant must not be used.

5. Routine Site Inspections

Qualified personnel must inspect all areas of the *well site* where industrial materials or *HVHF* activities are exposed to stormwater. The *HVHF SWPPP* shall include a schedule and procedures for routine inspections.

The inspections must include an evaluation of the existing stormwater BMPs. Any deficiencies in the implementation of the *HVHF SWPPP* must be corrected as soon as practicable, but not later than within five (5) calendar days of the inspection. The results of the inspections must be documented in the *HVHF SWPPP*, along with any corrective actions that were taken in response to any deficiencies or opportunities for improvement that were identified.

- a. Identification of Inspector(s) - Individuals with responsibility for conducting inspections shall be identified, by title or name, in the *HVHF SWPPP*.
- b. Inspections schedules- At a minimum, the *HVHF SWPPP* shall include the following:
 - i. Weekly inspections to identify leaks, corrosion or other faults and defects shall be conducted of the following:
 - (a) All above ground tanks;
 - (b) Pipelines, pumps and other related equipment; and
 - (c) *Reserve pits*.
 - ii. Biweekly inspections and maintenance must be conducted on equipment and areas addressed in the *HVHF SWPPP* including, but not limited to:
 - (a) Piping system (pipes, pumps, flanges, coupling, hoses, valves) for failures or leaks;
 - (b) *Storage* areas for vehicles and equipment awaiting maintenance;
 - (c) Fueling areas;
 - (d) Indoor and outdoor vehicle/equipment maintenance areas;
 - (e) Material *storage* areas;
 - (f) Vehicle/equipment cleaning areas;
 - (g) Water/wastewater *storage*;
 - (h) Impoundments, including inspection for detecting leaks;

- (i) Loading/unloading areas;
 - (j) Secondary containment areas; and
 - (k) Equipment and vehicles, drums, tanks and containers which store, mix (including all on-site and off-site mixing tanks) or transport chemicals/hazardous materials.
- iii. Inspections shall be conducted in areas in which cement is mixed, chemical mixing occurs, drill mud or *HVHF Phase* fluid *additives* are mixed on the day that such activity occurs. Areas to be inspected shall include all of the following areas that are exposed to stormwater: material handling areas, above ground *storage* tanks, hoppers or silos, dust collection/containment systems, truck washdown/equipment cleaning areas.
- iv. Inspections shall be conducted once every thirty (30) calendar days to confirm that there are no exposed soils at the *well site* and the *well site* remains stabilized in accordance with Part VI.A. of this general permit.

6. Records of Inspections

- a. Records of inspections required for *HVHF* operations shall be maintained in accordance with this general permit.
- b. All repairs deemed necessary based on the findings of the inspections shall be completed as soon as possible, but in no more than five (5) calendar days, to reduce the incidence of spills and leaks occurring from such faulty equipment.

7. Employee training

The *HVHF SWPPP* must describe the stormwater employee training program for the *HVHF Phase* and *Production Phase*. The description should include the topics to be covered, such as spill response, good housekeeping, material management practices, and must identify periodic dates for such training (e.g., annually, every six (6) months during the months of July and January). Employee training must be provided for all employees who work in areas where industrial materials or *HVHF activities* are exposed to stormwater, and for employees who are responsible for implementing the *HVHF SWPPP* (e.g., inspectors, sampling personnel, and maintenance people). The training should inform employees of the components and goals of the *HVHF SWPPP*.

At a minimum, training shall take place annually with the first training completed prior to employment at any *HVHF operation*. Continued or significant non-compliance may be deemed evidence of an inadequate employee training program.

- a. Training shall be adequate to ensure compliance with New York State environmental statutes and regulations.
- b. Documentation of training must be maintained at the *well site* where the *HVHF operation* is conducted, and must be provided on request to the *Department*.
- c. Training requirements applicable to all employees working in areas where industrial materials or activities are exposed to stormwater are as follows:
 - i. The components and goals of the *HVHF SWPPP*;
 - ii. General good housekeeping practices;
 - iii. Prevention of non-stormwater *discharges*, such as vehicle washwater;
 - iv. Proper spill prevention, containment, clean up and reporting procedures, including used oil and spent solvent management.
 - v. Emergency spill response training;
 - vi. Emergency response plan (SPCC) ;
 - vii. Proper loading and unloading procedures; and
 - viii. Performance of preventative maintenance.
- d. Employees must be trained in the activity-specific stormwater pollution prevention procedures appropriate to their job descriptions and responsibilities.
- e. Employees who are responsible for implementing the *HVHF SWPPP* (e.g., inspectors, sampling personnel, and maintenance people) must receive adequate training to meet the requirements, standards and conditions of this general permit.

C. Required Structural BMPs

1. Management of Runoff –

The *HVHF SWPPP* shall describe the traditional stormwater management practices (permanent structural BMPs other than those that control the generation or source(s) of *pollutants*) that currently exist or that are planned. These types of BMPs are typically used to divert, infiltrate, reuse, or otherwise reduce *pollutants* in stormwater *discharges* from the site. The *HVHF SWPPP* shall provide that all structural BMPs shall be implemented and maintained. Factors for the *owner or operator* to consider when selecting appropriate structural BMPs should include:

- a. The industrial materials and activities that are exposed to stormwater, and

the associated *pollutant* potential of those materials and activities; and

- b. The beneficial and potential detrimental effects on surface water quality, ground water quality, receiving water base flow (dry weather stream flow), and physical integrity of receiving waters. Structural measures should be placed on upland soils. Structural BMPs may require a separate permit under Section 404 of the CWA before installation begins.

Part X. ACTIVITY–SPECIFIC STRUCTURAL AND NON-STRUCTURAL BMPS AND BENCHMARK MONITORING REQUIREMENTS

A. General

1. The contents of the *HVHF SWPPP* shall comply with the requirements listed above in Part IX of this general permit, as well as the structural and non-structural BMPs below to the extent the activities take place in or are associated with the *HVHF operation* and when such occur on the *well site*.

These requirements are additive. If a site has *co-located* activities that are covered in more than one section, that *well site's HVHF SWPPP* must comply with the requirements listed for all applicable activities. The *HVHF SWPPP* does not have to include any of the requirements for the activities in Part IX. of this general permit that will not occur on the *well site* during *HVHF operation*.

2. Activity-specific stormwater controls must be in place before the portions of the *HVHF* operations are commenced and may be removed and/or discontinued upon termination of the associated portion of the *HVHF* operation, in accordance with all applicable conditions and specifications set forth in this general permit.
3. Descriptions of activity- specific BMPs and maintenance schedules must be included in the *HVHF SWPPP* prior to commencement of related activities.
4. The *HVHF SWPPP* must be updated on an ongoing basis to reflect all activities being conducted at the *well site*.
5. The *owner or operator* is responsible for knowing the *HVHF SWPPP* and monitoring requirements associated with each activity being conducted at the *well site*. If the activities are conducted for less than one (1) calendar year, all stormwater monitoring requirements must be satisfied during the period of activity. If no qualifying storm event occurs during the period of activity, or no qualifying storm event results in a *discharge*, monitoring requirements must be completed during the first qualifying storm that results in a *discharge*.
6. The *owner or operator* shall maintain the activity-specific BMPs identified in the *HVHF SWPPP* in effective operating condition.

7. Other Controls - No solid materials, including floating debris, may be *discharged* to waters of the United States, except as authorized by a permit issued under Section 404 of the CWA. Off-site vehicle tracking of raw, final, or waste materials or sediments, and the generation of dust must be minimized. Tracking or blowing of raw, final, or waste materials from areas of *No exposure* to exposed areas must be minimized. Velocity dissipation devices (or equivalent measures) must be placed at *discharge* locations and along the length of any *outfall* channel if they are necessary to provide a non-erosive flow velocity from the structure to a water course.

B. Well-Drilling and High Volume Hydraulic Fracturing (*HVHF Phase*)

The *HVHF SWPPP* shall include and describe measures that prevent or minimize the contamination of precipitation/surface runoff from all processes associated with drilling and *high-volume hydraulic fracturing*. At a minimum, the section of the *HVHF SWPPP* addressing these areas must include the following items:

1. Advance Notification of Well Stimulation - The *HVHF SWPPP* must include provisions to provide notification to the appropriate *Department* regional office at least seventy-two (72) hours in advance of the initiation of well *stimulation*.
2. Good Housekeeping Procedures
 - a. Use absorbent pads under drum and tank *storage* areas;
 - b. Recycle oily wastes, *drilling fluids* and other materials on-site, or dispose offsite;
 - c. Use drip pans, catch basins, or liners during handling of materials;
 - d. Re-use collected stormwater for industrial process or as an irrigation source;
 - e. Develop and implement spill plans for pipelines, tanks, drums, etc.; and
 - f. Inspect the area regularly to ensure BMPs are implemented and maintained.
3. Structural BMPs and Special Conditions
 - a. Provide secondary containment such as dikes or portable containers with a height sufficient to contain a spill (the greater of ten percent of the total enclosed tank volume or one hundred ten percent (110%) of the volume contained in the largest tank). The *owner or operator* shall comply with the requirements for operation of secondary containment contained in Appendix B. Provide a visual inspection of secondary containment within one (1) hour before initiating any *HVHF* stage;
 - b. A peripheral *berm* shall be constructed around the *well pad* to contain

potential spills or releases associated with *HVHF* operations;

- c. Consider the use of oil - water separators to treat stormwater before discharging;
- d. Provisions to ensure that any shallow service holes dug in connection with the drilling of wells are adequately contained;
- e. Stormwater *discharges* from handling and *storage* areas should be eliminated where practical. Recycling of stormwater for use in *hydraulic fracturing* is highly recommended; and
- f. Procedures for monitoring to ensure there is adequate capacity for *flowback storage*.

4. Benchmark Monitoring Requirements for Areas where Well Drilling and *High Volume Hydraulic Fracturing* is being conducted:

| <i>Pollutants of Concern</i> | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|------------------------------|-----------------------|--|
| Total Suspended Solids (TSS) | EPA 160.2 | 100 mg/L |
| Solids, Total Dissolved | SM2540 | Report Results No Benchmark Value |
| Sulfate | EPA 375.2 | Report results No Benchmark value |
| Chlorides | EPA 325.3 | 860 mg/L |
| pH | EPA 150.1 | 6.0 - 9.0 s.u. |
| Oil and Grease | EPA 1664 or EPA 1664A | 15 mg/l |
| Benzene | EPA 602 | 50 ug/L |
| Ethylbenzene | EPA 602 | 50 ug/L |
| Toluene | EPA 602 | 50 ug/L |
| Xylene | EPA 602 | 50 ug/L |

| <i>Pollutants of Concern</i> | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|---|--|--|
| Radium (sum of all isotopes), pCi/l | EPA Method 903.0, Standard Methods 7500-Ra B | Report results No Benchmark value |
| Thorium, pCi/l | EPA Method 910, Standard Methods 7500-Th | Report results No Benchmark value |
| Uranium, (sum of all isotopes) | EPA Method 908, Standard Methods 7500-U | Report results No Benchmark value |
| Gross Alpha Radiation, pCi/l | EPA Method 900.0, Standard Methods 7110-B | Report results No Benchmark value |
| Gross Beta Radiation, pCi/l | EPA Method 900.0, Standard Methods 7110-B | Report results No Benchmark value |
| GC/MS Hazardous Substance Library Search ² | | Report results |

C. Vehicle and equipment storage/maintenance areas

The *HVHF SWPPP* shall describe and implement measures that prevent or minimize contamination of the stormwater runoff from areas where vehicles or equipment awaiting maintenance are parked and employee parking areas. At a minimum, the section of the *HVHF SWPPP* addressing these areas must include the following measures:

1. Good Housekeeping Procedures
 - a. Whenever possible, do all cleaning in a centralized station, so *pollutants* can be contained;

² This library search shall be limited to the chemicals used on the well site during this activity, including HVHF fluid additives, and expected to be returned to the well site during this activity.

- b. If parts are dipped in liquid, remove them slowly to avoid spills;
- c. Use drip pans, drain boards and drying racks under equipment to direct drips back into a fluid holding tank for reuse;
- d. Drain all parts of fluids prior to disposal. Oil filters can be crushed and recycled;
- e. Promptly transfer used fluids to the proper container. Empty full drip pans or other open containers;
- f. Maintain an organized inventory of materials;
- g. Label and track the recycling of waste material (e.g., used oil, spent solvents, batteries);
- h. Store batteries and other *significant materials* under cover;
- i. Check vehicles closely for leaks and use pans to collect fluid when leaks occur;
- j. Empty and clean drip pans and containers; and
- k. Describe proper clean up measures (e.g., use of absorbents and cleaning pavement surface to remove oil and grease).

2. Structural BMPs

- a. Whenever possible, use diversions, such as *berms* and dikes to minimize stormwater run-on/runoff to vehicle and equipment *storage/maintenance* areas;
- b. Collect and haul, recycle and/or treat stormwater before discharging; and
- c. Stormwater *discharges* from handling and *storage* areas should be eliminated where practical. Recycling of stormwater for use in *hydraulic fracturing* is highly recommended.

3. Benchmark Monitoring Requirements for Vehicle and Equipment *Storage/Maintenance* Areas:

| <i>Pollutants of Concern</i> | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|------------------------------|--------------------|--|
| Oil and Grease | EPA 1664 or 1664 A | 15 mg/L |
| Chemical Oxygen | EPA 410.4 | 120 mg/L |

| <i>Pollutants of Concern</i> | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|------------------------------|-------------------|--|
| Demand (COD) | | |
| Benzene | EPA 602 | 50 ug/L |
| Ethylbenzene | EPA 602 | 50 ug/L |
| Toluene | EPA 602 | 50 ug/L |
| Xylene | EPA 602 | 50 ug/L |

D. Vehicle and equipment cleaning areas

The *discharge* of vehicle and equipment wash waters, including tank cleaning operations, are not authorized by this permit and must be covered under a separate *SPDES permit* or *discharged* to a sanitary sewer in accordance with applicable industrial pretreatment requirements or transported off-site for proper disposal. The *HVHF SWPPP* shall include and describe measures that prevent or minimize contamination of the stormwater runoff from vehicle and equipment cleaning areas. At a minimum, the section of the *HVHF SWPPP* addressing these areas must include the following items:

1. Good Housekeeping Procedures

- a. Ensure that all washwaters drain to a proper collection system (i.e., not the stormwater drainage system, unless authorized under an individual *SPDES permit*);
- b. Identify a dedicated vehicle service area over an *impervious* surface graded to divert runoff and run-on;
- c. Use drip pans;
- d. Promptly transfer used fluids to the proper container;
- e. Do not leave full drip pans or other open containers exposed; and
- f. Conduct the cleaning operations in an area with no *discharge* other than to sanitary sewers or treatment facilities, or a collection system where wastewater is to be stored until it is transported off-site.

2. Structural BMPs

- a. If possible, cover the cleaning operation; and
- b. Collect and haul, recycle and/or treat stormwater before discharging.

3. Benchmark Monitoring Requirements for Vehicle and Equipment Cleaning Areas:

| <i>Pollutants of Concern</i> | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|------------------------------|--------------------|--|
| Oil and Grease | EPA 1664 or 1664 A | 15 mg/L |
| Chemical Oxygen Demand (COD) | EPA 410.4 | 120 mg/L |
| Benzene | EPA 602 | 50 ug/L |
| Ethylbenzene | EPA 602 | 50 ug/L |
| Toluene | EPA 602 | 50 ug/L |
| Xylene | EPA 602 | 50 ug/L |

E. Fueling Areas

The *HVHF SWPPP* shall include and describe measures that prevent or minimize contamination of the stormwater runoff from fueling areas. At a minimum, the section of the *HVHF SWPPP* addressing these areas must include the following items:

1. Good Housekeeping Procedures
 - a. Use dry cleanup methods for fuel area rather than hosing down fuel area;
 - b. Keep spill cleanup materials readily available;
 - c. Clean up spills and leaks immediately;
 - d. Follow procedures for sweeping up absorbents as soon as spilled substances have been absorbed;
 - e. Perform regular inspection of the fueling area; and
 - f. Promptly report spills of any volume.
2. Spill Reduction Measures
 - a. Use drip pans under transfer hoses or other places where leaks or spills of fuel can occur and where making and breaking hose connection;
 - b. Use fueling hoses with check valves to prevent hose drainage after filling;

- c. Use spill and overflow protection devices;
- d. Discourage topping off of tanks;
- e. Ensure the fueling vehicle is equipped with a manual shutoff valve; and
- f. Stormwater *discharges* from handling and *storage* areas should be eliminated where practical. Recycling of stormwater for use in *hydraulic fracturing* is highly recommended.

3. Structural BMPs

- a. Conduct fueling operations (including the transfer of fuel from tank trucks) on an *impervious* or contained pad or under a roof or canopy where possible. Gravel is not considered an *impervious* surface in this context. Covering should extend beyond spill containment pad to prevent rain from entering;
- b. Minimize/eliminate run-on onto fueling areas with diversion dikes, *berms*, curbing, surface grading or other equivalent measures;
- c. Collect and haul, recycle and/or treat stormwater before discharging; and
- d. Provide curbing or posts around fuel pumps to prevent collisions during vehicle ingress and egress.

4. Benchmark Monitoring Requirements for Fueling Areas:

| <i>Pollutants of Concern</i> | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|------------------------------|--------------------|--|
| Oil and Grease | EPA 1664 or 1664 A | 15 mg/L |
| Chemical Oxygen Demand (COD) | EPA 410.4 | 120 mg/L |
| Benzene | EPA 602 | 50 ug/L |
| Ethylbenzene | EPA 602 | 50 ug/L |
| Toluene | EPA 602 | 50 ug/L |
| Xylene | EPA 602 | 50 ug/L |

F. Materials and Chemical Storage Areas

The *HVHF SWPPP* shall include and describe measures that prevent or minimize contamination of the stormwater runoff from materials and chemical *storage* areas

(including areas used for temporary *storage* of miscellaneous *products* and construction materials stored in lay down areas). At a minimum, the section of the *HVHF SWPPP* addressing these areas must include the following items:

1. Good Housekeeping Procedures

- a. Locate material *storage* areas away from high traffic areas;
- b. *Storage* units/ vessels of all chemicals and materials must be maintained in good condition so as to prevent contamination of stormwater;
- c. Clearly label all containers with their respective contents;
- d. Maintain an inventory of chemicals to identify leakage;
- e. During deliveries, have station personnel familiar with spill prevention and response procedures present to ensure that any leaks/spills are immediately contained and cleaned up;
- f. Properly dispose of chemicals that are no longer in use;
- g. Handle and store reactive, ignitable or flammable liquid in compliance with applicable local fire codes, local zoning codes and the National Electric Code;
- h. Provide drip pads where chemicals are transferred from one container to another to allow for recycling of spills and leaks;
- i. Have materials, such as absorbent pads, readily available to clean up spills; and
- j. Check containers closely and often for leaks, and use pans to collect fluid when leaks occur.

2. Spill Reduction Measures

- a. Inspect *storage* tanks and piping systems (pipes, pumps, flanges, couplings, hoses, and valves) for failures or leaks, and perform preventive maintenance; and
- b. Use spill/overflow protection.

3. Structural *Best Management Practices*

- a. Store drums, including empty or used drums, in secondary containment with a roof or cover (including temporary cover such as a tarp) that prevents contact with precipitation;
- b. Provide secondary containment such as dikes or portable containers with a height sufficient to contain a spill (the greater of ten percent of the total

enclosed tank volume or one hundred ten percent (110%) of the volume contained in the largest tank). The *owner or operator* shall comply with the requirements for operation of secondary containment contained in Appendix B; and

- c. Stormwater *discharges* from handling and *storage* areas should be eliminated where practical. Recycling of stormwater for use in *hydraulic fracturing* is highly recommended.

4. Benchmark Monitoring Requirements for Material and Chemical *Storage* Areas:

| <i>Pollutants of Concern</i> | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|--|-------------------------|--|
| pH, range, SU | EPA 150.1 | 6.0 -9.0 s.u. |
| Oil and Grease | EPA 1664, 1664A | 15 mg/L |
| Solids, Total Suspended | EPA 160.2 | 100 mg/L |
| Solids, Total Dissolved | SM2540 | Report Results No Benchmark Value |
| Chlorides | EPA 325.3 | 860 mg/L |
| Sulfate | EPA 375.2 | Report results No Benchmark value |
| Alkalinity, Total (CaCO ₃) | EPA 130.1 | Report results No Benchmark value |
| BOD, 5 day | EPA 405.1 | 30 mg/L |
| Chemical Oxygen Demand (COD) | EPA 410.4 | 120 mg/L |
| Total Nitrogen (TN) | EPA 350.1, 351.2, 353.2 | 6 mg/L |
| Total Organic Carbon | EPA 415.1 | Report results No Benchmark value |

| <i>Pollutants of Concern</i> | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|---|-------------------|---|
| Phenols, Total | EPA 420.1,420.2 | 0.048 mg/L-daily max/ 0.029 mg/L- 30 day aver. |
| Naphthalene | EPA 625 | 0.059 mg/L-daily max 0.022 mg/L – 30 day average |
| GC/MS Hazardous Substance Library search ³ | | Report results |

G. Chemical Mixing, Material Handling and Loading/Unloading Areas

The *HVHF SWPPP* shall include and describe measures that prevent or minimize the contamination of precipitation/surface runoff from chemical mixing, material handling and loading/unloading areas. At a minimum, the section of the *HVHF SWPPP* addressing these areas must include the following items:

1. Good Housekeeping Procedures
 - a. Have personnel familiar with spill prevention and response procedures present during deliveries to ensure that any leaks/spills are immediately contained and cleaned up;
 - b. Check containers closely and often for leaks, and use pans to collect fluid when leaks occur;
 - c. Use dry cleanup methods;
 - d. Confine mixing, transferring, loading and unloading activities to designated areas;
 - e. Do not expose chemicals and materials to precipitation;
 - f. Inspect the loading/unloading areas to detect problems before they occur;
 - g. Inspect all containers prior to loading/unloading of any raw or spent

³ This library search shall be limited to the chemicals used on the well site during this activity, including HVHF fluid additives, and expected to be returned to the well site during this activity.

materials;

- h. After drum use, washout must be collected for proper disposal; and
- i. The *HVHF SWPPP* must address the replacement or repair of leaking connections, valves, transfer lines and pipes that may carry chemicals or wastewater.

2. Spill Reduction Measures

- a. Use spill and overflow protection; and
- b. Place track pans or other appropriate containers under tankers before transfer activities occur to prevent uncontained spills.

3. Structural BMPs

- a. Provide secondary containment such as dikes or portable containers at chemical loading/unloading areas with a height sufficient to contain a spill (the greater of ten percent (10%) of the total enclosed tank volume or one hundred ten percent (110%) of the volume contained in the largest tank). The *owner or operator* shall comply with the requirements for operation of secondary containment contained in Appendix B; and
- b. Stormwater *discharges* from handling and *storage* areas should be eliminated where practical. Recycling of stormwater for use in *hydraulic fracturing* is highly recommended.

4. Benchmark Monitoring Requirements for Chemical Mixing, Material Handling, Loading/Unloading Areas:

| <i>Pollutants of Concern</i> | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|------------------------------|-------------------|--|
| pH, range, SU | EPA 150.1 | 6.0 - 9.0 s.u. |
| Oil and Grease | EPA 1664, 1664A | 15 mg/L |
| Solids, Total Suspended | EPA 160.2 | 100 mg/L |
| Solids, Total Dissolved | SM2540 | Report results No Benchmark value |
| Chlorides | EPA 325.3 | 860 mg/L |

| <i>Pollutants of Concern</i> | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|---|-------------------------|---|
| Sulfate | EPA 375.2 | Report results No Benchmark value |
| Alkalinity, Total (CaCO ₃) | EPA 130.1 | Report results No Benchmark value |
| BOD, 5 day | EPA 405.1 | 30 mg/L |
| Chemical Oxygen Demand (COD) | EPA 410.4 | 120 mg/L |
| Total Nitrogen (TN) | EPA 350.1, 351.2, 353.2 | 6 mg/L |
| Total Organic Carbon | EPA 415.1 | Report results No Benchmark value |
| Phenols, Total | EPA 420.1, 420.2 | 0.048 mg/L-daily max/ 0.029 mg/L-30 day avg. |
| Naphthalene | EPA 625 | 0.059 mg/L-daily max 0.022 mg/L-30 day average |
| GC/MS Hazardous Substance Library search ⁴ | | Report results |

H. Chemical/Fluid Storage Areas

The *HVHF SWPPP* shall include and describe measures that prevent or minimize the contamination of precipitation/surface runoff from chemical *storage* areas and other

⁴ This library search shall be limited to the chemicals used on the well site during this activity, including HVHF fluid additives, and expected to be returned to the well site during this activity.

storage areas so that spills of chemicals will not permeate, drain, infiltrate or otherwise escape to the *groundwaters* or surface waters before cleanup occurs. At minimum, the section of the *HVHF SWPPP* addressing these areas must include the following items:

1. Good Housekeeping Procedures

- a. Plainly label all containers;
- b. Maintain a complete inventory of fluids to identify leakage;
- c. Train employees on proper spill prevention and response techniques;
- d. Train employees on proper waste control and disposal;
- e. Locate *storage* areas away from high traffic areas and surface waters;
- f. Properly dispose of chemicals that are no longer in use;
- g. Store and handle reactive, ignitable, or flammable liquids in compliance with applicable local fire codes, local zoning codes, and the National Electric Code;
- h. Use dry cleanup methods instead of washing the areas down;
- i. After drum use, washout should be collected for proper disposal;
- j. Inspect the transfer areas to detect problems before they occur; and
- k. Inspect all containers prior to transferring activities of hazardous materials.

2. Spill Prevention Measures

- a. Conduct container integrity testing and provide leak detection;
- b. Inspect *storage* areas and piping systems (pipes, pumps, flanges, couplings, hoses, and valves) for failures or leaks, and perform preventive maintenance;
- c. Provide fluid level indicators;
- d. Provide drip pads/pans where chemicals are transferred from one container to another to allow for recycling of spills and leaks;
- e. The covered entity shall also comply with applicable state and federal laws, including Spill Prevention Control and Countermeasures (SPCC) requirements;
- f. Ensure that the tanks have drains with valves and that valves are maintained in the closed position; and

- g. To prevent uncontained spills, place track pans or popup pool containers under tankers before transfer activities occur.

3. Structural BMPs

- a. Provide secondary containment, such as dikes or portable containers, with a height sufficient to contain a spill (the greater of ten percent (10%) of the total enclosed tank volume or one hundred ten percent (110%) of the volume contained in the largest tank). The *owner or operator* shall comply with the requirements for operation of secondary containment contained in Appendix B;
- b. Stormwater *discharges* from handling and *storage* areas should be eliminated where practical. Recycling of stormwater for use in *hydraulic fracturing* is highly recommended;
- c. Whenever possible, cover and/or enclose chemical *storage* areas with roofs or tarps; and
- d. Train employees on proper loading/unloading techniques.

4. Benchmark Monitoring Requirements for Chemical *Storage* Areas:

| <i>Pollutants of Concern</i> | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|--|-------------------|--|
| pH, range, SU | EPA 150.1 | 6.0-9.0 s.u. |
| Oil and Grease | EPA 1664, 1664A | 15 mg/L |
| Solids, Total Suspended | EPA 160.2 | 100 mg/L |
| Solids, Total Dissolved | SM2540 | Report results No Benchmark Value |
| Chlorides | EPA 325.3 | 860 mg/L |
| Sulfate | EPA 375.2 | Report results No Benchmark value |
| Alkalinity, Total (CaCO ₃) | EPA 130.1 | Report results No Benchmark value |

| <i>Pollutants of Concern</i> | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|---|-------------------------|---|
| BOD, 5 day | EPA 405.1 | 30 mg/L |
| Chemical Oxygen Demand (COD) | EPA 410.4 | 120 mg/L |
| Total Nitrogen (TN) | EPA 350.1, 351.2, 353.2 | 6 mg/L |
| Total Organic Carbon | EPA 415.1 | Report results No Benchmark value |
| Phenols, Total | EPA 420.1, 420.2 | 0.048 mg/L-daily max/ 0.029 mg/L-30 day avg. |
| Naphthalene | EPA 625 | 0.059 mg/L-daily max 0.022 mg/L-30 day average |
| GC/MS Hazardous Substance Library Search ⁵ | | Report results |

I. Employee Housing and Sanitary Facilities

The *HVHF SWPPP* shall include and describe measures that prevent or minimize the contamination of precipitation/surface runoff from employee housing and sanitary facilities at the *well site*. At a minimum, the section of the *HVHF SWPPP* addressing these areas must include the following items:

1. Good Housekeeping Procedures
 - a. Provide sufficient *storage* volume for holding of sanitary wastewater prior to disposal;
 - b. Provide sufficient *storage* of household waste (garbage) prior to disposal; and

⁵ This library search shall be limited to the chemicals used on the well site during this activity, including HVHF fluid additives, and expected to be returned to the well site during this activity.

- c. Develop routine procedures for sanitary and household waste disposal, including winter months.

J. Piping/conveyances

The *HVHF SWPPP* shall include and describe measures that prevent or minimize the contamination of precipitation/surface runoff from spills and leaks from piping and conveyance systems utilized for the transfer of fresh water, *flowback* water, *production brine*, well *stimulation* water, sanitary and other wastewaters. At a minimum, the section of the *HVHF SWPPP* addressing these areas must include the following items:

1. Good Housekeeping Procedures
 - a. Frequent inspections and testing of valves, pressure regulators, pumps, switches and other appurtenances shall be performed;
 - b. Valves, pressure regulators, pumps, switches and other appurtenances must be inspected for debris, minerals, algae and other materials which may restrict system flow;
 - c. Valves, pressure regulators, pumps, switches and other appurtenances must be drained or otherwise managed to maintain proper performance in cold weather; and
 - d. Monitor the pipeline at both ends during transfer, with communication between the two end monitors.
2. Structural Standards and BMPs
 - a. All pipe must withstand the pressure it will be subjected to, including hydraulic transients, internal pressures and external pressures;
 - b. Joints shall be watertight and equal strength to that of the pipe;
 - c. The *HVHF SWPPP* shall include specifications for pumps that will be utilized and describe drainage, vents, provisions to protect the pipe from damage and operation and maintenance procedures, including opening/closing valves to prevent excessive water hammer and filling at the specified rate requirements;
 - d. Erosion protection shall be installed and maintained at outlets;
 - e. Steep hillsides and water courses should be avoided in the location of pipelines and flowlines. When locating pipelines on steep slopes cannot be avoided, additional erosion and sediment controls must be employed;
 - f. Flowline routes should take advantage of road corridors wherever possible to minimize surface disturbance and provide better leak detection and access for installation and repair operations;

- g. Consider maintenance needs when burying pipelines in or immediately adjacent to the road;
- h. When clearing is necessary, the width disturbed shall be kept to a minimum;
- i. Topsoil material shall be stockpiled to the side of the routes where cuts and fills or other surface disturbances occur during pipeline construction;
- j. Topsoil material shall be segregated and not be mixed or covered with subsurface material. Bladed materials shall be placed back into the cleared route upon completion of construction and returned back to the original contour before reapplying topsoil;
- k. Pipelines and flowlines shall be tested for leaks before backfilling trenches;
- l. Pipeline trenches should be compacted during backfilling. After construction, cut-and-fill slopes shall be regraded to conform to the adjacent terrain and *reclaimed*;
- m. Pipeline rights-of-way must be maintained in order to correct backfill settling and prevent erosion;
- n. Pipeline construction shall not block, dam, or change the natural course of any drainage;
- o. Suspended pipelines shall provide adequate clearance for high-flow events, floating debris, wildlife, and livestock;
- p. Pipelines buried under stream crossings shall be buried below the scouring depth and may require other permits;
- q. Perform and document hydrostatic integrity testing of all water transfer facility piping. Hydrostatic testing must be done before any materials other than water are introduced into the piping;
- r. Install isolation valves on all runs of *discharge* piping greater than 100 ft;
- s. Use only water-tight/pressure-tight connections downstream of all *additive* injection points;
- t. Install a high-pressure relief valve to work in conjunction with the existing electronic shutdown controls to protect the piping systems between the high pressure pumps and the well head. The relief valve *discharge* will be piped to a tank;
- u. Use at a minimum SDR-17 HDPE (or equivalent) pipe with water-tight/pressure-tight connections on both ends for all hard piping

downstream of *additive* injection points on the water transfer system; also ensure that all hoses employed in this service will be water-tight/pressure-tight hoses rated for a working pressure at or above the pressure rating of the manifold;

- v. Incorporate the installation of air/vacuum release valves and pressure relief valves (adjustable type) at appropriate locations to protect the water transfer system and prevent overpressure or collapse; connect all pressure relief valves to hoses going back to the tanks; and
- w. At locations with high elevation differentials, incorporate the installation of a pressure-regulating valve to prevent the pressure within the system from exceeding the pressure rating of the system. The pressure-regulating valve shall be equipped with pressure gages and recorders on the inlet and outlet sides.

3. Benchmark Monitoring Requirements for Areas where Piping and Conveyances are Located:

| <i>Pollutants of Concern</i> | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|------------------------------|-----------------------|--|
| Total Suspended Solids (TSS) | EPA 160.2 | 100 mg/L |
| Solids, Total Dissolved | SM2540 | Report results No Benchmark value |
| Sulfate | EPA 375.2 | Report results No Benchmark value |
| Chlorides | EPA 325.3 | 860 mg/L |
| pH | EPA 150.1 | 6.0 - 9.0 s.u. |
| Oil and Grease | EPA 1664 or EPA 1664A | 100 mg/l |
| Benzene | EPA 602 | 50 ug/L |
| Ethylbenzene | EPA 602 | 50 ug/L |
| Toluene | EPA 602 | 50 ug/L |

| <i>Pollutants of Concern</i> | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|---|-------------------|--|
| Xylene | EPA 602 | 50 ug/L |
| GC/MS Hazardous Substance Library Search ⁶ | | Report results |

K. Lumber Storage or Processing Areas

The *HVHF SWPPP* shall include and describe measures that prevent or minimize the contamination of precipitation/surface runoff from all processes associated with lumber *storage* areas and areas engaged in processing wood. This section does not apply to active timber harvesting sites prior to its initial transport to intermediate *storage* or other processing areas. *Discharges* from the spray down of lumber and wood *product storage* yards where no *chemical additives* are used in the spray down waters and no chemicals are applied to the wood during *storage* may also be authorized. At a minimum, the section of the *HVHF SWPPP* addressing these areas must include the following items:

1. Good Housekeeping Procedures
 - a. Prevent the *discharge* of wood debris;
 - b. Minimize the leachate generated from decaying wood material; and
 - c. Minimize the generation of dust.
2. *Wet decking* not authorized to be used by this general permit.
3. Benchmark Monitoring Requirements for Lumber Processing or *Storage* Areas:

| <i>Pollutants of Concern</i> | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|--|-------------------|--|
| Benchmark Monitoring for Log <i>Storage</i> and Handling Areas | | |
| Total Suspended Solids (TSS) | EPA 160.2 | 100 mg/L |

⁶ This library search shall be limited to the chemicals used on the well site during this activity, including HVHF fluid additives, and expected to be returned to the well site during this activity.

| Benchmark Monitoring for Wood Processing Areas | | |
|--|-----------|----------|
| Chemical Oxygen Demand (COD) | EPA 410.4 | 120 mg/L |
| Total Suspended Solids (TSS) | EPA 160.2 | 100 mg/L |

L. Cement Mixing

The *HVHF SWPPP* shall include and describe measures that prevent or minimize the contamination of precipitation/surface runoff from all processes associated with cement mixing. At a minimum, the section of the *HVHF SWPPP* addressing these areas must include the following items:

1. Site Description and Site Map -The site map shall include, at minimum, the following items:
 - a. The location, if applicable, of dust control devices;
 - b. Recycle/water source ponds; and
 - c. If applicable, devices used for the treatment and/or collection of process wastewater and the areas that drain into the treatment/collection device.
2. Good Housekeeping Practices
 - a. Facilities shall minimize the *discharge* of spilled cement aggregate, kiln dust, fly ash and other *significant materials* in stormwater from paved areas of the site that are exposed to storm water;
 - b. The *HVHF SWPPP* shall include a frequency of sweeping or other equivalent measures;
 - c. Daily clean ups shall be conducted; and
 - d. Facilities shall prevent the exposure of fine granular solids (such as cement) to stormwater. Where practicable, these materials shall be stored in enclosed hoppers, silos or under other covering.
3. Certification of Non-Stormwater *Discharges* – *HVHF* operations that utilize cement mixing shall include in the certification a description of measures that ensure that process wastewater that results from washing trucks, mixers, transport buckets, forms or other equipment are *discharged* in accordance with a separate *SPDES permit*, or are recycled.
4. Benchmark Monitoring Requirements for Cement Mixing Areas:

| <i>Pollutants of Concern</i> | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|--|-------------------|--|
| Total Suspended Solids (TSS) | EPA 160.2 | 100 mg/L |
| pH | EPA 150.1 | 6.0 - 9.0 s.u. |
| Total Recoverable Iron | EPA 200.7 | 1 mg/L |
| Total Recoverable Aluminum | EPA 200.7 | 750 ug/L |
| Alkalinity, Total (CaCO ₃) | EPA 130.1 | Report results No Benchmark value |
| Total Recoverable Lead | EPA 200.7 | 82 ug/L |
| Total Recoverable Iron | EPA 200.7 | 1 mg/L |
| Total Recoverable Zinc | EPA 200.7 | 120 ug/L |

M. Freshwater Surface Impoundments and Reserve Pits

All *flowback* wastewater must be directed to watertight holding tanks. Activities associated with the construction of freshwater surface impoundments must be included in the *Construction SWPPP*. The *HVHF SWPPP* shall include and describe measures that prevent or minimize the contamination of precipitation/surface water runoff from all processes associated with the use and maintenance associated with surface impoundments and *reserve pits*. At a minimum, the section of the *HVHF SWPPP* addressing these areas shall include the following items:

1. Good Housekeeping Procedures
 - a. *Flowback* shall not be directed to *reserve pits*;
 - b. A closed-loop tank system must be used instead of a reserve pit to manage drilling fluids and cuttings for any of the following: a) horizontal drilling in the Marcellus Shale unless an acid rock drainage mitigation plan for on-site burial of such cuttings is approved by the Department; and; b) any

drilling requiring cuttings to be disposed of off-site, as provided in Part 360 of this Title, including at a landfill;

- c. Recycled fluids shall not be stored in freshwater impoundments;
- d. *Reserve pits* shall only contain cuttings, *formation fluids*, and/or drill mud and no party shall place waste oil, hydraulic fluids or any waste in *reserve pits*;
- e. Impoundments and *reserve pits* must be inspected and maintained at the intervals set forth in Part IX.B.5.b. of this general permit;
- f. Spill prevention and response teams for *reserve pits* must be included in the *HVHF SWPPP* per Part IX.B.4. of this general permit;
- g. Protocols for use and maintenance of impoundments and *reserve pits* that preserve structural integrity must be identified in the *HVHF SWPPP*;
- h. Emergency contact information for individuals responsible for spill response and reporting, corrective action, reporting of structural problems and/or spills must be identified in the *HVHF SWPPP* and made available to staff with related duties. The protocols for cleanup must be consistent with good housekeeping procedures in Part IX.B.4. of this general permit;
- i. Any party with responsibilities involving the use, maintenance or inspection of impoundments and *reserve pits* must be trained to implement practices that preserve the integrity of the impoundments and *reserve pits*, recognize signs of failure, and report problems to appropriate parties; and
- j. Training must be documented in accordance with Part IX.B.7 of this general permit.

2. Structural *Best Management Practices*

- a. Freshwater surface impoundments must be designed by a *Qualified Professional* utilizing the *Department's* "Guidelines for the Design of Dams";
- b. Upon completion of construction, the *Qualified Professional* must submit an engineering certification to the *HVHF* Stormwater Coordinator, at the address found in Part VI.C. of this general permit, and the appropriate Regional Water Engineer, in Appendix C of this general permit, that the impoundment was built in accordance with the engineering design prior to impounding any waters;
- c. Impoundments and *reserve pits* must be constructed so that surface water and run-on from precipitation is diverted away from impoundments and *reserve pits*; and

3. Benchmark Monitoring Requirements for Areas in which *Flowback Water Storage and Reserve pits* are Located:

| <i>Pollutants of Concern</i> | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|---|-----------------------|--|
| Total Suspended Solids (TSS) | EPA 160.2 | 100 mg/L |
| Solids, Total Dissolved | SM2540 | Report results No Benchmark value |
| Sulfate | EPA 375.2 | Report results No Benchmark value |
| Chlorides | EPA 325.3 | 860 mg/L |
| pH | EPA 150.1 | 6.0 - 9.0 s.u. |
| Oil and Grease | EPA 1664 or EPA 1664A | 100 mg/l |
| Benzene | EPA 602 | 50 ug/L |
| Ethylbenzene | EPA 602 | 50 ug/L |
| Toluene | EPA 602 | 50 ug/L |
| Xylene | EPA 602 | 50 ug/L |
| GC/MS Hazardous Substance Library Search ⁷ | | Report results |

N. Well Production Phase

The *HVHF SWPPP* shall include and describe measures that prevent or minimize the contamination of precipitation/surface runoff from compressors, brine *storage* tanks and other equipment, which remains on site during the *production phase*, so that spills of

⁷ This library search shall be limited to the chemicals used on the well site during this activity, including HVHF fluid additives, and expected to be returned to the well site during this activity.

contaminants will not permeate, drain, infiltrate or otherwise escape to the *groundwaters* or surface waters before cleanup occurs. All production brine/fluids must be collected and disposed of in a *Department* approved manner. At a minimum, the section of the *HVHF SWPPP* addressing these areas must include the following items:

1. Good Housekeeping Procedures

- a. Train employees on proper spill prevention and response techniques;
- b. Train employees on proper waste control and disposal;
- c. Properly dispose of chemicals that are no longer in use;
- d. Handle and store reactive, ignitable, or flammable liquids in compliance with applicable local fire codes, local zoning codes, and the National Electric Code;
- e. Use dry cleanup methods instead of washing the areas down;
- f. After use of any container used to hold potential contaminants, washout should be collected for proper disposal; and
- g. Inspect the transfer areas to detect problems before they occur.

2. Spill Prevention Measures

- a. Conduct container integrity testing and provide leak detection;
- b. Inspect *storage* tanks and piping systems (pipes, pumps, flanges, couplings, hoses, and valves) for failures or leaks, and perform preventive maintenance;
- c. Provide measures to ensure there is adequate capacity of the *storage* tanks;
- d. Provide drip pads/pans where chemicals are transferred from one container to another to allow for recycling of spills and leaks;
- e. Ensure the tanks have drains with valves and that valves are maintained in the closed position; and
- f. To prevent uncontained spills, place track pans or popup pool containers under tankers before transfer activities occur.

3. Structural BMPs

- a. Provide secondary containment, such as dikes or portable containers, with a height sufficient to contain a spill (the greater of ten percent (10%) of the total enclosed tank volume or one hundred ten percent (110%) of the volume contained in the largest tank). The *owner or operator* shall comply with the requirements for operation of secondary containment

contained in Appendix B.

4. Benchmark Monitoring Requirements for Well *Production Phase*:

| <i>Pollutants of Concern</i> | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|-------------------------------------|--|--|
| Total Suspended Solids (TSS) | EPA 160.2 | 100 mg/L |
| Solids, Total Dissolved | SM2540 | Report results No Benchmark value |
| Chlorides | EPA 325.3 | 860 mg/L |
| pH | EPA 150.1 | 6.0 - 9.0 s.u. |
| Oil and Grease | EPA 1664 or EPA 1664A | 15 mg/l |
| Benzene | EPA 602 | 50 ug/L |
| Ethylbenzene | EPA 602 | 50 ug/L |
| Toluene | EPA 602 | 50 ug/L |
| Xylene | EPA 602 | 50 ug/L |
| Radium (sum of all isotopes), pCi/l | EPA Method 903.0, Standard Methods 7500-Ra B | Report results No Benchmark value |
| Thorium, pCi/l | EPA Method 910, Standard Methods 7500-Th | Report results No Benchmark value |
| Uranium, (sum of all isotopes) | EPA Method 908, Standard Methods 7500-U | Report results No Benchmark value |
| Gross Alpha Radiation, pCi/l | EPA Method 900.0, Standard Methods 7110-B | Report results No Benchmark value |
| Gross Beta | EPA Method 900.0, Standard Methods | Report results |

| Pollutants of Concern | Analytical Method | Benchmark Monitoring Cut-Off Concentration |
|-----------------------|-------------------|--|
| Radiation, pCi/l | 7110-B | No Benchmark value |

Part XI. HVHF PHASE INSPECTION AND MAINTENANCE REQUIREMENTS

A. Inspection Requirements

Inspection requirements are found within the *HVHF* structural and non-structural BMPs under Parts IX.B. and C. of this general permit, respectively, as well as in the activity-specific requirements for the *HVHF operations*.

B. Maintenance Requirements

All BMPs identified in the *HVHF SWPPP* must be maintained in effective operating condition. If *well site* inspections required by Part IX.B. and C. identify BMPs that are not operating effectively, maintenance must be performed before the next anticipated storm event, or as necessary to maintain the continued effectiveness of stormwater controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable, but not more than five (5) calendar days after completion of the routine *well site* inspection or the *well site* evaluation, unless permission for a later date is granted in writing by the *Department*. In the case of non-structural BMPs, the effectiveness of the BMP must be maintained by appropriate means (e.g., spill response supplies available and personnel trained, etc.).

Part XII. HVHF PHASE MONITORING

A. Schedule for Monitoring

The schedule shall include the following:

1. Visual Monitoring – must be initiated upon completion of the *Construction phase*, in accordance with Part VI of this general permit, and continue through completion of *Partial Site Reclamation*, in accordance with Part XIX of this general permit.
 - a. The *owner or operator* must perform and document a visual examination of a stormwater *discharge* associated with the *HVHF Phase* from each *outfall* after each qualifying storm. The examination must document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, and oil sheen.

- b. Visual examinations must be made of samples collected within the first thirty (30) minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging from the *HVHF Phase*. All samples (except snowmelt samples) must be collected from the *discharge* resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least seventy-two (72) hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The 72-hour storm interval is waived if the preceding measurable storm did not result in a stormwater *discharge* (e.g., a storm event in excess of 0.1 inches may not result in a stormwater *discharge* at some facilities). If a visual examination was performed and the storm event was later determined not to be a measurable (greater than 0.1 inch rainfall) storm event, the visual examination should still be included in the *HVHF SWPPP* records. All documentation must be signed and certified in accordance with Part XXI.H. of this general permit. A Visual Monitoring Form may be used by the *owner or operator*.
 - c. If the visual examination indicates the presence of stormwater pollution (e.g., color, odor, floating solids, settled solids, suspended solids, foam, oil sheen, or other indicators), the *owner or operator* must evaluate the *HVHF Phase* for potential sources of stormwater contamination. Any sources of contamination that are identified must be remedied. Such remedies may include implementation of non-structural or structural BMPs to prevent recurrence. The *HVHF SWPPP* must be updated to reflect these revisions within fourteen (14) calendar days of the examination.
 - d. The visual examination must be documented and maintained on the *well site* with the *HVHF SWPPP* in accordance with Part XIII. of this general permit. The report must include the *outfall* location, the examination date and time, examination personnel, the nature of the *discharge* (i.e., runoff or snow melt), visual quality of the stormwater *discharge* (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution), probable sources of any observed stormwater contamination and actions taken to eliminate these sources.
2. Quarterly dry weather flow inspection – must be initiated upon completion of the *Construction phase*, in accordance with Part VI of this general permit, and continue through completion of *Partial Site Reclamation*, in accordance with Part XIX of this general permit.
- a. Such inspections must be completed every three (3) months per calendar year for each *outfall* (January-March, April-June, July-September, and October-December)
 - b. The *owner or operator* must perform and document at least one dry weather flow inspection quarterly after at least three (3) consecutive days

of no precipitation. The dry weather flow inspection shall be conducted to determine the presence of non-stormwater *discharges* to the stormwater drainage system. A Quarterly Dry Weather Flow Inspection Form may be used by the *owner or operator*.

- c. If a non-stormwater *discharge* is discovered, the *owner or operator* shall identify its source to determine whether it is an authorized *discharge* (e.g., a *discharge* covered by another *SPDES permit* or an authorized non-stormwater *discharge* addressed under Part I.C.3. of this general permit). The *owner or operator* shall modify the *HVHF SWPPP* to address any newly identified allowable non-stormwater *discharges* identified in Part I.C.3. of this general permit.
 - d. The *owner or operator* shall notify the *Department* within twenty-four (24) hours of any non-authorized *discharge*. Appropriate actions may require coverage under an individual industrial *SPDES permit* or connection to the sanitary sewer system.
 - e. Results of the dry weather flow inspections must be documented and retained on the *well site* with the *HVHF SWPPP* in accordance with Part VIII. of this general permit. The report must include the *outfall* locations, the inspection date and time, inspection personnel, description of *discharges* identified, the source of any *discharges* and actions taken to address any newly identified allowable non-stormwater *discharges* or elimination of non-authorized *discharges*.
3. Benchmark/Compliance Monitoring and Analysis – must be initiated upon completion of the *Construction phase*, in accordance with Part VI of this general permit, and continue through completion of *Partial Site Reclamation*, in accordance with Part XIX of this general permit.
- a. Such monitoring must be completed every three (3) months per calendar year for each *outfall* (January-March, April-June, July-September, and October-December).
 - b. Benchmark monitoring of *discharges* are included in the *HVHF SWPPP* requirements for specific activities related to *HVHF* operations in Part X of this general permit.
 - c. Benchmark monitoring must be conducted for each *outfall* while the specific activities associated with *HVHF* operations are being performed. If no *discharge* from a qualifying storm has occurred during that period of time, monitoring must occur during the first qualifying storm event thereafter. *HVHF* operations active for less than one (1) year must satisfy all monitoring requirements within the period of the *HVHF Phase*. Samples must be received by the laboratory in a timely manner, so that samples may be analyzed within the holding time, but no later than ten (10) calendar days after the samples have been collected.

- d. The *owner or operator* is responsible for collection and analysis of representative stormwater samples.
- e. The benchmark monitoring cut-off concentrations are intended as a guideline for the *owner or operator* to determine the overall effectiveness of the *HVHF SWPPP* in controlling the *discharge of pollutants* to receiving waters. The benchmark concentrations do not constitute direct numeric effluent limitations and, therefore, an exceedance is not a general permit violation. However, the *owner or operator* must evaluate potential sources of stormwater contaminants at the *HVHF* operation. Any sources of contamination that are identified must be remedied. Such remedies may include implementation of non-structural or structural BMPs to prevent recurrence. The *HVHF SWPPP* must be updated to reflect these revisions within fourteen (14) calendar days of the inspection. Failure to undertake and document the review or take the necessary corrective actions are violations of the general permit.
- f. Results of the benchmark monitoring must be documented and retained on the well site with the *HVHF SWPPP*. The report must include the *outfall* location, the examination date and time, examination personnel, the nature of the *discharge* (i.e., runoff or snow melt), visual quality of the stormwater *discharge* (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution), probable sources of any observed stormwater contamination and actions taken to eliminate these sources.

4. Water Source Monitoring - The *HVHF SWPPP* must include provisions for monitoring and recording the volume of all water delivered to the well site from each source. Records must be maintained of each truck/pipeline delivery and its source. The reports shall be kept on the *well site* and furnished to the *Department* upon request.

5. Water Usage Monitoring - The *HVHF SWPPP* must include provisions to meter the volume of water used for each *HVHF* stage at each well during the *HVHF Phase*. The volume must be metered with an automatic continuous recording device or equivalent that measures to within five percent (5%) of actual flow. The reports shall be kept on the *well site* and furnished to the *Department* upon request.

6. Chemical Additive Usage Monitoring - The *HVHF SWPPP* must include provisions to maintain a record of the volumes/amounts of all *chemical additives* used for each *HVHF* stage. This list may exclude any information that has been determined to be confidential business information. The record shall include a list of the individual *chemical additives* with Chemical Abstract Services (CAS) registry number and Material Safety Data Sheets (MSDS). The reports shall be kept on the *well site* and furnished to the *Department* upon request.

7. Flowback Monitoring - The *HVHF SWPPP* must include provisions to meter the volume of all *flowback* water with an automatic continuous recording device or equivalent that measures to within five percent (5%) of actual flow. The reports shall be kept on the *well site* furnished to the *Department* upon request.

8. Wastewater Monitoring - The *HVHF SWPPP* must include provisions to record the volume of all non-domestic wastewater produced onsite on a daily frequency. The *HVHF SWPPP* must also include a transportation record of all non-domestic wastewater leaving the *well site*. The transportation record must be in accordance with the Waste Tracking Form as required by 6 NYCRR Part 364. The reports shall be furnished to the *Department* upon request.

9. Secondary Containment Areas for Storage and Transfer Areas - Discharge screening and monitoring for *storage* and transfer area secondary containment systems shall be in accordance with Appendix B of this general permit.

10. Monitoring Instructions

- a. Monitoring periods – *Owners or operators* that are required to conduct monitoring must collect samples within the following time periods:
 - i. If an *HVHF operation's* general permit coverage was effective less than one (1) month from the end of a quarter, the first monitoring period starts with the next respective monitoring period (e.g., if general permit coverage begins September 5, the *owner or operator* would not need to start quarterly sampling until the October to December quarter).
- b. Collection and analysis of samples - Sampling requirements must be assessed on an *outfall-by-outfall* basis. Samples must be collected as follows:
 - ii. Sample Analysis -Monitoring and analysis must be conducted according to test procedures approved under 40 CFR Part 136, or equivalent, unless other test procedures have been specified in this general permit;
 - iii. Any laboratory test or sample analysis required by this general permit for which the State Commissioner of Health issues certificates of approval pursuant to section 502 of the Public Health Law shall be conducted by a laboratory that has been issued a certificate of approval.
- c. Storm event data - Along with the monitoring results, the *owner or operator* must provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater 0.1

inch rainfall) storm event; and an estimate of the total volume (in gallons) of the *discharge* sampled.

PART XIII. HVHF PHASE REPORTING

A. Discharge Monitoring Reports (DMR)

1. Results of the laboratory analysis of stormwater samples collected to meet benchmark parameters, as well as compliance monitoring, must be reported on *Discharge Monitoring Report (DMR)* forms that will be provided by the *Department*.
2. Results of the laboratory analysis of samples from each *outfall* identified in the NOI and the *HVHF SWPPP* must be received by the *Department* on preprinted *DMRs* provided by the *Department* within ten (10) calendar days of receipt of the report of analysis.
3. If there is no *discharge* from a qualifying storm during the monitoring period, *DMRs* must indicate such and be submitted to the *Department* within ten (10) calendar days of the end of the monitoring period.
4. An *owner or operator* shall submit results for each *outfall* associated with the *HVHF* operation. For each *outfall*, one signed *DMR* form must be submitted to the *Department*, including all storm events sampled during the reporting period.
5. The *DMRs* must be submitted to:

HVHF Stormwater General Permit Coordinator
NYSDEC
Bureau of Water Permits
625 Broadway
Albany, New York 12233-3505.

B. Annual Certification Report

1. An *owner or operator* of an *HVHF operation* covered by this general permit must complete and submit an Annual Certification report for the previous calendar year on a form provided by the *Department* by March 31 of the following year.
2. Visual monitoring and dry weather flow inspections must be retained with the *HVHF SWPPP*. All applicable questions must be answered on the Annual Certification form.
3. The Annual Certification reports must be submitted to:

HVHF Stormwater General Permit Coordinator
NYSDEC
Bureau of Water Permits
625 Broadway

Albany, New York 12233-3505.

C. Additional Reporting

1. In addition to filing the Annual Certification reports and *DMRs*, an *owner or operator* with at least one (1) stormwater *discharge* associated with the *HVHF operation* through an *MS4*, or a municipal system designated by the *Department*, must submit signed copies of Annual Certification reports and *DMRs* to the *MS4* operator at the same time.

PART XIV. MONITORING FOR THE PRODUCTION PHASE AND TEMPORARY SUSPENSION OF THE HVHF PHASE

A. Schedule for Monitoring

The schedule shall include the following:

1. Visual Monitoring – must be initiated upon 1) *Department's* verification of the completion of *Partial Site Reclamation* and continue until coverage under this general permit is terminated in accordance with Part XX of this general permit or 2) submission of a “Temporary Suspension of the *HVHF Phase*” certification form to the *Department*.
 - a. Such monitoring must be completed every three (3) months per calendar year for each *outfall* (January-March, April-June, July-September, and October-December).
 - b. The examination must document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, and oil sheen.
 - c. Visual examinations must be made of samples collected within the first thirty (30) minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging from the well site. All samples (except snowmelt samples) must be collected from the *discharge* resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least seventy-two (72) hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The 72-hour storm interval is waived if the preceding measurable storm did not result in a stormwater *discharge* (e.g., a storm event in excess of 0.1 inches may not result in a stormwater *discharge* at some facilities). If a visual examination was performed and the storm event was later determined not to be a measurable (greater than 0.1 inch rainfall) storm event, the visual examination should still be included in the *HVHF SWPPP* records. All documentation must be signed and certified in accordance with Part XXI.H. of this general permit. A Quarterly Visual Monitoring Form may be used by the *owner or operator*.
 - d. If the quarterly visual examination indicates the presence of stormwater

pollution (e.g., color, odor, floating solids, settled solids, suspended solids, foam, oil sheen, or other indicators), the *owner or operator* must evaluate the well site for potential sources of stormwater contamination. Any sources of contamination that are identified must be remedied. Such remedies may include implementation of non-structural or structural BMPs to prevent recurrence. The *HVHF SWPPP* must be updated to reflect these revisions within fourteen (14) calendar days of the examination.

- e. The quarterly visual examination must be documented and maintained on the well site with the *HVHF SWPPP* in accordance with Part XVI.B.3. of this general permit. The report must include the *outfall* location, the examination date and time, examination personnel, the nature of the *discharge* (i.e., runoff or snow melt), visual quality of the stormwater *discharge* (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution), probable sources of any observed stormwater contamination and actions taken to eliminate these sources.
2. Dry Weather Flow Inspection – must be initiated upon 1) the *Department's* verification of the completion of *Partial Site Reclamation* and continue until coverage under this general permit is terminated in accordance with Part XX of this general permit; or 2) submission of a “Temporary Suspension of the *HVHF Phase*” certification form to the *Department*.
 - a. Such inspections must be completed annually for each *outfall* (January-December).
 - b. The *owner or operator* must perform and document at least one (1) dry weather flow inspection annually after at least three (3) consecutive days of no precipitation. The dry weather flow inspection shall be conducted to determine the presence of non-stormwater *discharges* to the stormwater drainage system. A Dry Weather Flow Inspection Form may be used by the *owner or operator*.
 - c. If a non-stormwater *discharge* is discovered, the *owner or operator* shall identify its source to determine whether it is an authorized *discharge* (e.g., a *discharge* covered by another *SPDES permit* or an authorized non-stormwater *discharge* addressed under Part I.C.3. of this general permit). The *owner or operator* shall modify the *HVHF SWPPP* to address any newly identified allowable non-stormwater *discharges* identified in Part I.C.3. of this general permit.
 - d. The *owner or operator* shall notify the *Department* within twenty-four (24) hours of any non-authorized *discharge*. Appropriate actions may require coverage under an individual industrial *SPDES permit* or connection to the sanitary sewer system.

- e. Results of the dry weather flow inspections must be documented and retained on the well site with the *HVHF SWPPP* in accordance with Part XVI.B.3. of this general permit. The report must include the *outfall* locations, the inspection date and time, inspection personnel, description of *discharges* identified, the source of any *discharges* and actions taken to address any newly identified allowable non-stormwater *discharges* or elimination of non-authorized *discharges*.
3. Benchmark/Compliance Monitoring and Analysis – must be initiated upon 1) the *Department's* verification of the completion of *Partial Site Reclamation* and continue until coverage under this general permit is terminated in accordance with Part XX of this general permit, or 2) submission of a “Temporary Suspension of the *HVHF Phase*” certification form to the *Department*.
- a. Such monitoring must be completed annually for each *outfall* (January-December).
 - b. Benchmark monitoring of *discharges* are included in the *HVHF SWPPP* requirements for the specific activities related to *HVHF operations* in Part X of this general permit.
 - c. Benchmark monitoring must be conducted for each *outfall* while the specific activities associated with *HVHF* operations are being performed. If no *discharge* from a qualifying storm has occurred during that period of time, monitoring must occur during the first qualifying storm event thereafter. Samples must be received by the laboratory in a timely manner, so that samples may be analyzed within the holding time, but no later than ten (10) calendar days after the samples have been collected.
 - d. The *owner or operator* is responsible for collection and analysis of representative stormwater samples.
 - e. The benchmark monitoring cut-off concentrations are intended as a guideline for the *owner or operator* to determine the overall effectiveness of the *HVHF SWPPP* in controlling the *discharge of pollutants* to receiving waters. The benchmark concentrations do not constitute direct numeric effluent limitations and, therefore, an exceedance is not a general permit violation. However, the *owner or operator* must evaluate potential sources of stormwater contaminants during the *Production Phase*. Any sources of contamination that are identified must be remedied. Such remedies may include implementation of non-structural or structural BMPs to prevent recurrence. The *HVHF SWPPP* must be updated to reflect these revisions within fourteen (14) calendar days of the inspection for items. Failure to undertake and document the review or take the necessary corrective actions are violations of the general permit.
 - f. Results of the benchmark monitoring must be documented and retained on the well site with the *HVHF SWPPP*. The report must include the *outfall*

location, the examination date and time, examination personnel, the nature of the *discharge* (i.e., runoff or snow melt), visual quality of the stormwater *discharge* (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution), probable sources of any observed stormwater contamination and actions taken to eliminate these sources.

4. Production Phase Metering - The *HVHF SWPPP* must include provisions to meter the volume of all *production brine* with an automatic continuous recording device or equivalent that measures to within five percent (5%) of actual flow. The reports shall be furnished to the *Department* upon request.
5. Wastewater Monitoring - The *HVHF SWPPP* must include provisions to record the volume of all non-domestic wastewater produced onsite on a daily frequency. The *HVHF SWPPP* must also include a transportation record of all non-domestic wastewater leaving the well site. The transportation record must be in accordance with the Waste Tracking Form as required by 6 NYCRR Part 364. The reports shall be kept on the *well site* and furnished to the *Department* upon request.
6. Secondary Containment Areas for Storage and Transfer Areas - Discharge screening and monitoring for *storage* and transfer area secondary containment systems shall be in accordance with Appendix B of this general permit.
7. Monitoring Instructions
 - a. Monitoring periods – Owners or operators that are required to conduct monitoring must collect samples within the following time periods:
 - i. If general permit coverage was effective less than one (1) month from the end of a quarter, the first monitoring period starts with the next respective monitoring period (e.g., if general permit coverage begins September 5, the *owner or operator* would not need to start quarterly sampling until the October to December quarter).
 - b. Collection and analysis of samples - Sampling requirements must be assessed on an *outfall-by-outfall* basis. Samples must be collected as follows:
 - i. Sample Analysis -Monitoring and analysis must be conducted according to test procedures approved under 40 CFR Part 136, or equivalent, unless other test procedures have been specified in this general permit.
 - ii. Any laboratory test or sample analysis required by this general permit for which the State Commissioner of Health issues certificates of approval pursuant to section 502 of the Public Health Law shall be conducted by a laboratory that has been issued

a certificate of approval.

- c. Storm event data - Along with the monitoring results, the *owner or operator* must provide the date and duration (in hours) of the storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater 0.1 inch rainfall) storm event; and an estimate of the total volume (in gallons) of the *discharge* sampled.

PART XV. PRODUCTION PHASE INSPECTION AND MAINTENANCE

A. Inspection Requirements

Inspection requirements are found within the activity-specific section for the *Production Phase* in Part XIV of this general permit.

B. Maintenance Requirements

All BMPs identified in the *HVHF SWPPP* must be maintained in effective operating condition. If *well site* inspections required by Part XIV identify BMPs that are not operating effectively, maintenance must be performed before the next anticipated storm event, or as necessary to maintain the continued effectiveness of stormwater controls. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable, but not more than five (5) calendar days after completion of the routine *well site* inspection or the site evaluation, unless permission for a later date is granted in writing by the *Department*. In the case of non-structural BMPs, the effectiveness of the BMP must be maintained by appropriate means (e.g., spill response supplies available, personnel trained, etc.).

PART XVI. PRODUCTION PHASE REPORTING

A. Discharge Monitoring Reports (DMR)

1. Results of analysis of stormwater samples collected to meet benchmark parameters, as well as compliance monitoring must be reported on *DMR* forms that will be provided by the *Department*.
2. Results of laboratory analysis of samples from each *outfall* identified in the NOI and the *HVHF SWPPP* must be received by the *Department* on preprinted *DMRs* provided by the *Department* within ten (10) calendar days of the report of analysis.
3. If there is no *discharge* from a qualifying storm during the monitoring period, *DMRs* must indicate such and be submitted to the *Department* within ten (10) calendar days of the end of the monitoring period.

4. An *owner or operator* shall submit results for each *outfall* associated with the *HVHF* operation. For each *outfall*, one signed *DMR* form must be submitted to the *Department*, which would include all storm events sampled during the reporting period.

B. Annual Certification Report

1. An *owner or operator* of an *HVHF* operation covered by this general permit must complete and submit an Annual Certification report for the previous calendar year on a form provided by the *Department* by March 31 of the following year.
2. Visual monitoring and dry weather flow inspections must be retained with the *HVHF SWPPP*. All applicable questions must be answered on the Annual Certification form.
3. The Annual Certification reports must be submitted to:

HVHF Stormwater General Permit Coordinator
NYSDEC
Bureau of Water Permits
625 Broadway
Albany, New York 12233-3505

C. Additional reporting

In addition to filing the Annual Certification reports and *DMRs*, an *owner or operator* with at least one (1) stormwater *discharge* associated with the *Production Phase* through an *MS4*, or a municipal system designated by the *Department*, must submit signed copies of Annual Certification reports and *DMRs* to the *MS4* operator at the same time.

PART XVII. RETENTION OF RECORDS

A. General

1. The *owner or operator* shall retain the general permit, NOI, *NOI Acknowledgment Letter*, *Comprehensive SWPPP*, *Final stabilization* certification statement, *Construction Phase Completion Acknowledgment Letter*, *Partial Site Reclamation* certification statement, *Partial Site Reclamation Acknowledgment Letter*, and records of all data used to complete the Notice of Termination (NOT) until at least five (5) years after coverage under this general permit terminates by the *owner or operator* with coverage at the time a certification of *Partial Site Reclamation* is submitted to the *Department*.
2. All written correspondence requested by the *Department*, including individual permit applications, shall be sent to the address of the appropriate *Department* Regional Office listed in Appendix C of this general permit, and/or the *HVHF* Stormwater Coordinator as specified in this general permit.

B. Recording of Monitoring Activities and Results

1. The *owner or operator* shall 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 general permit, and records of all data used to complete the NOI for this general permit, for a period of at least five (5) years from the date of the sample, measurement, report or NOI. This period may be extended by written request of the *Department*, provided that the extension is necessary to implement the provisions of this 6 NYCRR Part 750 or the *ECL*, and that the reason or reasons for the extension are provided in the request.
2. Records of monitoring information shall include:
 - a. the date, exact place, and time of sampling or measurements;
 - b. the individual(s) who performed the sampling or measurements;
 - c. the date(s) analyses were performed;
 - d. the individual(s) who performed the analyses;
 - e. the analytical techniques or methods used;
 - f. the results of such analyses; and
 - g. quality assurance/quality control documentation.
3. When records are stored electronically, the records must be preserved in a manner that reasonably assures their integrity and is acceptable to the *Department*. Such records must also be in a format which is accessible to the *Department*.
4. The *owner or operator* shall make available to the *Department* for inspection and copying or furnish to the *Department* within twenty-five (25) business days of receipt of a *Department* request for such information, any information retained in accordance with this subdivision.

PART XVIII. SPECIAL CONDITIONS

A. Release of Hazardous Substances or Petroleum

1. This general permit does not authorize the *discharge* of hazardous substances (as listed in 6 NYCRR Part 597) or petroleum. The *discharge* of hazardous substances or petroleum in the stormwater *discharge(s)* from the *HVHF operation* shall be prevented or minimized in accordance with the *HVHF SWPPP*. Any spill of hazardous substances or petroleum must be reported in accordance with 6 NYCRR Part 750. Notification must be reported to the *Department* Hotline (1-800-457-7362). Where a release enters a *MS4*, the *owner or operator* shall also notify the owner of the *MS4* within two (2) hours of the time at which *HVHF*

- operation staff becomes aware of the release; and
2. Following any release incident, the *owner or operator* must evaluate the *HVHF SWPPP* to identify measures preventing recurrence and to improve the emergency response to such releases. The *HVHF SWPPP* must be modified, within five (5) calendar days.

Part XIX. HVHF PHASE COMPLETION

A. Notification

1. The *owner or operator* must notify the *Department* in writing within seven (7) calendar days when *Partial Site Reclamation* has been completed in accordance with Part VIII.A.5. of this general permit.
2. The *Partial Site Reclamation* form must be sent to the *HVHF* Stormwater Coordinator at the address provided below, as well as the appropriate Regional Water Engineer, at the address provided in Appendix C of this general permit:

HVHF Stormwater General Permit Coordinator
NYSDEC
Division of Water, Bureau of Water Permits
625 Broadway
Albany, NY 12233-3505

3. The form shall contain a certification from the *owner or operator* that the requirements of this Part of the general permit have been met and include a signed *Partial Site Reclamation* certification statement. This notification must be received by the *Department*, before the inspection and monitoring requirements of Parts XIV and XV of this general permit become effective.

PART XX. TERMINATION OR TRANSFER OF COVERAGE

A. Termination of General Permit Coverage

1. Termination Criteria
 - a. Coverage under this general permit may be terminated upon:
 - i. *Plugging and abandoning* of the wells in accordance with all applicable *Department* permits;
 - ii. Transfer of coverage under this general permit where all other conditions in this general permit for the transfer of coverage have been met; or
 - iii. Authorization for the *discharge* under an alternative *SPDES permit* or an individual *SPDES permit* in accordance with this general

permit.

2. Notice of Termination (NOT) Form - In accordance with the conditions of this general permit, the *owner or operator* of the *HVHF* operation may submit an NOT form that is signed in accordance with Part XXI.H. of this general permit.

The NOT must include the following information, as appropriate, in order to define the *HVHF* operation for which coverage under this general permit to *discharge* stormwater is terminated:

- a. Name, mailing address, location, and SPDES identification number of the *HVHF operation* for which the NOT is submitted. Where a street address for the *well site* is not available, the location of the approximate center of the *well site* must be described in terms of the latitude and longitude of the *HVHF* operation to the nearest fifteen (15) seconds;
- b. The name, address and telephone number of the *owner or operator* addressed by the NOT form;
- c. The *SPDES permit* number for the stormwater *discharge* associated with the *HVHF* operation identified by the NOT;
- d. Unless for a transfer of coverage, a certification of *plugging and abandonment* in accordance with all applicable *Department* permits and Part VIII.A.7. of this general permit, which must include provisions in accordance with Part IX.A.18. of this general permit for instances where *impervious* surfaces are being *reclaimed*.
- e. Unless for transfer of coverage, where *impervious* surfaces are not being *reclaimed*, a signed Post-Construction Stormwater Management Practice certification statement, for one of the following:
 - i. that the post-construction stormwater management practice(s) and any right-of- way(s) needed to maintain such practice(s) have been deeded to the *municipality* in which the practice(s) is located;
 - ii. that an executed maintenance agreement is in place with the *municipality* that will maintain the post-construction stormwater management practice(s);
 - iii. for post-construction stormwater management practices that are privately owned, that the *owner or operator* has modified, or caused to be modified, the deed of record to include a deed covenant that requires operation and maintenance of the practice(s) in accordance with the operation and maintenance plan; or
 - iv. for post-construction stormwater management practices that are owned by a public or private institution (e.g. school, college, university), or government agency or authority, that the *owner or*

operator has policy and procedures in place that ensures operation and maintenance of the practices in accordance with the operation and maintenance plan.

3. NOT forms are to be sent, using the forms provided by the *Department* to the address indicated on the forms which (as of the issuance date of this general permit) is:

HVHF Stormwater General Permit Coordinator
NYSDEC
Division of Water, Bureau of Water Permits
625 Broadway
Albany, NY 12233-3505

B. Transfer of General Permit Coverage

1. When ownership of the *well site* changes or when there is a change in *Operational Control* over the *HVHF* operations and/or construction plans and specifications, the original *owner or operator* must notify the new *owner or operator*, in writing, of the requirement to obtain general permit coverage by submitting a NOI with the *Department*. Once the new *owner or operator* obtains general permit coverage, the original *owner or operator* shall then submit a completed NOT with the name and permit identification number of the new *owner or operator* to the *Department* at the following address:

HVHF Stormwater General Permit Coordinator
NYSDEC
Division of Water, Bureau of Water Permits
625 Broadway
Albany, NY 12233-3505

2. General permit coverage for the new *owner or operator* will be effective as of the date the *Department* receives a completed NOI, provided the original *owner or operator* was not subject to a sixty (60) calendar day authorization period that has not expired as of the date the *Department* receives the NOI from the new *owner or operator*.

3. If the original *owner or operator* maintains ownership or control of a portion of the *HVHF* operation, the *owner or operator* must maintain their coverage under this general permit.

PART XXI. STANDARD GENERAL PERMIT CONDITIONS

A. Duty to Comply

The *owner or operator* must comply with all terms and conditions of this general permit. Any general permit noncompliance constitutes a violation of the *ECL* and *CWA* and is grounds for enforcement action, or appropriate action regarding an *HVHF* operation's coverage under this general permit. Upon a finding of significant non-compliance with

this general permit or the applicable *SWPPP*, the *Department* may order an immediate stop to all activities/operations at the site until the non-compliance is remedied. The stop work order shall be in writing, shall describe the non-compliance in detail, and shall be sent to the *owner or operator*.

B. Continuation of the Expired General Permit

This general permit shall expire five (5) years from its effective date. In the event a new general permit is not issued prior to termination of this general permit, then the *owner or operator* may continue to operate and *discharge* in accordance with the terms and conditions of this general permit until such time that a new general permit is issued. Unless otherwise notified by the *Department* in writing, an *owner or operator*, with coverage under this general permit, seeking authorization under the new SPDES general permit must submit a new NOI in accordance with the terms of such new SPDES general permit. Coverage for new owners or operators will not be accepted under the continued general permit.

C. Penalties for Violations of General Permit Conditions

Failure of the *owner or operator*, its contractors, subcontractors, agents and/or assigns, to strictly adhere to any of the general permit requirements contained herein shall constitute a violation of this general permit, and *ECL* Article 17. There are substantial criminal, civil, and administrative penalties associated with violating the provisions of this general permit. Fines of up to \$37,500 per day for each violation and imprisonment for up to fifteen (15) years may be assessed depending upon the nature and degree of the offense, and a violator may also be enjoined from continuing the activity

D. Need to Halt or Reduce Operation Not a Defense

It shall not be a defense for the *owner or operator* in an enforcement action that it would have been necessary to halt or reduce the covered operation in order to maintain compliance with the conditions of this general permit.

E. Duty to Mitigate

The *owner or operator* shall take all reasonable steps to minimize or prevent any *discharge* in violation of this general permit which has a reasonable likelihood of adversely affecting human health or the environment.

F. Duty to Provide Information

The *owner or operator* shall furnish to the *Department*, within a reasonable specified time, any information requested to determine compliance with this general permit or to determine whether cause exists for modifying or revoking this general permit, or suspending or denying coverage under this general permit, in accordance with the terms of this general permit.

The NOI, *SWPPP* and inspection reports required by this general permit are public documents that the *owner or operator* must make available for review and copying by any person within five (5) business of the *owner or operator* receiving a written request

by any such person to review the NOI, SWPPP or inspection reports. Copying of documents will be done at the requester's expense.

G. Other Information

When the *owner or operator* becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the NOI form or in any other report to the *Department*, he or she shall promptly submit corrected facts or information.

H. Signatory Requirements

All NOI forms, NOT forms, construction and *HVHF SWPPPs*, reports, certifications or information submitted to the *Department* (and/or the operator of a large or medium *MS4*), or records that this general permit requires to be maintained by the *owner or operator*, shall be signed as follows:

1. All NOI or NOT forms shall be signed as follows:
 - a. For a corporation: by a responsible corporate officer. For the purpose of this section, 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 (2) the manager of one or more manufacturing, production or operating facilities, provided, the manager is authorized to make management decisions which govern the *HVHF operation* of the regulated *HVHF operation* 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.
 - ii. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - iii. For a *municipality*, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall *HVHF operations* of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

2. All reports required by the general permit and other information requested by the *Department* shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to the *Department*.
 - b. The authorization specifies either an individual or a position having responsibility for the overall *HVHF* operation, such as the position of manager, *owner or operator*, superintendent, or position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (Thus a duly authorized representative may be either a named individual or any individual occupying a named position).
 - c. The written authorization shall include the name, title and signature of the authorized representative and be attached to the report or other information.
3. Changes to authorization - If an authorization under Part II.B. of this general permit is no longer accurate because a different individual or position has responsibility for the overall *HVHF operation*, letter notification satisfying the requirements above must be submitted to the *Department* prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification - Any person signing documents under this section shall make 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 submitted. Based on my inquiry of the *person or persons* who manage the system, or those persons directly responsible for gathering the information, the information submitted 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."
5. It shall constitute a violation of the general permit if an incorrect and/or improper signatory authorizes any required forms, reports or other documents."

I. Penalties for Falsification of Reports

Any person who knowingly makes any false material statement, representation, or certification in any application, record, report or other document filed or required to be maintained under this general permit, including reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$37,500, or by imprisonment for not more than two (2) years, or by both.

J. Penalties for Falsification of Monitoring Systems

Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this general permit shall, upon conviction, be punished by fines and imprisonment.

K. Oil and Hazardous Substance Liability

Nothing in this general permit shall be construed to preclude the institution of any legal action or relieve the *owner or operator* from any responsibilities, liabilities, or penalties to which the *owner or operator* is or may be subject under section 311 of the CWA or section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 ("CERCLA").

L. Property Rights

The issuance of this general permit does not convey any 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.

M. Severability

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

N. Requiring an Individual Permit or an Alternative General Permit

1. The *Department* may require any *discharger* authorized by this general permit to apply for and/or obtain either an individual *SPDES permit* or an alternative *SPDES* general permit in accordance with 6 NYCRR Part 750-1.21(e).
2. When the Department requires any *discharger* authorized by a general permit to apply for an individual *SPDES permit*, it shall notify the *discharger* in writing that a permit application is required. This notice shall include a brief statement of the reasons for this decision, an application form, a statement setting a time for the owner or the operator to file the application for an individual *SPDES permit*, and a deadline, not sooner than 180 calendar days from receipt of the *owner's or operator's* receipt of the notification letter, whereby the authorization to *discharge* under a *SPDES* general permit shall be terminated. The Department may grant additional time upon demonstration, to the satisfaction of the Regional Water Engineer, that additional time to apply for an alternative authorization is necessary or where the Department has not provided a permit determination in accordance with 6 NYCRR Part 621.
3. When an individual *SPDES permit* is issued to a *discharger* authorized to *discharge* under a general *SPDES permit* for the same *discharge(s)*, the general permit authorization for *outfalls* authorized under the individual permit is

automatically terminated on the effective date of the individual permit unless termination is earlier in accordance with 6 NYCRR Part 750.

O. State/Environmental Laws

Nothing in this general permit shall be construed to preclude the institution of any legal action or relieve the *owner or operator* 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. No condition of this general permit shall release the *owner or operator* from any responsibility or requirements under other environmental statutes or regulations.

P. Proper Operation and Maintenance

The *owner or operator* shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the *owner or operator* to achieve compliance with the conditions of this general permit and with the requirements of stormwater pollution prevention plans. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the *HVHF operation* of backup or auxiliary facilities or similar systems installed by an *owner or operator* when necessary to achieve compliance with the conditions of the general permit.

Q. Inspection and Entry

The *owner or operator* shall allow the *Department* or an authorized representative of EPA, the State, or, in the case of a *HVHF operation* which *discharges* through a *MS4*, an authorized representative of the *MS4* receiving the *discharge*, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the *owner's or operator's* premises where a regulated *HVHF operation* is located or conducted, or where records must be kept under the conditions of this general permit;
2. Have access to and copy at reasonable times any records that must be kept under the conditions of this general permit, including records required to be maintained for purposes of *HVHF* operation and maintenance;
3. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment), or *HVHF* operations regulated or required under the general permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring general permit compliance or as otherwise authorized by the Act or *ECL*, any substances or parameters at any location.

R. Permit Actions

This general permit may, at any time, be modified, revoked or renewed. The filing of a request for a general permit modification, revocation, reissuance, termination, or a notification of planned changes or anticipated non-compliance does not stay any general permit condition.

S. Other Permits

Nothing in this general permit relieves the *owner or operator* from a requirement to obtain any other permits required by law.

T. Transfer of Coverage under the General Permit

Coverage under this general permit is not transferable except as in compliance with this general permit.

U. Definitions

Definitions are included in Appendix A of this general permit.

APPENDIX A
Definitions & Acronyms

Definitions

Access road - means a road constructed to the wellsite that provides access during the drilling and operation of the well.

Additive (hydraulic fracturing fluid) - means a product composed of one or more chemical constituents that are added to a primary carrier fluid to modify its properties in order to perform one or more specific functions.

Aquifer - means a zone of permeable, water-saturated material below the surface of the earth capable of producing usable quantities of water.

Berm - means a structure meant to contain fluids within a defined area.

Best Management Practices (BMPs) - means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. BMPs also include treatment requirements (if determined necessary by the permittee), operating procedures, and practices to control plant site runoff, spillage and leaks, sludge or waste disposal, or drainage from raw material storage.

BTEX - is the term used for benzene, toluene, ethylbenzene, and xylene-volatile aromatic compounds typically found in petroleum product, such as gasoline and diesel fuel.

BUD - means a Beneficial Use Determination issued by NYSDEC's Division of Materials Management in accordance with 6 NYCRR 360-1.15.

CAS Number - means the Chemicals Abstract Service number, assigned by Chemical Abstracts Service, which is part of the American Chemical Society.

Casing - means steel pipe placed in a well.

Chemical (hydraulic fracturing fluid) means the individual constituents of any hydraulic fracturing additive. Most chemicals are assigned a unique numeric identifier which is referred to as a CAS Number (see CAS Number entry).

Closed loop drilling system - means a pitless drilling system where all drilling fluids and cuttings are contained at the surface within piping, separation equipment and tanks.

Comprehensive Stormwater Pollution Prevention Plan (SWPPP) - means the combined Construction SWPPP and HVHF SWPPP.

Construction Activity(ies) - means any clearing, grading, excavation, filling, demolition or stockpiling activities that result in soil disturbance. Clearing activities can include, but are not limited to, logging equipment operation, the cutting and skidding of trees, stump removal and/or brush root removal.

Construction phase - means the construction of access roads, wellpad, and other appurtenances.

Construction SWPPP - means the stand alone stormwater pollution prevention plan that includes best management practices and other requirements to control the pollution of stormwater during construction and post-construction.

Cuttings or samples - means chips of rock cut by the drill bit and brought to the surface by the drilling fluid. They indicate to the wellsite workers what kind of rocks are being penetrated and can also indicate the presence of oil or gas.

CWA 303d Listed Water - means a waterbody that is listed as an *impaired water*, whose designated uses are not fully supported, per Section 303(d) of the Federal Clean Water Act, which requires states to periodically assess and report on the quality of waters in their state. For these impaired waters/pollutants, states must consider the development of a *Total Maximum Daily Load (TMDL)* or other strategy to reduce the input of the specific pollutant(s) restricting waterbody uses, in order to restore and protect such uses.

Department - means the New York State Department of Environmental Conservation as well as meaning the Department's designated agent.

Discharge - means any addition of any pollutant to waters of the State through an outlet or point source.

Discharge Monitoring Report (DMR) - means a report submitted by the owner/operator to the department summarizing the effluent monitoring results obtained by the owner/operator over periods of time as specified in the SPDES permit.

Drilling fluid - means mud, water, or air pumped down the drill string which acts as a lubricant for the bit and is used to carry rock cuttings back up the wellbore. It is also used for pressure control in the wellbore.

Environmental Conservation Law (ECL) - means chapter 43-B of the Consolidated Laws of the State of New York, entitled the Environmental Conservation Law.

Final stabilization - means all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or other equivalent stabilization measures.

Floodplain - means the 100-year floodplain as defined by the Federal Emergency Management Agency (FEMA).

Flowback - means return of fluids, used in the stimulation process, to the surface.

Formation fluids means fluids in a liquid or gaseous physical state, present within the pore spaces, fractures, faults, caverns, or any other spaces of formations, whether or not naturally occurring or injected therein.

Freeboard - means the height above the recorded high-water mark of a structure designed to hold water. In the case of pits, freeboard is the extra depth left unused to prevent any chance of overflow.

Geomembrane - means the polymeric membrane (flexible membrane) that is manufactured to be essentially impermeable and is used to build containment pits.

Groundwater - means waters in the saturated zone. The saturated zone is a subsurface zone in which all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain gas-filled interstices or interstices filled with fluids other than water, it is still considered saturated.

High-Volume Hydraulic Fracturing (HVHF) means hydraulic fracturing using greater than 300,000 gallons of water cumulatively in the HVHF Phase.

High-Volume Hydraulic Fracturing Activities (HVHF Activities) - means those activities as identified in Part X of the HVHF General Permit, including well drilling, storage, mixing, handling and use of chemicals, fueling and storage of vehicles, employee housing, cement mixing, lumber storage, impoundment construction, piping and other activities necessary to complete wells and produce gas for distribution.

High-Volume Hydraulic Fracturing Phase (HVHF Phase) - means 1) the phase between the construction project completion and the Production Phase; and 2) any subsequent restimulation event. This includes well drilling, high-volume hydraulic fracturing, well stimulation and on-site handling and treatment of return flow.

High-Volume Hydraulic Fracturing Operations (HVHF Operations) - means: 1) Construction Phase; 2) HVHF Phase; and 3) the Production Phase.

HVHF general permit - means a SPDES permit issued pursuant to section 750-3.21 of this Part.

HVHF SPDES permit - means an individual or general SPDES permit for HVHF activities.

HVHF SWPPP- means the stormwater pollution prevention plan required by a SPDES permit that includes structural and non-structural best management practices and other requirements to control the pollution of stormwater during the HVHF Phase and the Production Phase.

High-density polyethylene (HDPE) - means a polyethylene plastic that is resistant to most chemicals, insoluble in organic solvents, and has high impact and tensile strength.

Horizontal drilling - means the deviation of the borehole from vertical so that the borehole penetrates a productive formation in a manner parallel to the formation.

Hydraulic fracturing- means the injection of fluids under pressure into a well in order to induce fractures in the target formation. *Proppant* which may be injected with the fluid holds the fractures open when the fluid is withdrawn. The procedure increases permeability of the rock near the wellbore and improves production.

Hydrocarbon development - means the activity associated with the siting, drilling, casing, cementing, stimulation and completion of wells, including but not limited to unconventional natural gas development wells, undertaken for the purpose of extraction of liquid or gaseous hydrocarbon from geologic formations.

Impaired Water - a water is impaired if it does not meet its designated use(s). For purposes of this permit 'impaired' refers to threatened and impaired waters in categories 4a (those for which TMDLs have been established), 4b (those for which existing controls such as permits are expected to resolve the impairment), and 5 (those needing a TMDL) of a state's or tribe's integrated report on water quality. Impaired waters compilations are also sometimes referred to as 303(d) lists; 303(d) lists generally include only waters for which TMDLs have not yet been developed. States will generally have associated, but separate lists of impaired waters for which TMDLs have already been established.

Impervious Area (Cover) - means all impermeable surfaces that cannot effectively infiltrate rainfall. This includes paved, concrete and gravel surfaces (i.e. parking lots, driveways, roads, runways and well pads); building rooftops and miscellaneous impermeable structures such as tanks, reserve pits, impoundments, and sheds.

Individual SPDES Permit - means an SPDES "permit" issued to a single facility in one location in accordance with this Part (as distinguished from a general SPDES permit).

Municipality -means any county, town, city, village, district corporation, special improvement district, sewer authority or agency thereof.

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):

- 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;
- 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.

National Pollutant Discharge Elimination System (NPDES) - means the national system for the issuance of wastewater and stormwater permits under the Federal Water Pollution Control Act (Clean Water Act).

Naturally Occurring Radioactive Materials (NORM) - means the radioactivity that can exist naturally in native materials, like some shales and may be present in certain wastes from a well.

No exposure - all industrial materials or activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff.

NOI Acknowledgment Letter - means the letter that the Department sends to an owner or operator to acknowledge the Department's receipt and acceptance of a complete Notice of Intent. This letter documents the owner's or operator's authorization to discharge in accordance with the HVHF General Permit.

Operational control - means authorization to make management decisions governing the HVHF operations.

Outfall - means the terminus of a sewer system, or the point of emergence of any waterborne sewage, industrial waste or other wastes or the effluent therefrom, into the waters of the state.

Owner/Operator - means the person, persons or legal entity which owns or leases the property on which the HVHF operations are occurring; and/or an entity that has operational control over the HVHF operations, including the ability to make modifications to the operations and authorization to make management decisions to assure long-term environmental compliance with environmental laws and regulations.

Partial site reclamation - has occurred after all planned wells at the well pad have been completed and a Department inspector verifies that the drilling/fracturing equipment has been removed; pits used for those operations have been reclaimed and surface disturbances not associated with production activities have been scarified or ripped to alleviate compaction prior to replacement of topsoil. Reclaimed areas must be seeded and mulched after topsoil replacement and vegetative cover reestablished that will ultimately return the site to pre-construction conditions.

Person or persons - means any individual, public or private corporation, political subdivision, government agency, municipality, partnership, association, firm, trust, estate or any other legal entity whatsoever.

Plugged and abandoned (plug and abandon) - means to permanently close a well with cement plugs.

Point source - means 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, vessel or other floating craft, or landfill leachate collection system from which pollutants are or may be discharged.

Pollutant - means dredged spoil, filter backwash, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand and industrial, municipal, agricultural waste and ballast discharged into water; which may cause or might reasonably be expected to cause pollution of the waters of the state in contravention of the standards or guidance values adopted as provided in Parts 700 et seq of this Title.

Primary/Principal aquifers –

- (i) *Primary aquifers* are highly productive aquifers presently being utilized as sources of water supply by major municipal water supply systems.
- (ii) *Principal aquifers* are aquifers known to be highly productive or whose geology suggests abundant potential water supply, but which are not intensively used as sources of water supply by major municipal systems at the present time.

Product - means a material a hydraulic fracturing fluid that is manufactured using precise amounts of specific chemicals and is assigned a commercial name under which the material is sold or utilized.

Production brine - means water or formation fluids containing appreciable amounts of sodium chloride (NaCl) and/or other salts recovered at the wellhead of a producing hydrocarbon well as a byproduct of the production activity, which may contain additives used in HVHF operations or NORM.

Production casing - means casing set above or through the producing zone through which the well produces.

Production phase - means the phase after the HVHF Phase through termination of coverage under the HVHF general permit. This phase begins when the HVHF phase has been completed for all wells planned for that well pad and partial site reclamation has been completed.

Proppant - means a granular substance (sand grains, aluminum pellets, or other materials) that is carried in suspension by the fracturing fluid and that serves to keep the cracks open when fracturing fluid is withdrawn after a fracture treatment.

Qualified Inspector- means a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or other Department endorsed individual(s).

It can also mean someone working under the direct supervision of, and at the same company as, the licensed Professional Engineer or Registered Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means that the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the individual working under the direct supervision of the licensed Professional Engineer or Registered Landscape Architect shall receive four (4) hours of training every three (3) years.

It can also mean a person that meets the *Qualified Professional* qualifications in addition to the *Qualified Inspector* qualifications.

Note: Inspections of any post-construction stormwater management practices that include structural components, such as a dam for an impoundment, shall be performed by a licensed Professional Engineer.

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 BMPs.

Qualified Professional - means a person that is knowledgeable in the principles and practices of stormwater management and treatment, such as a licensed Professional Engineer, Registered Landscape Architect or other Department endorsed individual(s).

Individuals preparing SWPPPs that require the post-construction stormwater management practice component must have an understanding of the principles of hydrology, water quality management practice design, water quantity control design, and, in many cases, the principles of hydraulics in order to prepare a SWPPP that conforms to the Department's technical standard. All components of the SWPPP that involve the practice of engineering, as defined by the NYS Education Law (see Article 145), shall be prepared by, or under the direct supervision of, a professional engineer licensed to practice in the State of New York.

Reclaimed/Reclamation - means the rehabilitation of a disturbed area to make it acceptable for designated uses. This normally involves regrading, replacement of topsoil, re-vegetation, and other work necessary to restore the site to pre-construction conditions.

Reserve pit - means a mud pit in which a supply of drilling fluid has been stored, or a waste pit, usually an excavated pit. It may be lined to prevent soil contamination.

Reservoir - means a waterbody designated for use as a dedicated public water supply and is classified as an A or AA in its entirety, per 6NYCRR 10 Parts 800-941.

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.

State - means the State of New York.

State Pollutant Discharge Elimination System (SPDES) - means the system established pursuant to Article 17 of the ECL and this Part for issuance of permits authorizing discharges to the waters of the state.

Stimulation - means the act of increasing a well's productivity by artificial means such as hydraulic fracturing, acidizing, shooting, etc.

Storage - means the holding of a material, container or equipment at a site, not including the amount of material brought to the site for immediate use.

Stormwater - means that portion of precipitation that, once having fallen to the ground, is in excess of the evaporative or infiltrative capacity of soils, or the retentive capacity of surface features, which flows or will flow off the land by surface runoff to waters of the state.

TDS means Total Dissolved Solids.

Total Maximum Daily Loads (TMDLs) - A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. It 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 stipulates wasteload allocations (WLAs) for point source discharges, load allocations (LAs) for nonpoint sources, and a margin of safety (MOS).

Temporary Stabilization - means that exposed soil has been covered with material(s) as set forth in the technical standard, New York Standards and Specifications for Erosion and Sediment Control, to prevent the exposed soil from eroding. The materials can include, but are not limited to, mulch, seed and mulch, and erosion control mats (e.g. jute twisted yarn, excelsior wood fiber mats).

Trained Contractor - means an employee from the contracting (construction) company, identified in Part III.B.4., that has received four (4) hours of Department endorsed training in proper erosion and sediment control principles from a Soil and Water Conservation District, or other Department endorsed entity. After receiving the initial training, the *trained contractor* shall receive four (4) hours of training every three (3) years.

Unfiltered surface water supplies - means those public water supplies that the USEPA and New York State Department of Health have determined meet the requirements of the "Interim Enhanced Surface Water Treatment Rule" (IESWT Rule) for unfiltered water supply systems. The IESWT Rule is a December 16, 1998 amendment to the Surface Water Treatment Rule that was originally promulgated by EPA on June 29, 1989. In New York State, this includes the New York City Drinking Water Supply Watershed and the Skaneateles Drinking Water Supply Watershed.

Waters or Waters of the State - shall be construed to include lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic ocean within the territorial seas of the state of New York and all other bodies of surface or underground water, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters that do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction. Waters of the state are further defined in 6 NYCRR Parts 800 to 941.

Water Quality Standard - means such measures of purity or quality for any waters in relation to their reasonable and necessary use as promulgated in 6 NYCRR Part 700 et seq.

Watershed - means an area of land that drains into a body of water, such as a river, lake, reservoir, estuary, sea or ocean.

Well pad - means the area directly disturbed during drilling and operation of a gas well.

Well Site - means the well pad and access roads, equipment storage and staging areas, vehicle turnarounds, and any other areas directly or indirectly impacted by activities involving a well.

Wellbore - means a borehole; the hole drilled by the bit. A wellbore may have casing in it or it may be open (uncased); or part of it may be cased, and part of it may be open.

Wellhead - means the equipment installed on the wellbore at the ground surface. A wellhead includes such equipment as the casing head and tubing head.

ACRONYMS

API - American Petroleum Institute
BAT – Best Available Technology Economically Achievable
BPT – Best Practicable Technology Currently Available
BOD5 – Biochemical Oxygen Demand (5-day test)
BMP – Best Management Practice
CBS - Chemical Bulk Storage
COD – Chemical Oxygen Demand
CWA – Clean Water Act (or Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq)
DMR – Discharge Monitoring Report
ECL - Environmental Conservation Law
ELG – Effluent Limitations Guidelines
EPA – U. S. Environmental Protection Agency
EPCRA – Emergency Planning and Community Right-to-Know Act
HVHF – High Volume Hydraulic Fracturing
MDL - Method Detection Limit
MGD – Million Gallons per Day
MS4 – Municipal Separate Storm Sewer System
MSGP – Multi-Sector General Permit
NOIT – Notice of Intent or Termination
NORM – Naturally Occurring Radioactive Material
NPDES – National Pollutant Discharge Elimination System
NRC – National Response Center
NTU – Nephelometric Turbidity Unit
NYCRR – New York Code of Rules and Regulations
OPRHP – (New York State) Office of Parks, Recreation and Historic Preservation
PBS - Petroleum Bulk Storage
PQL - Practical Quantification Limit
RCRA – Resource Conservation and Recovery Act
RQ – Reportable Quantity
SWQRA – State Environmental Quality Review Act
SIC – Standard Industrial Classification
SPCC – Spill Prevention, Control, and Countermeasure
SPDES – State Pollutant Discharge Elimination System
SWPPP – Stormwater Pollution Prevention Plan
TMDL – Total Maximum Daily Load
TSS – Total Suspended Solids
UPA – Uniform Procedures Act
USGS – United States Geological Survey

APPENDIX B

Secondary Containment

Each covered entity performing high-volume hydraulic fracturing in New York State shall provide secondary containment to containers, tanks, vessels, piping, transfer stations and conveyances be utilized, regardless of volume capacity or duration on site, as identified in the HVHF General Permit. The secondary containment, such as dikes or portable containers, shall have sufficient capacity to contain a spill (the greatest of ten percent (10%) of the total enclosed tank volume or 110 percent (110%) of the volume contained in the largest tank).

The covered entity shall comply with the following BMPs:

- a. Spill Cleanup - All spilled or leaked substances must be removed from secondary containment systems as soon as practical, but no later than 24 hours of the owner or operator discovering the spill, unless authorization is received from the Department. This permit does not relieve the owner or operator of any reporting or other requirement related to spills or other releases of petroleum or hazardous substances. [Also See Part XVIII.A (Special Conditions) regarding releases of hazardous substances or petroleum.] The containment system must be thoroughly cleaned to remove any residual contamination which could cause contamination of stormwater and the resulting discharge of pollutants to waters of the State. Following spill cleanup the affected area must be completely flushed with clean water three times and the water removed after each flushing for proper disposal in an on-site or off-site wastewater treatment plant designed to treat such water and permitted to discharge such wastewater. Alternately, the owner or operator may test the first batch of stormwater following the spill cleanup to determine discharge acceptability. If the water contains no pollutants it may be discharged, otherwise it must be disposed of as noted above. (See the Discharge Monitoring section below for the list of parameters to be sampled for.)
- b. Discharge Operation - Stormwater must be removed before it compromises the required containment system capacity. Each discharge may only proceed with the prior approval of the site representative responsible for ensuring SPDES permit compliance. Chemical storage secondary containment drainage systems must be locked in a closed position except when the

owner or operator is in the process of draining accumulated stormwater. Transfer area secondary containment drainage systems must be locked in a closed position during all transfers and must not be reopened unless the transfer area is clean of contaminants. Stormwater discharges from secondary containment systems should be avoided during periods of precipitation. A logbook shall be maintained on site noting the date, time and personnel supervising each discharge.

- c. Recycling – Stormwater in secondary containment systems may be recycled by the operators wherever possible, as a means to reduce polluted containment stormwater from leaving the site.
- d. Discharge Screening - Prior to each discharge from a secondary containment system the stormwater must be screened for contamination. (Note: All storm water must be inspected for visible evidence of contamination.) The owner or operator must collect and analyze a representative sample of the stormwater. If the water contains no pollutants, the stormwater may be discharged. Otherwise it must either be disposed of in an onsite or off-site wastewater treatment plant designed to treat and permitted to discharge such wastewater.
- e. Discharge Monitoring - Unless the discharge from any containment system outlet is permitted by an individual SPDES permit as an outfall with explicit effluent and monitoring requirements, the owner or operator shall monitor the outlet as follows: (1) Storage Area Secondary Containment Systems - The volume of each discharge from each outlet must be monitored. Discharge volume may be calculated by measuring the depth of water within the containment area times the wetted area converted to gallons or by other suitable methods.
- f. Discharge Reporting - Any results of monitoring required above must be maintained with the facility's SWPPP and retained in accordance with Part XII. Failure to perform the required monitoring shall constitute a violation of the terms of this permit. Any discharge monitoring results exceeding the benchmarks in the applicable sections of this Permit shall be reported to the Department's Regional Office. (see Appendix C for addresses of DEC Regional Offices)

g. Prohibited Discharges - In all cases, any discharge which contains a visible sheen, foam, or odor, or may cause or contribute to a violation of water quality is prohibited.

APPENDIX C

List of DEC Regional Offices

| Region | Covering the following counties: | DIVISION OF ENVIRONMENTAL PERMITS (DEP) Permit Administrators | DIVISION OF WATER (DOW) Water (SPDES) Program |
|--------|--|---|---|
| 1 | Nassau and Suffolk | SUNY @ Stony Brook 50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0365 | SUNY @ Stony Brook 50 Circle Road Stony Brook, NY 11790-3409 Tel. (631) 444-0405 |
| 2 | Bronx, Kings, New York, Queens and Richmond | 1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4997 | 1 Hunters Point Plaza, 47-40 21st St. Long Island City, NY 11101-5407 Tel. (718) 482-4933 |
| 3 | Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester | 21 South Putt Corners Road New Paltz, NY 12561-1696 Tel. (845) 256-3059 | 100 Hillside Ave., Suite 1W Whiteplains, NY 10603-2860 Tel. (914) 428-2505 |
| 4 | Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady and Schoharie | 1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2069 | 1130 North Westcott Road Schenectady, NY 12306-2014 Tel. (518) 357-2045 |
| 5 | Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, Warren and Washington | 1115 NYS Route 86, PO Box 296 Ray Brook, NY 12977-0296 Tel. (518) 897-1234 | 232 Golf Course Road, PO Box 220 Warrensburg, NY 12885-0220 Tel. (518) 623-1200 |
| 6 | Herkimer, Jefferson, Lewis, Oneida and St. Lawrence | State Office Building 317 Washington Street Watertown, NY 13601-3787 Tel. (315) 785-2245 | State Office Building 207 Genesee Street Utica, NY 13501-2885 Tel. (315) 793-2554 |
| 7 | Broome, Cayuga, Chenango, Cortland, Madison, Onondaga, Oswego, Tioga and Tompkins | 615 Erie Blvd. West Syracuse, NY 13204-2400 Tel. (315) 426-7438 | 615 Erie Blvd. West Syracuse, NY 13204-2400 Tel. (315) 426-7500 |
| 8 | Chemung, Genesee, Livingston, Monroe, Ontario, Orleans, Schuyler, Seneca, Steuben, Wayne and Yates | 6274 East Avon-Lima Road Avon, NY 14414-9519 Tel. (585) 226-2466 | 6274 East Avon-Lima Rd. Avon, NY 14414-9519 Tel. (585) 226-2466 |
| 9 | Allegany, Cattaraugus, Chautauqua, Erie, Niagara and Wyoming | 270 Michigan Avenue Buffalo, NY 14203-2999 Tel. (716) 851-7165 | 270 Michigan Ave. Buffalo, NY 14203-2999 Tel. (716) 851-7070 |