

ADDENDUM 2
APPENDIX K LAND USE
PERFORMANCE STANDARDS
FOR
MINERAL EXTRACTIONS

1 ENVIRONMENT STANDARDS

1.1 WATERS

OBJECTIVE: To ensure that stormwater runoff is adequately managed and to ensure that surface waters and subsurface waters are adequately protected for their natural and beneficial uses.

STORMWATER

- 1.1.1 No mineral extraction may increase or alter stormwater flows without first implementing appropriate stormwater management controls to prevent environmental damage, flooding, property damage, or the overburdening of existing stormwater management systems or features.
- 1.1.2 No grading or other construction activity may alter existing natural drainage to the extent that drainage will adversely affect adjacent property or that drainage ways flowing from adjacent parcels of land to the project will be impeded.
- 1.1.3 The reviewing authority may require stormwater to be externally-drained from the working pit of any rock excavation if there is reasonable concern that groundwater pollution would occur from stormwater that is internally-drained, or if the working pit extends below the annual high-water table.
- 1.1.4 External drainage of stormwater from a rock excavation is subject to compliance with the following requirements:
- 1) Stormwater intended to be externally-drained from a working pit or related impervious areas must be drained to an engineered storage facility for required treatment and disposal.
 - 2) Stormwater must be discharged from a storage facility at a rate that may not exceed the pre-development stormwater runoff rate for storms up to a level of intensity of a 25-year, 24-hour storm.
 - 3) The design of stormwater storage facilities must address safety, appearance, and the cost and effectiveness of maintenance operations, in addition to the primary storage function.
 - 4) Any drainage variance required by MDEP must be granted.
 - 5) All stormwater facilities must be properly maintained. Stormwater management plans must define maintenance requirements and identify parties responsible for the required maintenance.
- 1.1.5 The disposal of stormwater on-site must use existing natural runoff control features of the site to the greatest extent possible. Natural runoff control features include, but are not limited to, earth berms, swales, terraces, and wooded areas.
- 1.1.6 Natural and man-made drainage ways and drainage outlets must be stabilized with vegetation or riprap to prevent erosion caused by water flowing through them.
- 1.1.7 Easements must be provided to the municipality where appropriate to ensure proper maintenance of drainage ways. Easement widths must be sufficient to allow access for maintenance and repairs to the drainage way or any structures therein, and in no case may the width be less than 30 feet wide.
- 1.1.8 A stormwater management plan must be submitted to the reviewing authority for any mineral extraction subject to State permitting in accordance with 38 M.R.S.A. § 420-D (the Stormwater Management Law), 38 M.R.S.A. §481 (the Site Location of Development Law) or any mineral

- extraction that is within the watershed of a great pond at risk from development, as identified by the Maine Department of Environmental Protection. A stormwater management plan is also required for any other mineral extraction if external drainage of stormwater is required in accordance with section 1.1.3, or if the reviewing authority has determined by majority vote that the risk of detrimental effects to abutting properties or the environment warrants an engineered design for the management of stormwater.
- 1.1.9 The reviewing authority may require a stormwater management plan for any mineral extraction proposing to utilize public stormwater control facilities in the event there is concern about the adequacy of those facilities to handle additional stormwater flows.
- 1.1.10 Stormwater management plans must be prepared by a qualified professional.
- EROSION & SEDIMENTATION
- 1.1.11 All exposed soil must be protected so as to prevent soil erosion and to prevent soil sediments from entering water bodies, tributary streams, wetlands, or adjacent properties. All erosion and sedimentation control measures must be in conformance with, or equivalent to, the best management practices identified in the latest revision of *Maine Erosion and Sedimentation Control Best Management Practices*, published by DEP.
- 1.1.12 Erosion and sedimentation control measures must be in operation during all stages of any soil disturbance activity. The amount of exposed soil at every phase of the activity must be minimized to reduce the potential for erosion.
- 1.1.13 A detailed erosion and sedimentation control plan prepared by a qualified professional must be submitted for any mineral extraction.
- WATER QUALITY & QUANTITY
- 1.1.14 No mineral extraction activity, including blasting, excavation, processing, storage or any related on-site activity, may cause the discharge of any liquid, gaseous or solid materials into surface or subsurface waters, if such discharge is of a nature, quantity, toxicity or temperature that may contaminate, pollute or harm such waters or cause nuisances, such as floating or submerged debris, oil or scum, discoloring, objectionable odor or taste, or that may be harmful to human, animal, or plant life.
- 1.1.15 No mineral extraction activity, including blasting, excavation, processing, storage or any related on-site activity, may cause any pollutant to be deposited on or into the ground or discharged into the waters of the State, if such deposit or discharge, by itself or in combination with other activities or substances, will impair designated uses or the water classification of any water body, tributary stream, or wetland.
- 1.1.16 All storage facilities for fuel or chemicals must comply with the applicable rules and regulations of the Maine Department of Environmental Protection and the State Fire Marshal's Office.
- 1.1.17 No mineral extraction may reduce the quality of any public drinking water supply. Predevelopment water quality data must be collected to establish reference values for any public water supply within 1,000 feet of a mineral extraction
- 1.1.18 No mineral extraction may reduce the quality of any private drinking water supply. Predevelopment water quality data must be collected to establish reference values for any private water supply within 750 feet of a mineral extraction, and which is not owned or under the control of the mineral extraction owner or operator. Reference values for wells within 1,000 feet must be established if the mineral extraction will be below the seasonal high water table.
- 1.1.19 No mineral extraction may substantially lower the found water table or otherwise detrimentally affect the quantity of subsurface water available to water supply wells not under the control of the mineral extraction owner or operator.
- 1.1.20 The working edge of any mineral extraction is subject to minimum setback requirements from public and private drinking water supplies, as identified in section 5.
- 1.1.21 Secondary documentation may be required for any mineral extraction within 5 feet of the seasonal

- high-water table, or if the reviewing authority determines that a closer examination of identified risks of pollution or draw-down to surface or subsurface waters is warranted.
- 1.1.22 Secondary documentation required by the reviewing authority may include, but is not limited to:
- 1) A hydrogeology study or assessment prepared by a qualified professional.
 - 2) A design for the handling and storage of materials at risk of polluting surface or subsurface waters, prepared by a qualified professional.
 - 3) A professional review of any private or public water supply system.
 - 4) A water quality or quantity test.

1.2 AIR ENVIRONMENT

OBJECTIVE: To ensure that the ambient air environment is adequately protected from the detrimental effects of pollutant air emissions.

- 1.2.1 No equipment that is part of a mineral extraction may introduce pollutant emissions into the air except in compliance with the most recent State ambient air quality standards and State emissions standards.
- 1.2.2 The reviewing authority may require secondary documentation for any mineral extraction subject to 38 M.R.S.A. §481 et seq. (the Site Location of Development Law).
- 1.2.3 Secondary documentation required by the reviewing authority may include, but is not limited to:
- 1) An air quality impact study and mitigation plan prepared by a qualified professional.
 - 2) Evidence that an Air Emission License has been or will be obtained.

1.3 WILDLIFE HABITAT

OBJECTIVE: To ensure that significant wildlife habitat is adequately protected.

- 1.3.1 No mineral extraction may cause any detrimental effect to significant wildlife habitat.
- 1.3.2 No mineral extraction site improvement or working pit may be located within any of the significant wildlife habitat areas identified below (see section 5 for required setbacks):
- 1) Habitat for species appearing on the most recent official State or Federal lists of endangered or threatened species;
 - 2) High and moderate value waterfowl and wading bird habitats, including nesting and feeding areas;
 - 3) Shorebird nesting, feeding, and staging areas, and seabird nesting islands;
 - 4) Critical spawning and nursery areas for Atlantic sea run salmon as defined by the Atlantic Sea Run Salmon Commission;
 - 5) High or moderate value fish spawning and nursery areas that have been identified by the Maine Department of Inland Fisheries and Wildlife;
 - 6) High or moderate value deer wintering areas or travel corridors; and
 - 7) Any other important habitat areas identified in the Bucksport Comprehensive Plan, as adopted.
- 1.3.3 Secondary documentation required by the reviewing authority may include, but is not limited to:
- 1) An impact assessment report prepared by the Maine Department of Inland Fisheries and Wildlife or a qualified professional.
 - 2) A mitigation plan prepared by a qualified professional.

1.4 CLEARING OR REMOVAL OF VEGETATION, EXCLUDING TIMBER HARVESTING

OBJECTIVE: To ensure that vegetation within any shoreland district is protected from excessive cutting or removal.

- 1.4.1 In any RPO District, there may be no cutting of vegetation for any mineral extraction or related site improvement.
- 1.4.2 In any other shoreland district, cutting of vegetation for a mineral extraction may only be conducted for access roads. Such cutting of vegetation may not be conducted within the buffer strip of land extending 100 feet inland from the shoreline of a great pond or a river flowing to a great pond, or within the buffer strip of land extending 75 feet inland from the shoreline of any other water body, tributary stream, or wetland.
- 1.4.3 Outside the buffer strips identified in sections 1.4.1 and 1.4.2, in any shoreland district, selective cutting of not more than 40 percent of the volume of trees 4 inches or more in diameter, measured 4 1/2 feet above ground level, is allowed on any lot in any 10-year period. Tree removal in conjunction with clearing for access roads is included in the 40 percent calculation. For the purposes of these standards, volume may be considered equivalent to basal area.
- 1.4.4 Cleared openings in any shoreland district may not exceed, in the aggregate, 25% of the lot area in a shoreland district, or 10,000 square feet, whichever is greater, including land previously cleared, except in the IDO District. Cleared openings on lots in the IDO District may not exceed in the aggregate, 75% of the lot area or 30,000 square feet, whichever is greater, including land previously cleared. Cleared openings include, but are not limited to:
 - 1) principal and accessory structure footprints,
 - 2) driveways and parking lots,
 - 3) lawns and
 - 4) sewage disposal areas.
- 1.4.5 Legally existing, nonconforming cleared openings may be maintained but may not be enlarged, except as allowed by this ordinance.
- 1.4.6 The reviewing authority may require secondary documentation in the event of a proposal requiring the cutting or removal of vegetation throughout an area of 40,000 sq. ft. or more in any shoreland district.
- 1.4.7 Secondary documentation required by the reviewing authority may include, but is not limited to:
 - 1) A cutting or clearing plan prepared by a qualified professional.

1.5 SOILS

OBJECTIVE: To ensure that soils are suitable for the construction of any building.

- 1.5.1 No building may be constructed, installed, expanded or maintained on or in soils that are unstable, subject to severe erosion, or otherwise deemed unsuitable for the structure.
- 1.5.2 The reviewing authority may require secondary documentation to verify the suitability of soils if the location of any building warrants a closer examination to address concerns of the potential for severe erosion, mass soil movement, or other limitations.
- 1.5.3 Secondary documentation required by the reviewing authority may include, but is not limited to:
 - 1) A soils report prepared by a qualified professional.

2 SPECIAL AREA STANDARDS

2.1 AREAS OF PREHISTORICAL & HISTORICAL IMPORTANCE

OBJECTIVE: To ensure that areas of prehistorical and historical importance are adequately protected.

- 2.1.1 No mineral extraction may be located within 500 feet of any site listed or eligible to be listed on the National Register of Historic Places
- 2.1.2 No mineral extraction may be located within 500 feet of any site of prehistorical or historical importance identified by the Maine Historic Preservation Commission or the Bucksport Comprehensive Plan, as adopted.
- 2.1.3 The reviewing authority may require secondary documentation for any required protective measures involving designed structures or other engineered methods of protection.
- 2.1.4 Secondary documentation required by the reviewing authority may include, but is not limited to:
 - 1) A mitigation plan prepared by a qualified professional.

2.2 AREAS OF SCENIC VALUE

OBJECTIVE: To ensure that vistas of scenic value are adequately protected.

- 2.2.1 No mineral extraction may adversely diminish visual access to any scenic view at locations identified in the Bucksport Comprehensive Plan, as adopted.
- 2.2.2 Any mineral extraction within the viewshed of a scenic view, as seen from a public road, must provide for the preservation of trees and other vegetation in landscaping designs. A buffer or screen may be required to minimize the visual impact of the development on the scenic view.
- 2.2.3 The reviewing authority may require secondary documentation for any required protective measures involving designed structures or other engineered methods of protection.
- 2.2.4 Secondary documentation required by the reviewing authority may include, but is not limited to:
 - 1) A plan of protection prepared by a qualified professional.

2.3 AREAS OF SHORELINE ACCESS

OBJECTIVE: To ensure that areas for public access to water bodies and wetlands, and areas developed with commercial fisheries and maritime activities are adequately protected.

- 2.3.1 No mineral extraction may adversely affect any public access to a water body, wetland or any commercial fishing or maritime activity. A buffer or screen may be required to minimize the impact of development to the public access or commercial fishing or maritime activity.
- 2.3.2 The reviewing authority may require secondary documentation for any required protective measures involving designed structures or other engineered methods of protection.
- 2.3.3 Secondary documentation required by the reviewing authority may include, but is not limited to:
 - 1) A plan of protection prepared by a qualified professional.

2.4 AREAS OF FLOOD HAZARD

OBJECTIVE: To ensure that areas of flood hazard are adequately protected.

- 2.4.1 No mineral extraction may be located in a flood hazard area, as identified by the Bucksport Town Code, Appendix D, Floodplain Management Ordinance.

2.5 AREAS OF UNIQUE NATURAL CHARACTER

OBJECTIVE: To ensure that areas with unique natural character, as identified in the Bucksport Comprehensive Plan, are adequately protected.

- 2.5.1 No mineral extraction may be located within or adjacent to an area designated as a unique natural area by the Bucksport Comprehensive Plan, as adopted.
- 2.5.2 The reviewing authority may require secondary documentation when uncertain if there are any rare or exemplary botanical features located within the project location.
- 2.5.3 Secondary documentation required by the reviewing authority may include, but is not limited to:
 - 1) A letter from the Maine Natural Areas Program verifying the status of rare or exemplary botanical features located within the project location.

3 LOCAL AREA STANDARDS

3.1 DEVELOPMENT PATTERNS

OBJECTIVE: To ensure that the location of any mineral extraction is compatible with existing or planned development patterns.

- 3.1.1 No rock excavation may be allowed in a Contract Zoning District.

3.2 BUFFERS & SCREENING

OBJECTIVE: To ensure that any mineral extraction is appropriately shielded from abutting land uses and public ways to minimize any detrimental effects.

- 3.2.1 A physical barrier, in the form of a vegetated buffer or screening or a combination of both, must be provided to minimize any detrimental effect of a mineral extraction operation beyond its property lines, to the greatest practical extent. The barrier must be long enough, wide enough, high enough and sufficiently dense or otherwise appropriately designed to serve its intended purpose.
- 3.2.2 Buffers adjacent to a protected natural resource must comply with the requirements of section 1.4 or the requirements of the Natural Resource Protection Act, as applicable.
- 3.2.3 Buffer strips must be comprised of vegetation species that the reviewing authority finds suitable and sufficient to accomplish the required mitigation. The buffer strip is intended to be effective year round. Plant material should be comprised of a variety of native deciduous and evergreen species. All buffer strips must be maintained by the owner.
- 3.2.4 Except for buffers subject to the requirements of sections 3.2.1 and 3.2.2, buffer strips may be replaced by screening if the screening provides at least an equivalent level of mitigation as a buffer strip for the relevant detrimental effects. Screening must comply with the following requirements:
 - 1) Screening may be comprised of man-made objects such as buildings, structures, earth berms or fences. Any such object must be in good repair and maintained as required. Mobile homes, vehicles, box trailers, and similar structures may not be used for screening purposes.
 - 2) Screening may be comprised of natural features in the topography of a site such as hills, gullies, or rock outcrops.
 - 3) Fencing must be constructed with materials designed for such use. The installation must be designed to resist the effects of frost.

- 4) Fences must be properly maintained by the owner. Structures and fences used for screening should be located at a sufficient distance from property lines to allow access for maintenance on all sides without intruding upon abutting properties.
- 3.2.5 A combination of buffer strips and screening may be allowed if the reviewing authority determines that it will accomplish the required mitigation objectives.
- 3.2.6 Required buffers and screening must be in place before commencement of the permitted use. The reviewing authority may allow a permitted use to commence prior to the installation of a required vegetative buffer if it has been determined that there is insufficient time in the growing season to ensure a successful establishment of the vegetation. In this event, the reviewing authority must set a deadline for installation of the vegetation. Vegetation made part of a required buffer or screening must be fully effective within 1 year of the date of approval of the related land use.
- 3.2.7 A required buffer between abutting properties developed with separately owned mineral extractions may be removed and the excavations may be joined upon written agreement of the property owners and approval of the reviewing authority. A buffer may only be removed if stormwater runoff from either excavation will not be increased across the property line. The buffer removal agreement must stipulate that it is to remain in effect until mining ceases, and it must be recorded in the Hancock County Registry of Deeds.
- 3.2.8 The reviewing authority may require secondary documentation to provide for a detailed review or if there are concerns about buffers or landscaping details.
- 3.2.9 Secondary documentation required by the reviewing authority may include, but is not limited to:
- 1) Architectural or landscaping plans prepared by a qualified professional.

3.3 ELECTROMAGNETIC FIELDS

OBJECTIVE: To ensure that any detrimental effects from electromagnetic fields are adequately mitigated.

- 3.3.1 No activity related to a mineral extraction may generate electromagnetic fields that cause unreasonable interference with the transmission or reception of any electromagnetic impulses located beyond the property boundary. In all cases, Federal and State requirements must be met.
- 3.3.2 The reviewing authority may require secondary documentation if there are concerns about detrimental effects caused by electromagnetic fields.
- 3.3.3 Secondary documentation required by the reviewing authority may include, but is not limited to:
- 1) A plan of protection prepared by a qualified professional.

3.4 LIGHTING

OBJECTIVE: To ensure that any detrimental effects from artificial lighting are adequately mitigated.

- 3.4.1 Exterior luminaires providing lighting for security, safety, advertising or operational needs may not transmit lighting beyond the property line in any manner that causes invasive illumination of abutting properties or in any manner that is a hazardous distraction or nuisance to motorists on adjacent roadways.
- 3.4.2 Exterior post-mounted luminaires must have shielding to provide a beam cut-off at no more than 75 degrees above nadir.
- 3.4.3 Exterior luminaires must be turned down or off when not in use. All exterior luminaries must

- be kept in good repair by the property owner.
- 3.4.4 No exterior luminaries may emit rotating or flashing lights, except safety signaling devices as required by law.
- 3.4.5 The reviewing authority may require secondary documentation to provide for a detailed review or if there are concerns about the detrimental effects of artificial lighting.
- 3.4.6 Secondary documentation required by the reviewing authority may include, but is not limited to:
- 1) A lighting design prepared by a qualified professional.

3.5 NOISE

OBJECTIVE: To ensure that any detrimental effects from noise are adequately mitigated.

- 3.5.1 The maximum permissible sound pressure level of any continuous, regular, frequent, intermittent or periodic source of noise produced by any mineral extraction must comply with the requirements of section 3.5.
- 3.5.2 The hourly sound level of a mineral extraction operation may not exceed the following limits, except when otherwise allowed:
- 1) 75 dBA at any time of day, as measured at the property line of the operation or contiguous property owned by the operator, whichever is farther from the regulated sound source.
 - 2) 60 dBA between 7:00 a.m. and 7:00 p.m., and 50 dBA between 7:00 p.m. and 7:00 a.m., as measured at a protected location identified at the time of application review.
 - 3) 55 dBA between 7:00 a.m. and 7:00 p.m., and 45 dBA between 7:00 p.m. and 7:00 a.m., as measured at a protected location identified at the time of application review. These limits apply when pre-development ambient hourly sound levels measured at the protected location are equal to or less than 45 dBA between 7:00 a.m. and 7:00 p.m., and/or 35 dBA between 7:00 p.m. and 7:00 a.m.
- 3.5.2.1 Houses of worship, academic schools, libraries, and locally-designated passive recreation areas without camping areas are considered protected locations only during their regular hours of operation and the daytime hourly sound level limits shall apply regardless of the time of day.
- 3.5.2.2 Transient living accommodations are generally not considered protected locations; however, in certain special situations where it is determined by the reviewing authority that the health and welfare of the guests and/or the economic viability of the establishment will be unreasonably impacted, the reviewing authority may designate certain hotels, motels, campsites, and duly licensed campgrounds as protected locations.
- 3.5.2.3 When a mineral extraction operation produces short duration repetitive sounds or tonal sounds, 5 dBA must be added to the observed levels of the sounds for the purposes of determining compliance with the sound level limits in section 3.5.2.
- 3.5.2.4 The sound level limits in section 3.5.2 do not apply to production blasting. See section 7.10.
- 3.5.3 Sound from routine, ongoing maintenance activities is considered part of a mineral extraction operation and the combined total of the routine maintenance and operation sound is subject to the sound level limits contained in sections 3.5.2.
- 3.5.4 The following sound sources are exempt from the sound level limits in section 3.5.2:
- 1) Registered and inspected vehicles while operating on public ways, or which enter the development to make a delivery or pickup and which are moving, starting or stopping, but not when they are parked for over 60 minutes in the development.
 - 2) Emergency maintenance and repairs.
 - 3) Warning signals and alarms.
 - 4) Safety and protective devices installed in accordance with code requirements.

- 5) The construction, installation or demolition of buildings or structures.
- 6) Timber harvesting.
- 3.5.5 The reviewing authority may, as a condition of approval, establish any reasonable requirement to ensure that the mineral extraction operation will minimize the detrimental effects of sound on property owners. Such conditions may include, but are not limited to, enclosing equipment or operations, imposing limits on hours of operation, or requiring the employment of specific design technologies, site design, modes of operation, or traffic patterns.
- 3.5.6 The reviewing authority may require a mineral extraction operation to demonstrate that sound levels will not unreasonably disturb wildlife or adversely affect wildlife populations. In addition, the reviewing authority may require, as a term or condition of approval, that lower sound level limits be met to ensure that the mineral extraction operation has made adequate provision for the protection of wildlife.
- 3.5.7 The reviewing authority may increase any of the sound level limits contained in section 3.5.2, if the following requirements have been met:
 - 1) The applicant has made a comprehensive assessment of the available technologies for the development and shown that the sound level limits cannot practicably be met with any of these available technologies.
 - 2) The proposed development will not have an unreasonable impact on abutting properties or the protection of wildlife.
 - 3) The applicant has obtained a sound level limit variance from DEP, if required.
- 3.5.7.1 The reviewing authority may, as a condition of approval, impose terms and conditions to ensure that no unreasonable sound impacts will occur from any sound level limit increase allowed in accordance with section 3.5.7.
- 3.5.8 A noise study is required for any mineral extraction involving rock excavations. The reviewing authority may waive this requirement for any mineral extraction operation involving rock excavations of less than one acre.
- 3.5.8.1 A noise study must include pre-development ambient sound measurements, in addition to other information required by the reviewing authority.
- 3.5.9 A noise mitigation plan prepared by a qualified professional is required for any mineral extraction that is expected to generate noise at a decibel level and duration that may cause a detrimental effect on abutting properties.
- 3.5.10 All noise mitigation measures must be installed and functioning upon occupancy of the site or operation under the approved permit.
- 3.5.11 Sound measurement procedures must comply with the requirements of Chapter 375 of the Site Location of Development Law.
- 3.5.12 Secondary documentation required by the reviewing authority may include, but is not limited to:
 - 2) A noise mitigation plan prepared by a qualified professional.
 - 3) Written documentation from a qualified professional verifying that a site complies with noise mitigation requirements.

3.6 ODORS

- OBJECTIVE: To ensure that any detrimental effects of nuisance odors are adequately mitigated.
- 3.6.1 No mineral extraction may emit putrid, fetid or noxious odors beyond the property boundaries in such concentration and duration that causes a detrimental effect to the use and enjoyment of property or to the public health and safety.
 - 3.6.2 The reviewing authority may consider the direction of prevailing winds, and existing

- vegetation and topography in determining the risk of detrimental effect of odors on abutting properties and the public.
- 3.6.3 The reviewing authority may require secondary documentation for any mineral extraction that may be a source of putrid, fetid or noxious odors.
- 3.6.4 Secondary documentation required by the reviewing authority may include, but is not limited to:
- 1) An analysis or study of the detrimental effects of specific nuisance odors prepared by a qualified professional.
 - 2) An odor mitigation plan prepared by a qualified professional.

3.7 SMOKE AND DUST

- OBJECTIVE: To ensure that any detrimental effects of smoke and dust are adequately mitigated.
- 3.7.1 No mineral extraction may emit smoke or dust beyond the property boundaries in such concentration and duration that causes any detrimental effects including, but not limited to:
- 2) Excessive soiling or staining of property.
 - 3) Excessive surface accumulation of particulates.
 - 4) Hazardous reduced visibility for motorists.
 - 5) Breathing difficulties or other adverse health effects.
- 3.7.2 The reviewing authority may require secondary documentation if there are concerns about the potential for detrimental effects from smoke or dust.
- 3.7.3 Secondary documentation required by the reviewing authority may include, but is not limited to:
- 1) A mitigation plan prepared by a qualified professional.

3.8 SOLAR GAIN

- OBJECTIVE: To ensure that the solar gain utilized by active or passive solar energy collection systems is adequately protected.
- 3.8.1 No existing active or passive solar energy collection system that is not owned or under the control of the mineral extraction owner or operator may be deprived of any solar gain due to the location of any structure for a mineral extraction or due to the location of any screening or buffer that is installed or maintained for a mineral extraction.
- 3.8.2 The reviewing authority may require secondary documentation to provide for a detailed review or if there are concerns about the potential for blockage of solar gain for existing active or passive solar energy collection systems.
- 3.8.3 Secondary documentation required by the reviewing authority may include, but is not limited to:
- 1) Building designs and solar orientation prepared by a qualified professional.

3.9 VIBRATION

- OBJECTIVE: To ensure that any detrimental effects of subterranean vibration are adequately mitigated.
- 3.9.1 No subterranean vibration from a mineral extraction, including but not limited to the operation of equipment and blasting, may be generated at such an intensity or duration that causes damage to any structure that is not owned or under the control of the mineral

extraction owner or operator.

3.9.2 Secondary documentation required by the reviewing authority may include, but is not limited to:

- 1) A mitigation plan prepared by a qualified professional.

4 PUBLIC SAFETY STANDARDS

4.1 ENERGY SUPPLY SERVICES

OBJECTIVE: To ensure the safety and sufficiency of energy supply services.

4.1.1 All fuel and electrical supply lines and facilities for a mineral extraction must be installed and maintained in accordance with applicable State codes and regulations.

4.1.2 The reviewing authority may require secondary documentation for any mineral extraction which requires new energy utility infrastructure, or which requires large fuel storage installations to meet energy consumption needs.

4.1.3 Secondary documentation required by the reviewing authority may include, but is not limited to:

- 1) Detailed utility designs and plans prepared by a qualified professional.

4.2 PUBLIC SAFETY SERVICES

OBJECTIVE: To ensure that any detrimental effects to public safety services are adequately mitigated.

4.2.1 All new construction for any mineral extraction must comply with applicable life safety and fire protection requirements.

4.2.2 The reviewing authority may require a supplemental water supply for firefighting purposes or an automatic fire suppression system for any commercial structure meeting the following description:

- 1) The structure is located more than 5 miles from the public safety department or is otherwise identified as requiring an emergency response time for firefighting equipment of more than 10 minutes, and/or
- 2) The fire department has expressed concerns about the fire risks associated with the use or storage of highly flammable substances.

4.2.3 Secondary documentation addressing specific concerns of the reviewing authority may be required.

4.3 PUBLIC WASTEWATER

OBJECTIVE: To ensure that any detrimental effects to public wastewater facilities are adequately mitigated.

4.3.1 No mineral extraction may discharge into the public sewer disposal system any type of liquid, gaseous or solid substance that may cause a detrimental effect to any portion of the sewer infrastructure or treatment system.

4.3.2 No mineral extraction may discharge such quantities of wastewater into the public sewage system that will overburden existing infrastructure or treatment capacities or otherwise cause a detrimental effect on the operation of the facilities.

4.3.3 Any mineral extraction within the service area of the public wastewater disposal facility, or a proposed or required expansion of the service area, must dispose of all sanitary wastewater

through an approved connection to that facility. Such a connection must be approved in writing by the director of the wastewater treatment department.

- 4.3.4 The reviewing authority may require secondary documentation to address any concerns raised by the wastewater treatment department, or when there are significant proposed improvements to the existing wastewater infrastructure or treatment facilities.
- 4.3.5 Secondary documentation required by the reviewing authority may include, but is not limited to:
- 2) A detailed chemical analysis, a description of pre-treatment methods or design details for proposed infrastructure improvements, prepared by a qualified professional.

4.4 SOLID WASTES

OBJECTIVE: To ensure that any detrimental effects to the proper management of solid wastes are adequately mitigated.

- 4.4.1 All solid waste generated by any mineral extraction must be disposed of at a licensed disposal facility having adequate capacity to accept the wastes. The reviewing authority may not approve any mineral extraction proposing to dispose of solid waste at the town's solid waste facility when it has been determined that the mineral extraction will generate solid waste at a rate that will exceed the capacity of the facility or otherwise cause unreasonable burdens.
- 4.4.2 Solid waste may be disposed of at any out-of-town licensed disposal facility. The reviewing authority must require evidence of a contractual agreement for disposal services for any mineral extraction proposing to use such a facility before the use may be approved.
- 4.4.3 Solid waste, including stumps, wood waste, and land-clearing debris generated on the affected land must be disposed of in accordance with State law.
- 4.4.4 The reviewing authority may require secondary documentation if there are any concerns about methods to be employed in the handling and disposal of any solid wastes, or the use of town roads by transport vehicles.
- 4.4.5 Secondary documentation required by the reviewing authority may include, but is not limited to:
- 1) A detailed plan for any proposed on-site pre-treatment or handling of solid wastes, or the handling and disposal of hazardous solid wastes, prepared by a qualified professional.
 - 2) Identified truck travel routes.

4.5 TRAFFIC, STREETS

OBJECTIVE: To ensure that any detrimental effects to the safety and sufficiency of streets are adequately mitigated.

- 4.5.1 Any street providing direct access to a mineral extraction must have the capacity to accommodate expected traffic flow increases, so as to avoid unreasonable congestion or safety hazards.
- 4.5.2 Where necessary to safeguard against hazards to traffic or to avoid traffic congestion, provision must be made for turning lanes or traffic controls.
- 4.5.3 A traffic study is required for any mineral extraction involving rock excavations. The reviewing authority may waive this requirement for any mineral extraction operation involving rock excavations of less than one acre. A traffic study must be required by the reviewing authority for any mineral extraction when the operation will generate more than 35 vehicle trips in any one hour period. A traffic study may be required when there are documented concerns from MDOT, the municipal road commissioner, the municipal public

safety department, a qualified traffic engineering professional or local residents, about traffic safety or capacity deficiencies of a public road that may occur due to increased truck traffic to and from the mineral extraction operation. The public road must provide direct access to the entrance for the mineral extraction operation.

4.5.4 A full traffic study area must include the first major intersection to either side of the mineral extraction entrance. The study area must be expanded beyond the first major intersection to either side of the entrance to include those links and intersections for which, during any one-hour peak period, truck traffic to and from the mineral extraction operation equals or exceeds the following:

- 1) 25 vehicles in a left-turn only lane;
- 2) 35 vehicles in a through lane, right-turn lane or a combined through and right-turn lane; or
- 3) 35 vehicles (multiplying the left-turn lane volume by 1.5) in a combined left-turn, through and right-turn lane.

4.5.5 Capacity analyses of signalized intersections located outside the study area may be required if these signals are or should be interconnected with an intersection located within the study area. The study area may need to be extended if the signal progression on a signal interconnect system is changed.

4.5.6 A full traffic study must include the following information:

- 1) A description of the site, including the locations of streets and driveways located on any property immediately adjacent to the site and across the street in the immediate vicinity of the project driveways.
- 2) A description of the existing and proposed uses of the site.
- 3) A regional map showing the site and roads in the vicinity of the development, and other proposed projects in the vicinity of the development.
- 4) A description of any traffic increases that are likely to occur in the vicinity of the development during the study period. The developer must include, as applicable, projects that are under construction and not fully occupied, projects for which State or local approval is pending, or projects that have State or local approval but are not constructed or fully occupied.
- 5) A calculation of the trip generation for the development and other likely traffic increases, including a summary table listing each type of land use, the size involved, the average trip generation used, and the resultant total trips generated.
- 6) A description and diagram of the anticipated distribution of traffic entering and exiting the site.
- 7) A description and diagram of the anticipated utilization of roads and intersections in the vicinity of the development.
- 8) A diagram and appropriate documentation of the traffic volume on roads and intersections in the vicinity of the development for both the estimated annual average daily traffic and the a.m./p.m. peak hour traffic, including turns during the peak hour. The study must show the following on the traffic diagrams:
 - a) Existing traffic volume based on actual counts.
 - b) Traffic attributable to other projects that are proposed or approved.
 - c) Traffic attributable to the development, assuming full build-out and full occupancy.
 - d) Projected traffic volume for the design hour at the time the development will begin operation, assuming full build-out and full occupancy.
 - e) Left-turn lane/right-turn lane warrant analysis.
- 9) A capacity analysis for the determination of the level of service for each road and intersection in the vicinity of the development. Capacity analyses must be performed for all intersections that are currently operated or will be operated as part of a signal interconnect system. The analysis must report whether or not the length of storage for

through or turning lanes is adequate.

- 10) An analysis of the need for new traffic signals in the vicinity of the development. The *Manual of Uniform Traffic Control Devices* must be used as the basis to analyze the need for construction or elimination of traffic signals, as appropriate.
 - 11) A determination of the available sight distance in all directions at each intersection in the vicinity of the development.
 - 12) An inventory of traffic accidents in the vicinity of the development during the most recent 3-year period as compiled from State and local records. A collision diagram must be provided for all links and intersections found to meet Maine Department of Transportation criteria for "High Accident Locations."
 - 13) A description of recommendations for improvements to deficient roads or intersections, and the results of implementation of the recommendations.
- 4.5.7 Proposed improvements to existing public streets must be approved in writing by the Bucksport Town Council, the municipal road commissioner, or the Maine Department of Transportation, as applicable.
- 4.5.8 The reviewing authority must require secondary documentation for proposed substantial improvements or alterations to existing streets.
- 4.5.9 Secondary documentation required by the reviewing authority may include, but is not limited to:
- 1) A detailed plan for any proposed construction or improvements to streets prepared by a qualified professional.
 - 2) A traffic impact study, prepared by a qualified professional.

5. DIMENSIONAL STANDARDS

- 5.1 Mineral extractions are not subject to compliance with any minimum lot size, minimum street frontage, minimum shore frontage, or maximum lot coverage requirements. Notwithstanding these exceptions, any legally existing mineral extraction operating in a shoreland district is subject to compliance with the following standards:
- 1) A maximum total footprint of all structures and impervious surface areas of 20% of the land area in the shoreland district.
 - 2) A minimum shore frontage of 200 feet per principal structure or use.
 - 3) A minimum lot size of 40,000 square feet per principal structure or use.
- 5.2 All principal and accessory structures are subject to compliance with a maximum structure height of 100 feet. Any structure with no floor area, such as a transmission tower, chimney, windmill, antenna or batch plant is not subject to maximum structure heights.
- 5.3 Mineral extractions are subject to compliance with the minimum setback requirements in section 5.4. Minimum setbacks may be reduced with a variance granted by the board of appeals, except as otherwise provided for in section 5.4. When a granted variance reduces a minimum setback to below the minimum required by DEP, an equivalent variance must be granted by DEP before a certificate of variance may be recorded at the Hancock County Registry of Deeds.
- 5.3.1 Where expressly allowed in section 5.4, a proposed setback that is less than the minimum specified in the table is not subject to approval of the board of appeals if the reduced setback is approved by the reviewing authority and:
- 1) the setback is agreed upon by the mineral extraction owner and affected abutting property owners, or
 - 2) the structure or property subject to the reduced setback is owned by the mineral extraction owner.

5.4. MINIMUM SETBACKS

MINIMUM SETBACK OF → FROM ↓	A STONE EXCAVATION	A GRAVEL OR SAND EXCAVATION	A CLAY, PEAT OR SILT EXCAVATION	A TOPSOIL EXCAVATION	A PROCESSING OR STORAGE AREA
1. THE PROPERTY LINES OF:					
1.A. A PROTECTED LOCATION LOT	TBD [4] [5] [6]	TBD [4] [5] [6]	TBD [4] [5] [6]	25' [1] [4]	TBD [4] [5] [6]
1.B. ANY OTHER LOT	100' [1] [2]	100' [1] [2]	100' [1] [2]	25' [1] [2]	100' [1] [2]
1.C. A CEMETERY OR BURIAL GROUND	100' [3]	50' [3]	50' [3]	25' [4]	50' [3]
2. THE SHORELINE OF:					
2.A. A GREAT POND, OR RIVER OR STREAM FLOWING TO A GREAT POND	250' [4]	250' [4]	250' [4]	250' [4]	250' [4]
2.B. ANY OTHER RIVER OR STREAM, AS DEFINED	250' [4]	250' [4]	250' [4]	250' [4]	250' [4]
2.C. ANY FRESHWATER WETLAND, AS DEFINED	250' [4]	250' [4]	250' [4]	250' [4]	250' [4]
3. THE RIGHT OF WAY OF:					
3.A. A PUBLIC ROAD	100' [4]	100' [4]	100' [4]	25' [4]	100' [4]
3.B. A PRIVATE ROAD	50' [1] [4]	50' [1] [4]	50' [1] [4]	25' [1] [4]	100' [1] [4]
3.C. A PUBLIC WAY WITHOUT A ROAD	50' [4]	50' [4]	50' [4]	25' [4]	50' [4]
3. D. A PRIVATE WAY WITHOUT A ROAD	50' [1] [4]	50' [1] [4]	50' [1] [4]	25' [1] [4]	50' [1] [4]

TBD: To be determined by reviewing authority

- [1] The setback may be reduced with written permission from abutting property owners or if the lot or structure is owned by the mineral extraction owner.
- [2] The setback may only be reduced by variance upon demonstration of adequate noise abatement and smoke, dust, and odor buffers, as applicable.
- [3] The setback may not be reduced to less than 25 feet.
- [4] The setback may not be reduced by variance.
- [5] The excavation or product processing or storage area may not be located less than 500' from the nearest principal structure or planned principal structure at a protected location, unless written permission from the protected location lot owner has been granted, or the protected location lot is owned by the mineral extraction owner.
- [6] The mineral extraction operation may not be located less than 100' from a property line, unless written permission from the abutting property owner has been granted, the abutting lot is owned by the mineral extraction owner, or mineral extraction operations on abutting properties are to be connected. Any required DEP variance must also be granted prior to approval of an application.

5.4. MINIMUM SETBACKS (continued)

MINIMUM SETBACK OF → FROM ↓	A STONE EXCAVATION	A GRAVEL OR SAND EXCAVATION	A CLAY, PEAT OR SILT EXCAVATION	A TOPSOIL EXCAVATION	A PROCESSING OR STORAGE AREA
4. A PREDEVELOPMENT PRIVATE DRINKING WATER SUPPLY THAT IS:					
4.A. A POINT-DRIVEN OR DUG WELL.	200' [1] [8]	200' [1] [8]	200' [1] [8]	25' [1]	200' [1]
4.B. A DRILLED WELL	100' [1] [8]	100' [1] [8]	100' [1] [8]	25' [1]	100' [1]
5. A PUBLIC DRINKING WATER SOURCE FOR A SYSTEM SERVING A POPULATION OF:					
5.A. 500 OR LESS.	300' [4] [7]	300' [4] [7]	300' [4] [7]	25' [3]	300' [4]
5.B. 501-1,000.	500' [4] [7]	500' [4] [7]	500' [4] [7]	25' [3]	500' [4]
6.C. MORE THAN 1,000.	1,000' [4]	1,000' [4]	1,000' [4]	25' [3]	1,000' [4]
6. THE SEASONAL HIGH WATER TABLE	NONE [9]	5' [4]	5' [4]	5' [4]	5' [4]
7. SIGNIFICANT WILDLIFE HABITAT (SEE SEC. 1.3.2)	250' [4]	250' [4]	250' [4]	250' [4]	250' [4]

- [1] The setback may be reduced with written permission from abutting property owners or if the lot or structure is owned by the mineral extraction owner.
- [3] The setback may not be reduced to less than 25 feet.
- [4] The setback may not be reduced by variance.
- [7] The minimum setback is increased to 1,000 feet if the excavation extends below the seasonal high water table.
- [8] The minimum setback is increased to 300 feet if the excavation extends below the seasonal high water table.
- [9] Excavation below the seasonal high water table must be approved by DEP.

5.4. MINIMUM SETBACKS (continued)

MINIMUM SETBACK OF → FROM ↓	A STONE CRUSHER	AN ASPHALT OR CONCRETE MIXING PLANT	A TRUCK ACCESS ROAD ON THE PROPERTY	A POWER GENERATOR	A FUEL STORAGE STRUCTURE	A STORM-WATER TREATMENT FACILITY	AN ACCESSORY BUILDING (E.G. OFFICE, STORAGE, SHOP, GARAGE)
8. THE PROPERTY LINES OF:							
8.A. A PROTECTED LOCATION LOT	TBD [1] [4] [10] [11]	TBD [1] [4] [10] [11]	TBD [1] [4] [10]	TBD [1] [4] [10]	TBD [1] [4] [10]	TBD [1] [4] [10]	TBD [1] [4] [10]
8.B. ANY OTHER LOT	TBD [1] [4] [10] [11]	TBD [1] [4] [10] [11]	TBD [1] [4] [10]	TBD [1] [4] [10]	TBD [1] [4] [10]	TBD [1] [4] [10]	TBD [1] [4] [10]
8.C A CEMETERY OR BURIAL GROUND	100' [3]	100' [3]	50' [3]	50' [3]	50' [3]	50' [3]	50' [3]
9. THE SHORELINE OF:							
9.A. A GREAT POND, OR RIVER OR STREAM FLOWING TO A GREAT POND	250' [4]	250' [4]	100' [7] [4]	250' [4]	250' [4]	250' [4]	250' [4]
9.B. ANY OTHER RIVER OR STREAM, AS DEFINED	250' [4]	250' [4]	75' [7] [4]	250' [4]	250' [4]	250' [4]	250' [4]
9.C. ANY FRESHWATER WETLAND, AS DEFINED	250' [4]	250' [4]	100' [7] [4]	250' [4]	250' [4]	250' [4]	250' [4]

TBD: To be determined by reviewing authority

- [1] The setback may be reduced with written permission from abutting property owners or if the lot or structure is owned by the mineral extraction owner.
- [2] The setback may only be reduced by variance upon demonstration of adequate noise abatement and smoke, dust and odor buffers, as applicable.
- [3] The setback may not be reduced to less than 25 feet.
- [4] The setback may not be reduced by variance.
- [7] Except for that portion of a road that approaches a water body crossing or a wetland crossing.
- [10] The setback is the distance determined by the reviewing authority to be sufficient to ensure that no other property will be subjected to unreasonable detrimental effects from noise, vibrations, smoke, dust, odors, or other pollutants, and to ensure that there will be no unreasonable detrimental effects to surface or subsurface waters.
- [11] The structure may be no closer to the property line than the mineral extraction site.

5.4. MINIMUM SETBACKS (continued)

MINIMUM SETBACK OF →	A STONE CRUSHER	AN ASPHALT OR CONCRETE MIXING PLANT	A TRUCK ACCESS ROAD ON THE PROPERTY	A POWER GENERATOR	A FUEL STORAGE STRUCTURE	A STORM-WATER TREATMENT FACILITY	AN ACCESSORY BUILDING (E.G. OFFICE, STORAGE, SHOP, GARAGE)
10. THE RIGHT OF WAY OF:							
10.A. A PUBLIC ROAD	100' [4]	100' [4]	NONE	100' [4]	100' [4]	100' [4]	100' [4]
10.B. A PRIVATE ROAD	100' [1] [4]	100' [1] [4]	NONE	100' [1] [4]	100' [1] [4]	100' [1] [4]	100' [1] [4]
10.C. A PUBLIC WAY WITHOUT A ROAD	50' [4]	50' [4]	NONE	50' [4]	50' [4]	50' [4]	50' [4]
10. D. A PRIVATE WAY WITHOUT A ROAD	50' [1] [4]	50' [1] [4]	NONE	50' [1] [4]	50' [1] [4]	50' [1] [4]	50' [1] [4]
11. A PREDEVELOPMENT PRIVATE DRINKING WATER SUPPLY THAT IS:							
11.A. A POINT-DRIVEN OR DUG WELL.	200' [1]	200' [1]	200' [1]	200' [1]	200' [1]	200' [1]	200' [1]
11.B. A DRILLED WELL	100' [1]	100' [1]	100' [1]	100' [1]	100' [1]	100' [1]	100' [1]
12. A PUBLIC DRINKING WATER SOURCE FOR A SYSTEM SERVING A POPULATION OF:							
12.A. 500 OR LESS.	300' [4]	300' [4]	300' [4]	300' [4]	300' [4]	300' [4]	300' [4]
12.B. 501-1,000.	500' [4]	500' [4]	500' [4]	500' [4]	500' [4]	500' [4]	500' [4]
12.C. MORE THAN 1,000.	1,000' [4]	1,000' [4]	1,000' [4]	1,000' [4]	1,000' [4]	1,000' [4]	1,000' [4]
13. THE SEASONAL HIGH WATER TABLE	5' [4]	5' [4]	5' [4]	NONE	5' [4]	5' [4]	NONE
14. SIGNIFICANT WILDLIFE HABITAT (SEE SEC. 1.3.2)	250' [4]	250' [4]	250' [4]	250' [4]	250' [4]	250' [4]	250' [4]

[1] The setback may be reduced with written permission from abutting property owners or if the lot or structure is owned by the mineral extraction owner.

[4] The setback may not be reduced by variance.

6) SPECIFIC USE STANDARDS

6.1 OPERATIONAL STANDARDS

Hours of operation

6.1.1 Blasting, or the operation of extracting, earth-moving, loading, or processing equipment may only be conducted between 7:00am and 7:00pm, local time. Trucks or other equipment in transit to or from the site, and any other activity associated with the mineral extraction operation, are not subject to this restriction.

6.1.2 Blasting, and the operation of extracting, earth-moving, loading, or processing equipment may be conducted on any day except Sunday.

Inspections

6.1.3 Inspections of mineral extraction operations must be conducted by third-party inspectors approved by the reviewing authority. The reviewing authority shall determine the content and frequency of inspections, based on the type, activity and size of the mineral extraction operation. A copy of each written inspection report must be submitted to the reviewing authority. The mineral extraction operator shall be responsible for all inspection costs.

6.1.4 If an inspection report identifies compliance deficiencies, the reviewing authority may require the mineral extraction owner or operator to submit documentation describing corrective measures to be taken and the expected time needed to remove the deficiencies. In the event of reported hazards or damages to the environment or other serious nuisance conditions caused or exacerbated by a mineral extraction operation, the reviewing authority may require that the owner or operator partially or fully stop, or scale back the mineral extraction operation until such time as adequate mitigation is provided.

Transfer of ownership

6.1.5 Written notice of a transfer of ownership of any mineral extraction operation must be given to the town by the new owner within 30 days of the date of the transfer. The notice must include a statement of agreement and capacity to continue the mineral extraction operation in compliance with all applicable requirements of Appendix K, and a description of any proposed changes to the operation. If changes are proposed, the reviewing authority must determine what, if any, review is required.

Performance record

6.1.6 The reviewing authority may consider the performance record of the applicant and those responsible for the management of the operation when developing conditions of approval addressing the operation of the facility. The performance record to be reviewed must include any prior violation, suspension, or revocation of a permit issued under this ordinance, or similar permit issued by any other agency of government, and any other environmental enforcement history. Any condition of approval related to an unsatisfactory performance record must be specifically intended to mitigate performance concerns.

Expansions

6.1.7 Any mineral extraction expansion is subject to approval by the reviewing authority. The mineral extraction owner may be required to address any substandard conditions as a condition of approval.

6.1.7.1 An expansion of a mineral extraction includes:

- 1) the excavation of another mineral resource not previously excavated or approved for excavation,
- 2) the increase of area being excavated beyond the maximum permitted without DEP

approval,

- 3) the increase of area being excavated beyond the maximum permitted by the town, or
- 4) the operation of a stone crusher or asphalt or concrete mixing plant on the property containing the mineral extraction, when no such operation has taken place previously.

Existing Mineral Extraction Operations

6.1.8 Any mineral extraction operation involving the excavation of borrow, clay, topsoil or silt that was established before January 13, 2010, may continue in operation without approval by the reviewing authority and without regard to location, unless the continuance of such operation:

- 1) is deemed to be an expansion as identified in section 6.1.7.1;
- 2) is located within 100 feet of a great pond or a river flowing to a great pond, or within 75 feet of the shoreline of any other water body, tributary stream, or freshwater wetland;
- 3) is not in compliance with 38 M.R.S.A. Chapter 3, §490-A et seq; or
- 4) requires DEP approval.

6.1.8.1 If any of the above conditions apply, continuance of the mineral extraction operation is subject to approval by the reviewing authority. The review shall address any of the above conditions deemed to be applicable.

6.1.8.2 No mineral extraction involving the excavation of rock that has not been approved by the town may continue or be reestablished without town approval.

6.1.8.3 No existing mineral extraction located in a shoreland overlay district may be expanded in that district.

6.2 **BLASTING STANDARDS**

6.2.1 The applicant must ensure that blasting is conducted in accordance with Title 25, chapter 318.

6.2.2 The owner or operator must use sufficient stemming, matting, or natural protective cover to prevent fly rock from leaving property owned or under control of the owner or operator or from entering protected natural resources or natural buffer strips. Crushed rock or other suitable material must be used for stemming when available; native gravel, drill cuttings, or other material may be used for stemming only if no other suitable material is available.

6.2.3 The maximum allowable air blast at any inhabited building not owned or controlled by the owner may not exceed 129 decibels peak when measured by an instrument having a flat response (+ or - 3 decibels) over the range of 5 to 200 hertz.

6.2.4 The maximum allowable air blast at an uninhabited building not owned or controlled by the owner may not exceed 140 decibels peak when measured by an instrument having a flat response (+ or - 3 decibels) over the range of 5 to 200 hertz.

6.2.5 Monitoring of air blast levels is required in all cases for which a pre-blast survey is required by section 7.7. Any waiver of air blast monitoring that may be granted by DEP must also be approved by the reviewing authority.

6.2.6 If a blast is to be initiated by detonating cord, the detonating cord must be covered by crushed rock or other suitable cover to reduce noise and concussion effects.

6.2.7 A pre-blast survey is required prior to the commencement of production blasting and must extend a minimum radius of 1/2 mile from the blast site. The pre-blast survey must document any pre-existing damage to structures and buildings and any other physical features within the survey radius that could reasonably be affected by blasting. Assessment of features such as pipes, cables, transmission lines, and wells and other water supply systems, must be limited to surface conditions and other readily available data, such as well yield and water quality. The pre-blast survey must be conducted prior to the initiation of blasting at the

operation. The owner or operator must retain a copy of all pre-blast surveys for at least one year from the date of the last blast on the development site.

6.2.8 The owner or operator is not required to conduct a pre-blast survey if DEP and the reviewing authority determine the following:

- 1) No protected natural resource within the limits of the otherwise required survey is likely to be affected by blasting; and production blasting will not occur within 2000 feet of any building not owned or under the control of the developer.
- 2) The owner or operator has documented the rejection of an offer by registered letter, return receipt requested, to conduct a pre-blast survey. Any person owning a building within a pre-blast survey radius may voluntarily waive the right to a survey.
- 3) The owner or operator has agreed to design all blasts so that the weight of explosives per 8 millisecond or greater delay does not exceed that determined by the equation $W=(D/Ds)^2$, where W is the maximum allowable weight of explosives per delay of 8 milliseconds or greater, D is the shortest distance between any area to be blasted and any inhabitable structure not owned or controlled by the developer and Ds equals 70 ft./(lb.)^{1/2}.

6.2.9 Blasting may not occur in the period between sundown and sunrise the following day or in the period between 7:00 p.m. and 7:00 a.m., whichever is a longer time period. Routine production blasting is not allowed in the daytime on Sunday. Detonation of misfires may occur outside of these times but must be reported to DEP within 5 business days of the misfire detonation. Blasting may not occur more frequently than 4 times per day. Underground production blasting may be exempted from these requirements provided that a waiver is granted by DEP and approved by the reviewing authority.

6.2.10 Sound from blasting may not exceed the following limits at the property line of any protected location:

Number of Blasts Per Day	Sound Level Limit
1	129 decibels
2	126 decibels
3	124 decibels
4	123 decibels

6.2.10.1 Blast sound must be measured in peak linear sound level (dBL) with a linear response down to 5 Hz.

6.2.11 The maximum peak particle velocity at inhabitable structures not owned or controlled by the owner may not exceed the levels established in section 7.20 and the graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507," Appendix B, Figure B-1. The reviewing authority must approve any variance granted by DEP to allow ground vibration levels greater than 2 inches per second on undeveloped property not owned or controlled by the applicant before such variance may be implemented.

6.2.12 The reviewing authority must approve any variance granted by DEP to allow higher vibration levels for certain buildings and infrastructures before such variance may be implemented..

6.2.13 Section 7.20 or the graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507," Appendix B, Figure B-1 must be used to evaluate ground vibration effects for those blasts for which a pre-blast survey is required.

6.2.14 Either section 7.20 or the graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507," Appendix B, Figure B-1 may be used to evaluate ground vibration effects when blasting is to be monitored by seismic instrumentation.

6.2.15 Blasting measured in accordance with section 7.20 must be conducted so that the peak

particle velocity of any one of the 3 mutually perpendicular components of motion does not exceed the ground vibration limits at the distances specified in section 7.20.

6.2.16 Seismic instruments that monitor blasting in accordance with section 7.20 must have the instrument's transducer firmly coupled to the ground.

6.2.17 An owner or operator using section 7.20 to evaluate ground vibration effects must use the scaled-distance equation, $W=(D/D_s)^2$, to determine the allowable charge weight of explosives to be detonated in any 8 millisecond or greater delay period without seismic monitoring, where W is equal to the maximum weight of explosives, in pounds, and D and D_s are defined as in section 7.20. The reviewing authority may authorize use of a modified scaled-distance factor for production blasting if the owner or operator can demonstrate to a 95% confidence level, based upon records of seismographic monitoring at the specific site of the mining activity covered by the permit, that use of the modified scaled-distance factor will not cause the ground vibration to exceed the maximum allowable peak particle velocities of section 7.20.

6.2.18 Blasting monitored in accordance with the graph published by the United States Department of the Interior in "Bureau of Mines Report of Investigations 8507," Appendix B, Figure B-1 must be conducted so that the continuously variable particle velocity criteria are not exceeded.

6.2.19 Any variance granted by DEP for ground vibration monitoring must also be approved by the reviewing authority.

6.2.20 Table 1.

Distance versus Peak Particle Velocity Method

Distance (D) from the blast area (feet)	Maximum allowable peak particle velocity (V_{max}) for ground vibration (in./sec.)	Scaled-distance factor (D_s) to be applied without seismic monitoring
0 to 300	1.25	50
301-5000	1.00	55
Greater than 5000	0.75	65

6.2.21 A record of each blast, including seismographic data, must be kept for at least one year from the date of the last blast. Records must be available for inspection at the development or at the offices of the owner or operator if the development has been closed, completed or abandoned before the one-year limit has passed and must contain at a minimum the following data:

- 1) Name of blasting company or blasting contractor;
- 2) Location, date and time of blast;
- 3) Name, signature, and social security number or Federal identification number of blaster;
- 4) Type of material blasted;
- 5) Number and spacing of holes and depth of burden or stemming;
- 6) Diameter and depth of holes;
- 7) Type of explosives used;
- 8) Total amount of explosives used;
- 9) Maximum amount of explosives used per delay period of 8 milliseconds or greater;
- 10) Maximum number of holes per delay period of 8 milliseconds or greater;
- 11) Method of firing and type of circuit;
- 12) Direction and distance in feet to the nearest dwelling, public building, school, church or commercial or institutional building neither owned nor controlled by the developer;
- 13) Weather conditions, including factors such as wind direction and cloud cover;
- 14) Height or length of stemming;
- 15) Amount of mats or other protection used;
- 16) Type of detonators used and delay periods used;

- 17) The exact location of each seismograph and the distance of each seismograph from the blast;
 - 18) Seismographic readings;
 - 19) Name and signature of the person operating each seismograph; and
 - 20) Names of the person and the firm analyzing the seismographic data.
- 6.2.22 All field seismographs must record the full analog wave form of each of the 3 mutually perpendicular components of motion in terms of particle velocity. All seismographs must be capable of sensor check and must be calibrated according to the manufacturer's recommendations.
- 6.2.23 If any blasting activity exceeds the standards in this subsection, DEP and the reviewing authority must be notified within 48 hours of the blast event. Notification must include the name of the blasting operator, the location, date, and time of the blasting event, and a description of the specific occurrence that is in noncompliance with this subsection. Use of explosives at a rock excavation may be suspended by DEP or the reviewing authority until the cause of the noncompliance is identified and appropriate steps are implemented to reduce, prevent, or eliminate reoccurrence.
- 6.2.24 Prior to blasting, the owner or operator must develop and implement a plan that provides an opportunity for prior notification of a planned blast for all persons located within 1,000 feet of the blast site. Notification may be by telephone, in writing, by public notice in a newspaper of general circulation in the area affected, or by other means identified in the plan. The plan must be in writing and available for inspection by DEP and the reviewing authority.
- 6.3 **RECLAMATION STANDARDS**
- 6.3.1 All land disturbed by a mineral extraction must be restored to a condition that is similar to or compatible with the conditions that existed before the excavation. Reclamation must be conducted in accordance with best management practices for erosion and sedimentation control.
- 6.3.2 High-walls, or rock excavation faces, must be treated in such a manner as to leave them in a condition that minimizes the possibility of rock falls, slope failures, and collapse. A high-wall that is loose must be controlled by the use of blasting or scaling, safety benches, flatter slopes or reduced face heights, benching near the top of the face, or rounding the edge of the face.
- 6.3.3 A vegetative cover must be established by seeding or planting within one year of the completion of excavation. Vegetative cover must be established on all affected land except for rock excavation walls and flooded areas. A vegetative cover must be established on safety benches, unless otherwise approved by the reviewing authority. A minimum of 4 inches of topsoil must be placed, seeded and mulched within 30 days of final grading. Vegetative cover is acceptable if within one year of seeding:
- 1) The planting of trees and shrubs results in a permanent stand or a stand capable of regeneration and succession sufficient to ensure a 75% survival rate; and
 - 2) The planting of all material results in permanent 90% ground cover.
- 6.3.4 Vegetative cover used in reclamation must consist of grasses, legumes, herbaceous or woody plants, shrubs, trees or a mixture of these.
- 6.3.5 All structures, once no longer in use, and all abandoned access roads, haul roads, and other support roads must be reclaimed.
- 6.3.6 All affected lands must be reclaimed within 2 years after final grading. Topsoil that is stripped or removed must be stockpiled for use in reclaiming disturbed land areas. Topsoil must be stockpiled in sufficient quantity for use in reclaiming, unless the reviewing authority determines that stockpiling of topsoil is not necessary for reclamation purposes. Stockpiles must be seeded, mulched or otherwise stabilized for erosion control. Any variance of the

stockpiling requirement that may be granted by DEP must be approved by the reviewing authority.

6.3.6.1 Stockpiles of topsoil are not subject to the setback requirements applicable to processing and stockpile areas, as identified in section 5.4.

6.3.7 In any shoreland district where a legally existing mineral extraction is located, the following additional requirements must be met:

- 1) No part of the mineral extraction operation, including drainage and runoff features, may be permitted within 100 feet of the shoreline of a great pond or river flowing to a great pond, or within 75 feet of the shoreline of any other water body, tributary stream or wetland.
- 2) Within 12 months after the completion of extraction operations at any extraction site, the site must be reclaimed in accordance with the following requirements:
 - a) All debris, stumps, and similar material must be disposed of in accordance with State law.
 - b) The final graded slope must be a 2 ½ to 1 slope or less.
 - c) Top soil or loam must be retained to cover all disturbed land areas. Covered areas must be reseeded and stabilized with vegetation native to the area. Additional top soil or loam must be obtained from off-site sources if necessary to complete stabilization.

6.3.8 For the purposes of compliance with section 8, an extraction operation at any extraction site is deemed to be complete when less than 100 cubic yards of material are removed in any consecutive 12 month period.

6.4 **PERFORMANCE GUARANTEES**

6.4.1 A performance guarantee must be required for improvements to public property that are required for a mineral extraction operation, including but not limited to road repairs, turning lanes, traffic signals, and signage.

6.4.2 A performance guarantee may be required for site improvements such as stormwater management facilities, buffers, and erosion and sedimentation control measures.

6.4.3 A performance guarantee must be required for required reclamation.

6.4.4 The applicant must provide required performance guarantees in any of the following forms:

- 1) A performance bond payable to the municipality issued by a surety company, approved by the municipal officers or town manager, or
- 2) An irrevocable letter of credit from a financial institution establishing funding for the required improvements, from which the municipality may draw if construction is inadequate. The letter of credit must be approved by the municipal officers or town manager.

6.4.5 The conditions and amount of the performance guarantee must be determined by the reviewing authority with the advice of the municipal engineer, road commissioner, municipal officers, or municipal attorney, as applicable. The amount must be adequate to cover the total costs of all required improvements, taking into account the time-span of the construction schedule and the inflation rate for construction costs.

6.4.6 The performance guarantee must contain a construction schedule, cost estimates for each major phase of construction (factored for inflation), provisions for inspections of each phase of construction, provisions for the release of part or all of the performance guarantee to the applicant, and a date after which the applicant will be in default and the municipality will have access to the funds to finish construction.

6.4.7 A performance bond must detail the conditions of the bond, the method for release of the bond or portions of the bond and the procedures for collection by the municipality. The bond documents must specifically reference the land use for which approval is sought.

- 6.4.8 An irrevocable letter of credit from a bank or other lending institution must indicate that funds have been set aside for the project and that they may not be used for any other project or loan.
- 6.4.9 Prior to the release of any part of the performance guarantee, the reviewing authority must determine that the improvements or reclamation subject to the guarantee meet or exceed the design and construction requirements for that portion or phase of the project for which the release is requested. The determination must be based on the report of the municipal engineer or other qualified individual retained by the municipality and any other agencies and departments that may be involved.

7 APPLICATION CONTENT

- 7.1 A Level 2 review application for a mineral extraction operation must include, at a minimum, a standard application form and a site plan. The site plan must comply with the format and information requirements described in this section, as applicable.
- 7.2 The applicant must provide evidence of right, title or interest in the property to be developed. If the applicant is not the property owner, then written authorization from the property owner to develop or occupy the property with the proposed land use must be submitted with the application. The application must be signed and dated by the applicant.
- 7.3 Site plans must comply with the following basic format:
- 1) Black ink on white paper at a scale of one inch equals not more than 100 feet. Ten copies must be provided.
 - 2) Paper size no larger than 24" x 36", with a margin of at least one inch, and two inches on the left side for binding purposes.
- 7.4 Site plans must include the following basic identifying information:
- 1) The project name, the name of the municipality, name and address of the record owner of the property being developed and the name and address of the project developer.
 - 2) Districts affecting the lot to be developed and contiguous lots.
 - 3) Name, address, license number, seal, and signature of the surveyor providing surveying data.
 - 4) Name, address, license number, seal and signature of the engineer providing engineering data, if any.
 - 5) Tax map and lot identification of the property.
 - 6) A location map based on a U.S.G.S. topographic map.
 - 7) A north point arrow and a graphic scale.
- 7.5 Site plans must include the following basic dimensional information:
- 1) Size, in acres, of the property.
 - 2) Bearings and lengths of the boundary lines of the property to be developed, as identified by a standard boundary survey.
 - 3) Width of street frontage and shoreline frontage.
 - 4) Footprint and height dimensions of buildings and other structures.
 - 5) Setback dimensions of buildings and other structures.
 - 6) Percent of lot coverage by structures and non-vegetated surfaces in any shoreland district.
- 7.6 Site plans must include identification of the following natural features of the property to be developed, as may be applicable:
- 1) Topography, shown as contour lines at intervals not to exceed 20 feet.
 - 2) Cleared or natural openings in the vegetation, including timber harvests.
 - 3) Water bodies, including ponds, rivers, streams, tributary streams, and wetlands.
 - 4) The location of essential habitat for rare, threatened, and endangered plants and animals.
 - 5) Surface water drainage flow patterns.
 - 6) The location of any other natural features or unique site elements.

- 7.7 Site plans must include the following site development information, as may be applicable:
- 1) The location of proposed and existing structures on the property.
 - 2) The location of existing and proposed mineral extraction activities on the property and abutting properties.
 - 3) The approximate location of residences that are within 1,000 feet of the proposed activity.
 - 4) The location of existing wells within 1,000 feet of the proposed activity.
 - 5) The location of proposed hazardous material storage areas including but not limited to fuel storage and handling, and washdown areas.
 - 6) The location of all existing and proposed buffers and screening.
 - 7) The location of existing and proposed utility service connections.
 - 8) The location of proposed access roads to the mineral extraction activity from public roadways.
 - 9) The location of street lamps.
 - 10) The location and size of signs and all permanent outdoor fixtures such as fences, gates, and utility poles.
 - 11) The location, dimensions, and purpose of any existing or proposed easement.
 - 12) The location and arrangement of proposed parking and loading areas, and their appurtenant drives and maneuvering areas.
- 7.8 The following additional information must be submitted with the application:
- 1) A narrative description of the present use of the property and property within 1000 feet of the activity.
 - 2) The type of mining planned and the estimated longevity of the operation, including phasing.
 - 3) A blasting plan, if required.
 - 4) A noise study, if applicable.
 - 5) A traffic study, if applicable.
 - 6) An estimate of the average daily traffic during periods of operation projected to be generated by the activity, and the types and amounts of equipment to be used in the operation.
 - 7) Proposed hours and days of operation.
 - 6) Statement of financial capacity.
 - 7) A narrative description of the surface and ground water impacts, including protection plans and the identification of any significant aquifers mapped by the Maine Geographical Survey or the United States Geographical Survey.
 - 8) A narrative description of the impact on the wildlife habitat, and the location of any deer yard or other significant wildlife habitat designated by Maine Dept. of Inland Fisheries and Wildlife, including any proposed mitigation plan.
 - 9) A stormwater management plan, including erosion and sedimentation control measures, and the location and dimensions of culverts, ditches, catch basins, and curbing.
 - 10) A Spill Prevention, Control & Containment Plan.
 - 11) A soil erosion and sedimentation control plan, prepared in accordance with the standards contained in the latest revision of *Maine Erosion and Sedimentation Control Best Management Practices*, published by DEP.
 - 12) A planting plan and schedule keyed to the site plan indicating the general species and sizes of trees, shrubs, and other plants to be planted on the site.
 - 13) A reclamation plan showing the final grades and revegetation plan, and any phasing of the plan.
 - 14) If the proposed land use requires a subsurface wastewater disposal system, a system design prepared by a qualified professional must be submitted with the application.
 - 15) All submissions made to any federal or state agency concerning the property.