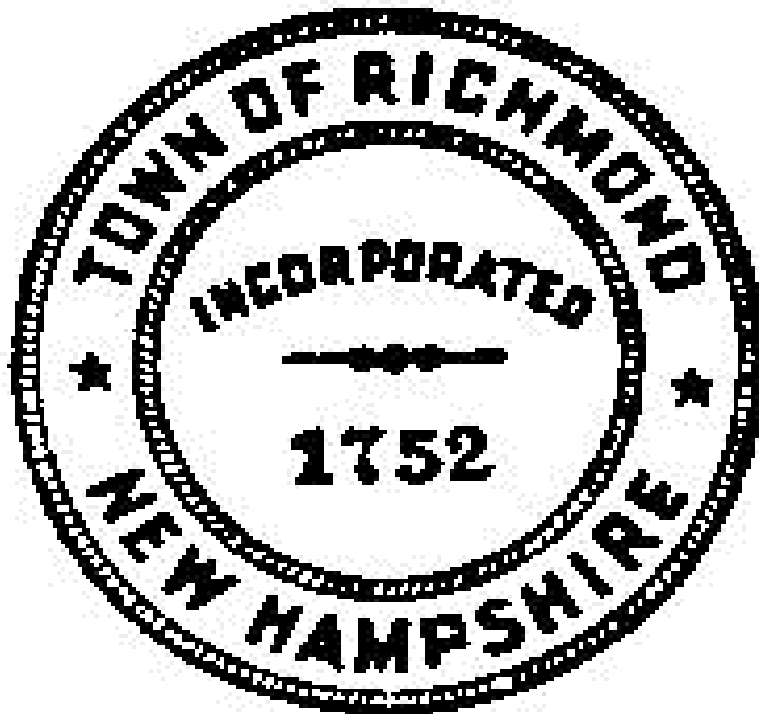


**TOWN OF RICHMOND
NEW HAMPSHIRE**

**BLASTING AND HEAVY CONSTRUCTION
ACTIVITIES REGULATION**

2018



October 2018

Section 1 – Introduction

Pursuant to the authority conferred by chapter 674:43 of the New Hampshire Revised Statutes, the Town of Richmond Planning Board supplements the Town's Site Plan Review Regulations, with this Blasting and Heavy Construction Activities Regulation, to be administered by the Richmond Planning Board in conjunction with the Town's Site Plan Review Regulations review process, and these regulations shall be considered part of the Site Plan Review Regulations for purposes of administration and appeals. If any provision of these regulations differs or conflicts with any provision of the Site Plan Review Regulations or other ordinances or regulations, the provision imposing the greater restriction or more stringent standard shall be controlling.

These Blasting and Heavy Construction Activities Regulations are intended for any construction project, subject to a formal Site Plan Review, that involve significant earth moving or excavation, to include large blasting efforts. These Blasting and Heavy Construction Activities Regulations are not applicable to projects involving less than 25,000 cubic yards of excavation or earth moving, and where less than four acres are disturbed. They are designed to prevent adverse impact to the Town's natural resources, prevent damage to the Town's infrastructure, and facilitate mitigation where necessary.

1.1 Definitions

- 1. Contractor:** The prime contractor directly responsible for the work. The contractor is responsible for all work performed by any subcontractors, including blasting subcontractors, conducted as part of the project.
- 2. Town:** The Town of Richmond.
- 3. Town Agents:** Duly authorized third party agents representing the Town. The Town Agents will be responsible for quality assurance to ensure compliance with all submittals presented during site plan review, and shall be permitted access to all areas of work to verify compliance to the Blasting and Heavy Construction Activities Regulations set forth herein during all times of construction. The Town Agent will be hired by the Town of Richmond, but will be paid for by the Contractor as part of bonding to the Town of Richmond prior to site plan review approval.
- 4. Abutter:** Any owner of property that adjoins or is directly across the street or stream from the land where work will be conducted as part of the project. For instances of blasting, abutters also include owners of any structures or water wells within 400 feet of the blasting area.

1.2 Submittals

All submittals indicated in this regulation, as listed in Appendix A submittal checklist, shall be provided to the Town for review and approval as part of site plan review.

1.3 Legal Authority and References

Below is a list of additional authority which allows the Town of Richmond to adopt by-laws to regulate local site planning and construction activities that may impact health, safety, roads and neighboring land uses. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

New Hampshire Department of Environmental Services (NHDES) WD-10-12

RSA Chapter 155-E (Local Regulation Excavation)

RSA 31:39 (Power to Make By-laws)

RSA 79 (Timber)

RSA 147 (Nuisances; Toilets; Drains; Expectoration; Rubbish and Waste)

RSA 674:43 (Site Plan Review Regulations)

Section 2 – Blasting

There are two documents governing blasting in New Hampshire. Both are applicable in the Town of Richmond. They deal with Water Quality as it may be impacted by blasting: NHDES - WD-10-12 (Rock Blasting and Water Quality Measures That Can Be Taken To Protect Water Quality and Mitigate Impacts); and Safety Administrative Rule Saf-C 1600 (Explosives) which is a family of rules that support Statutory Authority: RSA 158:9-f; 21-P:14, II(e). This rule set deals with safety concerns related to blasting related to construction and mining (aggregate/dimensional stone).

With few exceptions (these exceptions will be noted) the above cited rules and regulations will be used by the Town of Richmond while dealing with Site Planning Review and Management (permitting and oversight process). Refer to Appendix B for these best management practices (BMP).

2.1 Town Emergency Service Safety Requirements

The Contractor shall be responsible to meet the following Richmond Police and Fire Department blasting safety requirements:

1. Create and distribute an anticipated blasting schedule with a minimum 72 hours' advanced notice. At a minimum, this schedule shall be shared with the Richmond Police and Fire Departments, the Town Board of Selectmen and Administrator's offices, the Richmond Road Agent, and all abutters within 400 ft of planned operations by certified mail no return receipt requested.
2. No blasting activities shall take place except during non-holiday weekday (Monday through Friday) hours of 9am and 5pm. The following legal holidays shall be observed: January 1st, last Monday of May, July 4th, 1st Monday of September, fourth Thursday of November, or December 25th. When one of the above designated legal holidays falls on a Sunday, the following Monday will be observed as a legal holiday. When a legal holiday falls on a Saturday, the preceding Friday is observed as a holiday.
3. Requests for approval to perform work at other times shall be made in writing to the Town with a minimum seven (7) days advanced notice.
4. Coordination of Police and Fire Details for necessary road closures shall be the responsibility of the Contractor and shall not proceed until approval is granted.
5. Temporary warning signage against the use of mobile radio transmitters on all roads shall be posted within 300 feet of the approved blasting operations at regular intervals sufficient to warn the public.

2.2 Seismic Monitoring

The geology of a given area dictates how blasting will affect groundwater wells and infrastructure. US Geological Survey (USGS) data collected in the vicinity of Richmond indicate that the underlying bedrock formations are composed primarily of granite, shist, and other metapelites. Given the high transmissivity of these types of rock, 400 feet was chosen as a reasonable distance of seismic influence from blasting areas.

During all instances of blasting, the Contractor will monitor ground vibrations at the nearest structure or water well within 400 feet of the work. Seismograph equipment will be used to measure the peak particle velocity ("PPV") of all blasts on a tri-axial basis (vertical, horizontal, and longitudinal directions). Seismic monitoring may be discontinued at any given location only if the blasting schedule and blasting performance consistently produce PPVs at the blast site that are lower than the maximum allowable limit. The Contractor will be responsible for PPV measurement in the presence of the Town Agent, at the Town Agent's discretion.

Refer to Saf-C 1625.04 Vibration Limits. The PPV will be measured at any blasting location within 400 feet of water wells and potable springs. Additionally, testing of water wells within 400 feet of the construction workspace where granted, both before and after construction, for water quantity and quality parameters.

1. A Blasting Log Record will be completed immediately after each blast. The log should include all of the required information noted in Saf-C 1607.03 (Record Keeping), to include print-outs of vibration measurements.
2. Pre-blasting inspections must follow the requirements documented in Saf-C 1607.05 (Pre-Blast Inspection).
3. The Blasting Contractor shall ensure all blasting meets best management practices, including conformance to the vibration limits set forth in Table 1625.1. His record keeping shall indicate all instances where these vibration limits were exceeded. At his discretion, the Blasting Inspector will verify conformance.
4. At the request of the Contractor or an abutting landowner, a Town Agent will inspect structures and wells within 400 feet of the construction work area prior to blasting. Post-blast inspections will be performed as warranted in order to evaluate any damage complaints associated with construction activities, including blasting.

Section 3 – Well Water Quality

Abutter owned water wells within 400 feet of any blasting area shall have water quality and recovery rate testing performed by the Contractor, at the discretion of the Town and Abutter, and in the presence of a Town Agent. Baseline testing shall be performed prior to the start of construction activities, and again immediately after construction is completed. Temporary water turbidity due to blasting may require additional testing over time, once the blasting has been completed, to ensure baseline levels return.

Testing of well water should include the following contaminants: metals, gases and chemical agents present in the area, metals, gases, and chemical agents that form the composition of explosives that were used to blast, and well water recovery rate. Recovery rate testing may be performed via rising head test, or other methods as approved during site plan review. Testing shall also include cursory video documentation of the structural integrity of the full length of the well via a down-hole camera.

If well damage is sustained in the form of impaired water quality, recovery rate, or loss of structural integrity, the Contractor shall be responsible for compensation agreeable to the Contractor, the Town, and the Abutter.

In the unlikely event that structural damage occurs at a nearby structure as a result of construction activities, the owner will be compensated for damages or appropriate repairs will be made.

Section 4 – Environmental Protection Requirements

Environmental pollution and damage is the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the environment aesthetically, culturally and/or historically.

Environmental protection is the prevention and control of pollution and habitat disruption that may occur to the environment during construction. The control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

Contractor generated hazardous waste is defined as all materials that, if abandoned or disposed of, may meet the definition of a hazardous waste. These waste streams would typically consist of material brought on site by the Contractor to execute work, but are not fully consumed during the course of construction. Examples include, but are not limited to, excess paint thinners (i.e. methyl ethyl ketone, toluene etc.), waste thinners, excess paints, excess solvents, waste solvents, excess pesticides, contaminated pesticide equipment rinse water, cleaners and waste water.

Wetlands are defined as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, and bogs. In the instance where discrepancies over wetland boundaries exist, determination shall be made utilizing methodology presented in the US. Army Corps of Engineers Wetland Delineation Manual (Technical Report Y-87-1), or updated version.

The Contractor shall minimize environmental pollution and damage that may occur as the result of construction operations. The environmental resources within the project boundaries and those affected outside the limits of permanent work must be protected during the entire duration of construction. The Contractor shall comply with all applicable environmental Federal, State, and local laws and regulations. Any delays resulting from failure to comply with environmental laws and regulations will be the Contractor's responsibility.

No requirement in this section will relieve the Contractor of any applicable Federal, State, and local environmental protection laws and regulations. During construction, the Contractor will be responsible for identifying, implementing, and submitting for approval any additional

requirements to be included in the Environmental Protection Plan. In addition to those set forth in other sections contained herein, the following specific environmental requirements shall be met.

3.1 Environmental Protection Plan

Prior to mobilizing anywhere within the Town, the Contractor shall submit an Environmental Protection Plan as part of site plan review. The purpose of the Environmental Protection Plan is to present a comprehensive overview of known or potential environmental issues which the Contractor must address during construction. Issues of concern must be defined within the Environmental Protection Plan as outlined in this section. Address each topic at a level of detail commensurate with the environmental issue and required construction task(s). Topics or issues which are not identified in this section, but are considered necessary, must be identified and discussed after those items formally identified in this section. Prior to submittal of the Environmental Protection Plan, the Contractor shall meet with a Town Agent for the purpose of discussing the implementation of the initial Environmental Protection Plan; possible subsequent additions and revisions to the plan including any reporting requirements; and methods for administration of the Contractor's Environmental Plans. The Environmental Protection Plan must be current and maintained onsite by the Contractor.

The environmental protection plan shall include at a minimum the following, as appropriate for the project:

- a. Name(s) and contact information of person(s) within the Contractor's organization who is (are) responsible for ensuring adherence to the Environmental Protection Plan.
- b. Name(s), contact information and qualifications of person(s) responsible for manifesting hazardous waste to be removed from the site, if applicable.
- c. Name(s), contact information and qualifications of person(s) responsible for training the Contractor's environmental protection personnel.
- d. Description of the Contractor's environmental protection personnel training program.
- e. An erosion and sediment control plan which identifies the type and location of the erosion and sediment controls to be provided. The plan shall include monitoring and

reporting requirements to assure that the control measures are in compliance with the erosion and sediment control plan, Federal, State, and local laws and regulations.

- f. Drawings showing locations of proposed temporary excavations or embankments for haul roads, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials, including methods to control runoff and to contain materials on the site.
- g. Traffic control measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plan shall include measures to minimize the amount of mud transported onto paved public roads by vehicles or runoff including details.
- h. Work area plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas including methods for protection of features to be preserved within authorized work areas.
- i. Include a spill control plan to document the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by 40 CFR 68, 40 CFR 302, 40 CFR 355, and/or regulated under State or Local laws and regulations. The Spill Control Plan shall include, as a minimum:
 - 1. The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. If a reportable quantity is released to the environment, this individual will immediately notify the Town and the Town Fire Department in addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-800-424-8802). Include in the plan a list of the required reporting channels and telephone numbers. Information shall also be provided for a second individual in the event that the first individual is not responding.
 - 2. The name, contact information and qualifications of the individual who will be responsible for implementing and supervising the containment and cleanup.
 - 3. Training requirements for Contractor's personnel and methods of accomplishing the training.

4. A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.
 5. The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material-placement equipment available in case of an unforeseen spill emergency.
 6. The methods and procedures to be used for expeditious contaminant cleanup.
- j. A non-hazardous solid waste disposal plan identifying methods and locations for solid waste disposal. The plan shall include schedules for disposal. The Contractor shall identify any subcontractors responsible for the transportation and disposal of solid waste. Licenses or permits shall be submitted for solid waste disposal sites that are not a commercial operating facility. Evidence of the disposal facility's acceptance of the solid waste shall be attached to this plan during the construction.
 - k. Sanitation plan to provide portable toilets/restrooms in a number sufficient for the size of the workforce, ensuring these facilities will be serviced at least weekly. Sanitation spills are to be addressed immediately by the Contractor.
 - l. A recycling and solid waste minimization plan with a list of measures to reduce consumption of energy and natural resources. Detail in the plan the Contractor's actions to comply with and to participate in Federal, State, Regional, and local government sponsored recycling programs to reduce the volume of solid waste at the source.
 - m. An air pollution control plan detailing provisions to assure that dust, debris, materials, trash, etc., do not become air borne and travel off the project site.
 - n. A contaminant prevention plan that: identifies potentially hazardous substances to be used on the job site; identifies the intended actions to prevent introduction of such materials into the air, water, or ground; and details provisions for compliance with Federal, State, and local laws and regulations for storage and handling of these materials. A copy of the Material Safety Data Sheets (MSDS) and the maximum quantity of each hazardous material to be onsite at any given time must be included in the contaminant prevention plan. Update the plan as new hazardous materials are brought onsite or removed from the site.

- o. A waste water management plan that identifies the methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as clean-up water.

- p. A historical, archaeological, cultural resources, biological resources and wetlands (including stratified drift aquifer) plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands including stratified drift aquifer known to be on the project site, and/or identifies procedures to be followed if historical archaeological, cultural resources, biological resources and water resources including stratified drift Aquifer not previously known to be onsite or in the area are discovered during construction. Include in the plan methods to assure the protection of known or discovered resources, identifying lines of communication between Contractor personnel, the Town, and Town Agents.

3.2 Site Condition Documentation

Prior to start of any mobilization within town limits, the Contractor and Town Agents will make a joint condition survey of all locations impacted by proposed work. Immediately following the survey, the Contractor will prepare a brief report including a plan describing the features requiring protection, which are not specifically identified on the drawings, as environmental features requiring protection along with the condition of trees, shrubs and grassed areas immediately adjacent to the sites of work, and adjacent to the Contractor's assigned storage areas and access routes, as applicable. This survey report will be signed by both the Contractor and Town Agents upon mutual agreement as to its accuracy and completeness. The Contractor must protect those environmental features included in the survey report and any indicated on the drawings, regardless of interference which their preservation may cause to the work under the contract.

3.3 Tree Removal

Removal of trees within proposed work limits must be identified before mobilization during the site condition documentation process. All tree removal shall comply with the following:

- 1. The work areas that are to be cleared will be photographed. GPS and camera metadata will be used to document the date, time and location of the photograph.

2. The data captured in item one above will be used to determine the species and relative maturity of the trees that are to be removed, and document this information as part of the site condition documentation survey report.
3. The Contractor shall be responsible for restitution, up to ten times the stumpage value, of any timber harvested on lands owned by Abutters.
4. All tree removal shall comply with the timber harvesting requirements set-forth in New Hampshire RSA 79, including submission of a Form PA-7 to the Town.
5. **Stumps and brush** shall be allowed to be buried or stored on site so long as the stumps and tree parts are buried in a manner to preclude the development of sink hole and erosion of cover materials and will be protective of the environment, public health and safety. The burial or storage will be performed in accordance with all local, state and federal regulations. The site plan and property deed will provide:
 - a. A statement that the property has been used for the disposal of stumps and tree parts;
 - b. The date the activity took place:
 - c. The location of the burial areas(s) with sufficient specificity as to allow an independent third party to locate the area(s); and
 - d. The estimated quantity of waste disposed on the property.
6. The Town Agent will define the species of trees to be used to replace the trees removed on abutting property. Mature trees (12 inches in diameter or more and 25 feet tall or more) must be replaced with balled in burlap trees of at least 6 inches in diameter. Less mature trees must be replaced by trees that are in at minimum one gallon containers. Location of replacement trees shall be pre-determined as part of the site condition documentation process. Planting trees subject to negotiation with abutter as to who plants and waters them

3.4 Water Usage

The Town is served by private water and sewer systems. In order to assure the continuous and adequate supply of clean water for present and future generations, it is imperative that our existing water resources, such as wetlands, aquifers and watersheds,

be protected. The following regulations are designed to protect the above mentioned resources:

1. No water is to be removed from a lake; pond; stream; river; or wetland without an approved water usage plan submitted as part of the site plan review process.
2. Disposal of waste water from construction processes is prohibited without an approved waste water disposal plan submitted as part of the site plan review process.

3.5 Surface Water Protection

BMP's will be utilized to minimize turbidity in all adjacent wetland and surface waters. At a minimum, silt fence shall be used to contain all disturbed work areas within 100 ft of these surface waters. The Contractor shall be responsible for providing erosion and sediment control measures to divert flows from exposed soils, temporarily store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site in accordance with Federal and State regulations. The erosion and sediment controls selected and maintained by the Contractor shall be such that water quality standards are not violated as a result of the Contractor's construction activities. The area of bare soil exposed at any one time by construction operations should be kept to a minimum. The Contractor shall construct or install temporary and permanent erosion and sediment control BMP's that comply with NHDES Guidelines for Temporary Erosion and Sediment Control. Specific BMP's may include, but are not be limited to, vegetation cover, slope stabilization, silt fences, sediment traps, and inlet and outfall protection. Any temporary measures shall be removed after the area has been stabilized.

3.5.1 Silt Fences

Silt fences shall extend a minimum of 16 inches above the ground surface and shall not exceed 34 inches above the ground surface. Filter fabric shall be from a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are unavoidable, filter fabric shall be spliced together at a support post, with a minimum 6 inch overlap, and securely sealed. A trench shall be excavated approximately 4 inches wide and 4 inches deep on the upslope side of the location of the silt fence. The 4-inch by 4-inch trench shall be backfilled and the soil compacted over the filter fabric. Silt fences shall not be removed prior to approval by the Town Agent.

3.5.2 Straw Bales

Straw bales shall be placed in a single row, lengthwise on the contour, with ends of adjacent bales tightly abutting one another. Straw bales shall be installed so

that bindings are oriented around the sides rather than along the tops and bottoms of the bales in order to prevent deterioration of the bindings. The barrier shall be entrenched and backfilled. A trench shall be excavated the width of a bale and the length of the proposed barrier to a minimum depth of 4 inches. After the bales are staked and chinked (gaps filled by wedging with straw), the excavated soil shall be backfilled against the barrier. Backfill soil shall conform to the ground level on the downhill side and shall be built up to 4 inches against the uphill side of the barrier. Loose straw shall be scattered over the area immediately uphill from a straw bale barrier to increase barrier efficiency. Each bale shall be securely anchored by at least two stakes driven through the bale. The first stake or steel post in each bale shall be driven toward the previously laid bale to force the bales together. Stakes or steel pickets shall be driven a minimum 18 inches deep into the ground to securely anchor the bales.

3.5.3 Silt Sacks

Silt sacks shall be placed lengthwise on the contour. Silt sacks shall be securely anchored by stakes driven through the sack every four feet. Stakes or steel pickets shall be driven a minimum 18 inches deep into the ground to securely anchor the bales.

3.6 Water Control, Diversion, and Sediment Control

When the proposed work involves diversion of surface or underground water, the Contractor shall submit a water control and diversion plan as part of site plan review. This plan shall describe methods and materials to be used to construct the diversion system, and comply with the requirements set forth in New Hampshire Department of Environmental Services (NHDES) Guidelines for Temporary Erosion and Sediment Control.

4.7 Erosion Control

Erosion controls shall be inspected after significant rainfall or heavy weather event and repairs must be made as needed to maintain the intended purpose.

4.8 Soil Compaction

Should the Contractor elect to traverse, with construction equipment or other vehicles, grassed or unpaved areas which are not established roadways, such areas shall be covered with matting, where necessary, to prevent excessive compaction of existing soils.

4.9 Post Construction Cleanup and Restoration

The Contractor shall clean up all areas used for construction. The Contractor shall, unless otherwise instructed in writing by the Town, obliterate all signs of temporary construction facilities such as haul roads, work area, structures, foundations of temporary structures, stockpiles of excess or waste materials (to include slash, mats, garbage drill cuttings and fluids, muck piles and excess rock), and other vestiges of construction. The disturbed area shall be graded, filled and the entire area seeded to match the previously existing vegetation, unless otherwise indicated on approved submittals as part of the site plan review.

4.10 Spill Prevention Measures and Spill Mitigation

Spill prevention and spill mitigation measures shall be implemented to prevent the release of fuel, lubricants, hydraulic fluid and other related substances to the environment. The measures shall include at minimum:

1. The following fuel storage requirements:
 - a. Storage of regulated substances on an impervious surface.
 - b. Secure storage areas against unauthorized entry.
 - c. Label regulated containers clearly and visibly.
 - d. Inspect storage areas weekly.
 - e. Cover regulated containers in outside storage areas.
 - f. Regulated containers stored outside shall be stored more than 100 feet from surface water, storm drains and wells.
 - g. Secondary containment is required for containers containing regulated substances stored outside, except for on premise use heating fuel tanks, or aboveground or underground storage tanks otherwise regulated.
2. The following fuel handling requirements:
 - a. Except when in use, keep containers containing regulated substances closed and sealed.

- b. Place drip pans under spigots, valves, and pumps.
- c. Have spill control and containment equipment readily available in all work areas.
- d. Use funnels and drip pans when transferring regulated substances.
- e. Perform transfers of regulated substances over an impervious surface.
- f. The training of on-site employees and the on-site posting of release response information describing what to do in the event of a spill of regulated substances.
- g. Fueling and maintenance of excavation, earthmoving and other construction related equipment will comply with the regulations of NHDES.

Section 5 – Town Infrastructure

The following regulations have been created to address compliance and the mitigation necessary to correct any damage to the Town's infrastructure, encompassing roads, bridges, driveways, parking lots, drainage and traffic control systems that may be impacted by the activities conducted as part of the project. The Contractor shall submit a town infrastructure impact mitigation plan as part of site plan review.

4.1 Pre and Post Construction Condition of Town infrastructure

1. As part of site planning review, all proposed haul routes, site access locations, temporary roadways, and existing roadway improvements shall be identified on Contractor drawings. All Town and abutter owned infrastructure that may be impacted by heavy trucks and excavating equipment used during the construction project must be identified.
2. Signage the contractor will need to install to manage construction traffic flow will be identified by the Richmond Chief of Police and the Richmond Road Agent.
3. The impacted Town and Abutter owned infrastructure noted above shall be video-documented by the Contractor with proper mobilization date and time stamp to confirm condition prior to Contractor mobilization within town limits.
4. The Town Agent, in conjunction with the road agent, will review the video and determine the scope of the Performance Bond necessary to mitigate the damage to Town infrastructure.

5. The Contractor's superintendent, or duly authorized representative, shall submit documentation acknowledging the condition of Town infrastructure prior to Contractor mobilization, and subsequent to Contractor demobilization within Town limits.
6. The impacted Town and Abutter owned infrastructure noted above shall be video-documented by the Contractor a second time, subsequent to all Contractor demobilization within Town limits. This conditional assessment, as verified by the Town Agent, Road Agent and Board of Selectmen, will form the basis of the release of the infrastructure portion of the Performance Bond.

4.2 Road closings and Crossings

1. The Contractor shall identify the need for all anticipated road closing and crossings during site plan review.
2. Required signage to facilitate road closures, temporary detours, and other navigation aids shall be the responsibility of the Contractor. All signage shall meet all applicable New Hampshire Department of Transportation (NHDOT) regulations. The Town Road Agent and Chief of Police, will review any proposed road closures as part of site plan review. Complete closure of any road, during which public or private property becomes inaccessible to emergency vehicles, is prohibited.
3. Should the Contractor elect to traverse, with construction equipment or other vehicles, grassed or unpaved areas which are not established roadways, such areas shall be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways; gravel gradation shall be at the Contractor's discretion. Any dirt or mud which is tracked onto paved or surfaced roadways shall be cleaned away as required to minimize impact to traffic.
4. The use of tracked construction equipment on public roadways is prohibited. The use of tracked equipment on paved private roads, driveways and parking lots is prohibited without written permission from the owners of said properties.
5. The Contractor shall be responsible for the removal of all signage and debris related to the road closings and crossings. Non-compliance with this requirement will cause forfeiture of an appropriate portion of the Performance Bond.

5.3 Traffic Control Plan

1. The Contractor must identify the need for traffic control. The Richmond Police Department, in conjunction with the Planning Board, will determine the location and need for traffic control details.
2. The contractor responsible for the construction project will be responsible for funding of the traffic control details provided by the Richmond Police Department.

5.4 Load Limits

1. Pursuant to the authority conferred by New Hampshire RSA 41:11, the Town has enacted Ordinance 93 – 03 “annual road weight limit.” It is unlawful for any person, partnership, or corporation to haul, transport, or cause to be transported by vehicle with a gross weight over six tons, any material on all class V roads during the posted period, as determined on an annual basis by the Town Director of Public Works. All roads are subject to additional non-seasonal load postings.
2. All posted bridge load limits will be strictly enforced by the Town, or Road Agent.
3. Transportation of overweight and/or oversized loads is prohibited without permitting through NHDOT, and prior written authorization from the Town Road Agent.
4. The NHDOT is responsible for emergency permits for divisible loads.

Section 6 – Sound Intrusions

The Contractor shall keep construction activities under surveillance and control to minimize environment damage by noise. The Contractor shall not perform work outside of non-holiday weekday hours of 7am and 5pm. The following legal holidays shall be observed: January 1st, last Monday of May, July 4th, 1st Monday of September, fourth Thursday of November and December 25th. When one of the above designated legal holidays falls on a Sunday, the following Monday will be observed as a legal holiday. When a legal holiday falls on a Saturday, the preceding Friday is observed as a holiday. This includes routine testing of the emergency power back-up system.

Section 7 – Bonding

In addition to the provisions regarding security for performance set forth in the Site Plan Regulations a performance bond, in an amount equivalent to the cost of any potential damages to

town-owned infrastructure caused by the proposed project, shall be posted by the Contractor. A second bond for consulting services provided by Town Agents, and additional efforts required by town employees outside the scope of their normal duties, where such burdens are directly related to the proposed project, shall also be posted by the Contractor. Each type of bond shall be released by the Town incrementally upon acceptance of mutually agreeable milestone phasing as the work progresses. The Town Board of Selectmen will oversee the bonding process. Non-compliance to the requirements set forth herein shall be cause for partial or full forfeiture of the related posted bond.

Section 8 – Insurance

The Contractor shall be adequately insured while working within Town limits. The Town will not be held liable for any damage or injuries that result from Contractor work. The Contractor shall procure and maintain during the entire period of his performance under this contract the following kinds and minimum amounts of insurance:

1. Workmen's Compensation and Employers' Liability Insurance: Not less than \$100,000.
The Contractor shall comply with all applicable Workmen's Compensation Statutes and shall furnish evidence of Employers' Liability Insurance.
2. General Liability Insurance: Minimum limits of \$500,000 per accident. Bodily injury liability insurance on the comprehensive form of policy.
3. Automobile Liability Insurance: Minimum limits of \$200,000 per person and \$500,000 per accident for bodily injury and \$20,000 per accident for property damage.
Bodily injury liability and property damage liability insurance on the comprehensive form of the policy and shall cover the operation of all automobiles used in performance of the contract.

Section 9 – Quality Control

The Contractor shall furnish the Contractor Quality Control (CQC) Plan for review and approval by the Town as part of site plan review, a minimum 30 days prior to mobilization within town limits. The plan shall identify personnel, procedures, control, instructions, tests, records, and forms to be used. Construction will be permitted to begin only after acceptance of the CQC Plan.

Section 10 - “As-built” Plan Minimum Requirements:

1. The Plan shall be the same scale and sheet size as the plans used in the application.
2. One Mylar/clear film and one paper copy of each sheet of the “as-built” plan stamped by a New Hampshire Licensed Land Surveyor and a Civil Engineer licensed in New

Hampshire. The engineer will certify to the adequacy and conformance of the finished site as shown on the “as-built plan. The Land surveyor shall certify to the accuracy of the location of the features shown on the “As-built” plan. Planning Board Signature box is needed providing a sufficient area for both the Chairman of the Planning Board and Secretary of the Planning Board to sign the plan.

3. The plan shall show all improvements, structures, and topography of the site with sufficient information for the board to check the existing conditions versus the approved proposed plan. Such as but not limited to: drain pipe sizes and slopes, storm water retention/treatment areas, finished grading of slopes, parking areas, and roadways, building locations, sanitary sewer, underground and above ground utilities, vegetative buffers and berms, and wetland mitigation or disturbed areas.

Any requirements of this “As-built” may be waived at the discretion of the Planning Board. A waiver request for each item shall be submitted by the applicant.

In recognition of timing, weather, or other factors affecting construction the Planning Board may allow occupancy or use permit of a portion of the site. An “As-built” of that portion of the site for which a permit is being sought shall be required unless waived by the Planning Board.

Any significant changes to the approved site plan shall require approval by the Town engineer or the Planning Board.

APPENDIX A

Submittal Checklist

1. Environmental protection plan, to include:
 - a. Names of qualified personnel manifesting hazardous waste (primary and secondary)
 - b. Names of qualified environmental protection personnel (primary and secondary)
 - c. Description of the personnel training program to ensure environmental protection
 - d. Erosion and sediment control plan
 - e. Drawings of the proposed work
 - f. Traffic control measures
 - g. Work area plan
 - h. Spill Control Plan
 - i. Non-hazardous solid waste disposal plan
 - j. Sanitation plan
 - k. Recycling and solid waste minimization plan
 - l. Air pollution control plan
 - m. Contaminant prevention plan
 - n. Waste water management plan
 - o. Historical, archaeological, cultural resources, biological resources and wetlands plan
2. Joint condition survey
3. Town infrastructure impact mitigation plan, to include:
 - a. Pre and post construction condition of town and abutter infrastructure
 - b. Road closings and crossings
 - c. Traffic control plan
 - d. Load limits
4. Performance bond
5. Town consulting services and review bond
6. Proof of insurance
7. Contractor quality control plan

APPENDIX B

Blasting Best Management Practices

All activities related to blasting shall follow Best Management Practices (BMPs) to insure safety and prevent contamination of groundwater including preparing, reviewing and following an approved blasting plan, proper drilling, explosive handling and loading procedures, observing the entire blasting procedures, evaluating blasting performance, and handling and storage of blasted rock.

The Blasting Plan, following the BMPs referenced herein, shall be submitted by the Contractor as part of the site plan review process.

Refer to the NHDES (WD-10-12, attachment A) for critical BMPs discussed in the following sub-sections.

1.1 Loading Practices

The following blast hole loading practices to minimize environmental effects shall be followed:

- A. Drilling logs shall be maintained by the driller and communicated directly to the blaster. The logs shall indicate depths and lengths of voids, cavities, and fault zones or other weak zones encountered as well as groundwater conditions.
- B. Explosive products shall be managed on-site so that they are either used in the borehole, returned to the delivery vehicle, or placed in secure containers for off-site disposal.
- C. Spillage around the borehole shall either be placed in the borehole or cleaned up and returned to an appropriate vehicle for handling or placement in secured containers for off-site disposal.
- D. Loaded explosives shall be detonated as soon as possible and shall not be left in the blast holes overnight, unless weather or other safety concerns reasonably dictate that detonation should be postponed.
- E. Loaded explosives shall be under direct oversight by the Contractor, or his representative, at all times.
- F. Loading equipment shall be cleaned in an area where wastewater can be properly contained and handled in a manner that prevents release of contaminants to the environment.

- G. Explosives shall be loaded to maintain good continuity in the column load to promote complete detonation. Industry accepted loading practices for priming, stemming, decking and column rise need to be attended to.

1.2 Explosive Selection

The following BMPs shall be followed to reduce the potential for groundwater contamination when explosives are used:

- A. Explosive products shall be selected that are appropriate for site conditions and safe blast execution.
- B. Explosive products shall be selected that have the appropriate water resistance for the site conditions present to minimize the potential for hazardous effect of the product upon groundwater.

1.3 Prevention of Misfires

Appropriate practices shall be developed and implemented to prevent misfires:

- A. Test cap before making up primers; test fuse or blasting machine; test firing wires; test the galvanometer; test the complete firing circuits; test the primer cartridges to be sure they will hold together during loading; test everything possible to identify faulty products, equipment, or techniques before they cause problems.
- B. If and when a premature shot, delayed shot, or other form of misfire occurs, follow the prescribed safe handling procedures. Regard this as evidence of carelessness or bad practices, and investigate why it happened and who was responsible. Take steps necessary to prevent a reoccurrence.
- C. Never drill, bore, or pick out any explosive materials that have been misfired.

1.4 Muck Pile Management

Muck piles (the blasted pieces of rock) and rock piles shall be managed in a manner to reduce the potential for contamination by implementing the following measures:

- A. Test for contaminants in the muck pile if any of the muck is to be used as back fill in the construction process.
- B. Remove the muck pile from the blast area as soon as reasonably possible.

- C. Manage the interaction of blasted rock piles and storm water to prevent contamination of water supply wells or surface water.

1.5 Safety

In New Hampshire, blasting must be conducted in accordance with New Hampshire State Department of Safety Administrative Rule Saf-C 1600, under Statutory Authority Revised Statutes Annotated (“RSA”) 158:9-f; 21-P:14, II(e).

1.5.1 Saf-C 1626.04 Warning Signal

Before a blast is fired, a loud warning signal shall be given by the person in charge, who has made certain that:

1. All surplus explosives are in a safe place;
2. All persons and vehicles are at a safe distance or under sufficient cover; and
3. An adequate warning has been given.
4. For the purposes of this section, a loud warning signal means that it is capable of being heard by people within the landing area of the blasting site in which debris might fall.