

Section 14. BASIC STANDARDS

14.1. INTRODUCTION

The following plan has been prepared to address the potential for erosion and sedimentation associated with the construction of the proposed Downeast Wind Project (the Project), a grid-scale wind energy power generation facility. This plan also contains the Project's strategy for controlling erosion and sedimentation during construction and long-term operation of the Project. This plan was developed based on suitable engineering practices, generally accepted industry standards, and in accordance with the guidance provided in the Maine Erosion and Sediment Control Best Management Practices Manual for Designers and Engineers (MDEP, October 2016).¹¹

The following discussion demonstrates how the proposed Project meets the standards for erosion and sedimentation control in 38 M.R.S.A. § 420-C,¹² and that the proposed Project has made adequate provisions for controlling erosion and sedimentation.

The proposed Project is located in the Town of Columbia and unorganized territories of T18 and T24 MD BPP in Washington County, Maine. The Project will include improving existing and constructing new gravel access roads and crane paths, 30 wind turbines, a collector substation and switchyard, underground collector lines, 1 meteorological tower and 2 temporary power performance tower locations, temporary laydown areas, and an operations and maintenance (O&M) building.

The Project will utilize a professional engineer licensed in the state of Maine to design the Erosion and Sediment Control measures required for all construction activities and prepare a set of design drawings to be utilized by the contractor.

14.1.1. DEFINITIONS

The following terms used throughout this plan are:

Acceptance – Verification by the Owner and/or Engineer that the specific erosion control measure or device to be accepted is adequately constructed, performs satisfactorily as intended, and is complete. Acceptance of a measure or device by the Owner or the Engineer will be based upon visual observations and inspection and is not a warranty of compliance, compaction, structural integrity, workmanship, or other construction-related or qualitative factors that may require testing or other means of certification of compliance.

Buffer Strips – Natural, undisturbed strips of natural vegetation or reseeded strips of close-growing vegetation adjacent to and downslope of developed areas.

- Buffer with stone bermed level lip spreaders: This buffer is used for larger, developed areas and uses a level spreader to create sheet flow onto the buffer.
- Roadside Buffer adjacent to the downhill side of a road: This buffer is used for flow from a roadway when it directly enters the buffer as sheet flow.

¹¹ Available Online: https://www.maine.gov/dep/land/erosion/escbmeps/esc_bmp_engineers.pdf

¹² Available Online: <http://www.mainelegislature.org/legis/statutes/38/title38sec420-C.html>

- Ditch turn-out buffer: This buffer is used to divert roadway runoff collected in a ditch into a buffer as sheet flow.

Clearing – Includes cutting and removing vegetative cover. It does not include grubbing. Limited cutting, thinning, use of heavy equipment, and other clearing restrictions will apply to sensitive areas and wetland crossings (Section 10).

Critical Areas – Specific areas identified herein or subject to significant erosion problems as observed in the field prior to, during, or following construction activities, such as areas with steep slopes or channels in excess of 8%, newly graded slopes, highly erodible soils that will be exposed for more than seven days, or bare soils exposed during late fall and winter when no vegetation can grow.

Earthwork – Consists of the movement of soil by mechanical means including excavation, filling, grading, trenching, and shaping.

Engineer – As used herein shall mean a representative of the civil engineer of record or person designated by the Owner.

Erosion and Sedimentation Controls – The installation of silt fence, bales, erosion control berms, rip-rap, mulching, erosion control matting or netting, check dams, inlet protection, reinforced turf, erosion control mix, construction entrances, diversions, level spreaders, and any other temporary or permanent measures required herein.

Grubbing – The removal of grass, stumps, roots, and scrub required to begin earthwork. Grubbing is the initial clearing activity that exposes soil to erosive forces (wind, rain).

Interim Period – A period of time that an un-vegetated area sits un-worked, awaiting the next phase of work.

Permanent or Final – As used herein shall refer to the use or placement of erosion or sedimentation controls, seeding, or other measures, which will remain through final project completion.

Seasons – The following dates define the seasons as referred to herein:

<u>Season</u>	<u>Dates</u> (may vary from year to year)
Winter:	November 1 to April 15
Mud-Season:	March 16 to April 30
Spring:	May 1 to June 15
Summer:	June 15 to September 15
Fall:	September 16 to October 31

Temporary – As used herein, shall refer to the use or placement of erosion or sedimentation controls, seeding, or other measures intended to be either removed, replaced, reworked, reseeded, or followed with permanent measures.

14.1.2. STORMWATER MANAGEMENT MEASURES

See Section 12 for more information on stormwater management, including stormwater treatment buffers. Stormwater buffers have been sited and designed in accordance with the Maine

Stormwater Best Management Practices Manual, Volume III: BMP Technical Design Manual Chapter 5, Vegetated Buffers (revised June 2010).

14.2. FIELD ADJUSTMENTS

Minor adjustments to construction and erosion control plans may be made during final design work and during construction based on conditions in the field, such as vegetation clearing outside of resources and minor road alignment changes to accommodate the delivery of Project components. Below is a list of changes that do not require a permit modification and may be made without advance notice to MDEP and do not require prior approval by the third-party inspector or MDEP staff as long as they are reflected in the final as-built drawings:

- Reduction in clearing, impervious surface or size of structure; elimination of a structure; or relocation of a structure within the clearing limits;
- Change in foundation type;
- Location, dimension or addition of drainage culverts, level spreaders, rock sandwiches or other stormwater infrastructure, provided that the culvert does not convey a regulated stream and that the hydraulic capacity of the modified stormwater infrastructure meets design standards;
- Changes to locations for the electrical collection system, provided that any adjustment does not expand the permitted clearing limits and meets the buffer requirements as defined in Section 10;
- Maintenance within the footprint of existing roads, with the exception of any in-stream work or wetland impacts to be used for temporary construction access;
- Temporary vegetation clearing or disturbance of soil that does not require a Permit by Rule to accommodate road alignment adjustments during component delivery;
- Changes of up to 10 feet in vertical roadway alignment and turbine pad elevation; and
- Changes of up to 300 feet in either direction in horizontal roadway alignment and associated clearing, and in turbine or met tower clearing areas, and in electrical collection alignment laydown/staging areas.

Additional adjustments may be made upon prior approval by the third-party inspector or MDEP staff:

- Minor changes that do not increase the footprint of the project and do not increase natural resource impacts;
- A change in the turbine as long as the applicable sound limits will be met and there will not be a significant change in visual impacts associated with the new turbine;
- Changes other than those identified above and that do not otherwise require a permit amendment, as determined by MDEP.

14.3. CONSTRUCTION CALENDAR

The Contractor is required to give special attention to the sections of the plan regarding fall and winter construction, as well as to sensitive areas and requirements for temporary seeding, dormant seeding, and mulching.

14.3.1. SCHEDULE OF ACTIVITIES

The following activities, erosion control measures, or other items are required for the construction of the Project or require specific measures or scheduling of activities to be conducted or restricted during the various construction seasons as defined above.

Clearing – Ground conditions permitting, clearing may occur at any time of the year, except June 1 to July 31 to avoid impacts to tree-roosting bats.

Critical Areas – Work proposed in the defined critical areas may be conducted all year, ground conditions permitting. Areas observed to be experiencing significant erosion problems during the course of construction shall be deemed “critical areas” and will be stabilized with appropriate erosion control measures immediately prior to progressing with work in these areas, as directed by the Engineer.

Erosion and Sedimentation Controls Installation – Erosion control installation shall occur all year long, except that such measures shall be installed prior to commencement of disturbance activities related to each erosion control measure. See design plans as provided in Section 1, Exhibit 1-1 for locations and installation procedures as provided in 14.4 below.

Road Construction – Road construction may occur in the spring, summer, and fall. It may also occur in the winter, but the winter construction guidelines must be followed (See Section 14.5.1). The following requirement for access road construction will be followed in order to prevent erosion during winter construction:

- The entire road system may be cleared in one effort, but the roads will be constructed in segments where each segment is grubbed, constructed, and protected prior to earthwork on the next segment, as approved by the Engineer. This construction sequence is intended to prevent large areas from being exposed, without temporary stabilization, to erosion during major rain events. A segment is defined as a discrete area cleared and grubbed. See Table 14-1 for the stabilization schedule. Multiple segments in different areas of the project may be constructed simultaneously.

Temporary Timber Mat Bridge – Permitted temporary timber mat bridges over streams will be used throughout the year as necessary for clearing and construction activities. Installation and removal of temporary timber mat bridges will proceed in the order outlined below:

- Install erosion controls at the down-gradient perimeter of work adjacent to the stream resource;
- Strip topsoil beneath the temporary bridge supports, as necessary, and stockpile for replacement following construction;
- Place sand leveling material and geotextile fabric, as necessary, to create a stable base for bridge supports;

- Place timber bridge supports and span;
- Place gravel as necessary to create a smooth transition onto bridge;
- Remove bridge following construction, re-grade area with stockpiled topsoil, and reseed/restore per the Project restoration plan; and
- Remove barrier erosion controls following final stabilization/restoration of the crossing.

14.4. CONSTRUCTION PROCEDURES

14.4.1. GENERAL

The construction of the Project may require or incorporate the following measures or practices as needed or applicable. Additional measures not shown on the design plans may be required as specified herein or requested by the Engineer, as needed, in order to protect natural resources or offsite properties and prevent erosion and sedimentation. The Maine DEP manuals, *Maine Erosion and Sediment Control Practices Field Guide for Contractors* and *Maine Erosion and Sediment Control Best Management Practices* will be utilized as a reference in addition to the construction plan and details.

Bales – Shall be installed along the contours in the locations and as detailed on the design plans. Straw (or hay) bales may be required in addition to silt fencing or other measures in sensitive areas as shown on drawings. Bales are to be embedded four inches into existing soil and staked with ends tightly abutting adjacent bales. Where staking and embedding of bales is impractical due to excessive roots, ledge, or other construction hazards, bale barriers may be substituted with erosion control mix berms, as long as they are not installed in locations with concentrated flow.

Construction Entrance – A crushed stone-stabilized pad will be installed at the construction entrance/exit wherever traffic will enter the public road system. The size, type, and locations of these will be included in the design plans. Entrances will be constructed with a 6-inch minimum layer of 2-inch stone, placed on geotextile fabric.

Dust Control – Contractor will take necessary steps to control blowing and airborne movement of dust from exposed soil surfaces. Maintaining natural or temporary vegetation and/or mulching will be used where practical. Mechanical sweepers will be used where necessary to prevent and remove dust buildup on paved surfaces. Regularly traveled soil surfaces will be maintained to minimize dust by periodically moistening bare areas with water (for water sources, see Section 16, Water Supply). Calcium Chloride may be used in areas experiencing significant dust problems and to reduce frequency of watering. Treatment will be applied as necessary to accomplish sufficient dust control (refer to Section B-5 in the *Maine Erosion and Sediment Control Best Management Practices* manual).

Erosion Control Mix Berms – May be installed in locations that do not have a concentrated flow. Erosion control mix berms are an approved alternative to silt fence, provided they are not located in sensitive areas described above. Erosion control mix may be manufactured on or offsite and will follow the guidelines outlined in Section B-1 in the *Maine Erosion and Sediment Control Best Management Practices*. The composition specification outlines in Section B-1 should be used as a guideline but the actual mix design will be performance-based. The mix shall be subject to testing if required by the Engineer.

Level Lip Spreader – Level lip spreader lengths are given in the design plans and will be 6 to 24 inches deep, stone-lined ponded areas discharging over a level berm through a well-vegetated buffer area. These spreaders will function to disperse channelized flow into shallow sheet flow. Construction and length of level lip spreaders shall be as detailed on the design plans.

Matting – Shall consist of straw, coconut, or excelsior matting. Matting may be substituted with sod where desired. Matting shall be used: (1) where indicated on the design plans; (2) in the base of swales with moderate slopes and erosive capability. High velocity ditch lining or geotextile soft armor may be required in steep ditches (>8%) or areas receiving significant concentrated flows; (3) on steep slopes where rill may occur or where mulching is ineffective; or (4) where straw mulch has been determined to be ineffective based on observations made in the field or as directed by the Engineer.

Outlet Protection – Riprap outlets (aprons or plunge pools) will be placed in locations where indicated on the design plans, and in locations where flared end sections have proven to be inadequate to prevent scouring at the pipe outlet in the field, as directed by the Engineer. The size of the riprap outlets is indicated in the design plans.

Permanent Mulching and Revegetation – Permanent mulch is long-term cover that creates a good buffer on and around disturbed areas. Permanent mulching with erosion control mix can be used as a permanent ground cover, as an overwinter stabilization mulch, or left to naturalize and revegetate to near natural conditions. It is not used to support grassy vegetation, but legumes or woody vegetation may be established if allowed to revert to natural conditions. Permanent mulch must not be used in areas of concentrated water flows, and any evidence of groundwater seepage on slopes may require the erosion control mix to be replaced with riprap. Erosion control mix can be manufactured on or off the Project site. It shall consist primarily of organic material, separated at the point of generating, and may include shredded bark, stump grindings, composted bark, or flume grit and fragmented wood generated from water-flume log handling systems. Wood chips, ground construction debris, reprocessed wood products, or bark chips will not be acceptable as the organic component of the mix. Erosion control mix composition shall be in accordance with Section A-1 of the *Maine Erosion and Sediment Control Best Management Practices* manual. Erosion control mix must be free of refuse, physical contaminants, and material toxic to plant growth.

Riprap – Will be used in swales, steep slopes, and outlets as shown on the design plans to protect soils from excessive flow velocities. Riprap will consist of angular stones of the size and depths indicated in the design plans. Riprap may be required at locations where revegetation matting, high velocity ditch lining or other soft ditch armor is proven to be ineffective in the field as directed by the Engineer.

Sediment Barrier Berms – A sediment barrier is a berm installed across or at the toe of a slope and down gradient of disturbed earth. Its purpose is to intercept and retain small amounts of sediment from disturbed or unprotected areas of limited extent. For other sediment barrier use, see Section B-1 of the *Maine Erosion and Sediment Control Best Management Practices* manual. A sediment barrier is used where:

- Sedimentation can pollute or degrade a wetland or other water resource;
- Sedimentation will reduce the capacity of storm drainage systems or adversely flood adjacent areas;

- The contributing drainage area does not exceed $\frac{1}{4}$ acre per 100 feet of barrier length; the maximum length of slope above the barrier is 100 feet; and the maximum gradient behind the barrier is 50% (2:1). If the slope length is great, additional measures, such as diversions, may be necessary to reduce that length, and;
- Sediment barriers cannot be used in areas of concentrated flows. Under no circumstances should erosion control mix sediment barriers be constructed in streams or in swales.

Silt Fence – Will be installed along the contours in the locations and as detailed on the design plans. Silt fence may be required in additional or other locations, not indicated on design plans, as determined by field conditions or as directed by the Engineer.

Stone Check Dams – Will be installed in existing and proposed swales or at culvert inlets on the design plans. These check dams reduce flow velocities in swales, therefore helping to reduce rill erosion. Check dams will be constructed with a six-inch tapered spillway at the center as shown on design plans to prevent breaching and scour at the outer edged along the sides of the ditch.

Temporary Mulching – Will consist of spreading of straw (or hay) mulch or erosion control mix over bare or disturbed areas. It will be applied at the rates described in the *Temporary Seeding and Mulching Schedule* described below. Alternate mulch materials or methods such as hydro seeding can be used when approved by the Engineer. Mulching will be substituted with matting in locations where it has proven to be ineffective in the field. Mulching rates will be doubled where requested by the Engineer based on observations in the field or in locations undergoing winter construction.

14.5. EROSION CONTROL EXECUTION

14.5.1. GENERAL CONSTRUCTION PHASE

The following general practices will be used to prevent erosion during construction of the Project. Refer to design plans and manuals for applications and installation methods. If the Contractor is unclear regarding the use, location, installation, intended performance, or maintenance of any prescribed erosion control measures, the Contractor will refer to the *Maine Erosion and Sediment Control Best Management Practices* manual for detailed procedures or contact the Engineer for assistance.

NOTE: Locations of erosion control measures are shown on design plans as typical for general purposes only to indicate the intent. Final locations will be selected based on actual field conditions and as site conditions warrant.

Construction Traffic – Construction traffic will be directed over the stabilized crushed-stone construction entrances and proposed roads. Additional crushed stone will be added to construction entrances as needed. The public roadway will be swept as soon as possible should mud be tracked onto it.

Erosion Control Installation – Prior to the start of grubbing, silt fence, bales, erosion control mix berms, stabilized construction entrances, or other appropriate measures shall be installed adjacent to construction areas, at the toe of slopes and in areas as shown on design plans, or as otherwise required to protect against construction related erosion. Immediately following construction of culverts and swales, stone check dams, and ditch linings shall be installed, as

shown on the design plans. Prior to the start of construction there will be a mandatory pre-construction meeting to discuss the construction schedule and the erosion and sedimentation control plan. The meeting will be attended by the owner (or owner's representative), the Engineer, the contractor, the third-party inspector, and MDEP staff.

Following Clearing – Only those areas under active construction shall be left in an untreated or unvegetated condition.

Grading – Grading will be held to a maximum 2:1 slope where possible. Greater slopes may be used in ledge cut or stable material as shown in the design drawings. Finish-graded areas will be stabilized with permanent seeding and mulching or other accepted measures immediately after final grading is complete. If final grading will not be completed immediately, refer to the *Temporary Seeding and Mulching Schedule* detailed below. It is understood that “immediately” means within five days of the completion of work. For time periods longer than five days, refer to *Permanent Seeding and Mulching Plan* below.

Monitoring Schedule – The Contractor will be responsible for installing, monitoring, maintaining, repairing, replacing and/or removing the temporary erosion and sedimentation controls, as specified herein, or as directed by the Engineer, or will appoint a qualified subcontractor to do so, as follows:

- The contractor or approved designated Inspector shall perform weekly inspections of the site until it is stabilized. Inspections may be performed on a bi-weekly schedule when work has abated for more than one week;
- Maintenance measures will be performed as needed during the entire construction period. After each rainfall, and prior to predicted significant rainfall events (>1”), a visual erosion control inspection will be made by the Contractor or approved designated Inspector to ensure their continuing function as designed;
- Stone check dams, bale barriers, drop inlet barriers, erosion control mix berms, silt fence, and mulch shall be inspected and repaired once a week or immediately following any significant rainfall. Sediment trapped behind these barriers will be removed when it reaches a depth of 6 inches (or ½ the height of the dam for check dams) and redistributed to areas undergoing final grading; and
- Near completion of construction, and after the site is reseeded and stabilized, the Contractor shall inspect, clean, maintain, repair, restabilize, or revegetate all drainage structures, storm drains, culverts, level spreaders and ditches prior to acceptance by Owner.

Permanent Seeding and Mulching Plan – The following general practices will be used to re-establish final vegetation.

- Loam will be spread over disturbed areas and graded to a uniform depth and a natural appearance. Loam specifications will be as specified or approved by the Engineer;
- Final seeding will be completed immediately (within 7 days) following final topsoil and loam grading. All final fertilizing and seeding will adhere to these specifications unless otherwise approved by the Engineer;
- Areas will be mulched immediately after seeding. Immediately upon first signs of any evidence of significant erosion occurring, the Contractor will repair and mulch all such

areas until the area is stabilized. Mulching will consist of hay mulch, hydro-mulch, or any suitable substitute deemed acceptable by the Engineer. Mulching will be monitored according to the *Monitoring Schedule* above. Should mulching prove to be ineffective, netting or matting will be used in its place;

- Straw mulch will be applied at the rate of 2 tons per acre (90 pounds or 2 bales/1,000 square feet) unless otherwise specified;
- Hydro-mulch will consist of a mixture of tackifier, wood fiber or paper fiber and water sprayed over a seeded area. Hydro-mulch may not be used during the fall, winter, or mud season unless approved by the Engineer;
- Dormant seeding will not occur unless approved by the Engineer. Should seeding be necessary between November 1 and April 15, the following procedure will be followed:
 - Only unfrozen loam will be used;
 - Loaming, seeding, and mulching will not be done over snow cover. If snow exists, it must be removed prior to placement of seed;
 - No permanent seeding will be done during fall, winter, or mud season unless specifically approved by the Engineer. If attempted, the normal seed application rate will be doubled. Reseeding in spring by Contractor will be required in all areas with insufficient growth;
 - Where temporary seeding is required, the rates will be as specified in the *Temporary Seeding and Mulching Schedule* below;
 - On slopes greater than 3:1 straw matting or excelsior matting may be substituted for mulch. Biodegradable netting over mulch may be applied where required by the Engineer; and
 - Following final seeding, the site will be inspected every 30 days until 80% cover has been established. Reseeding and mulching shall be carried out in areas where inadequate catch is observed until adequate growth is established in seeded areas, as agreed upon by the Engineer. The Contractor may be required to reseed during the following spring subsequent to winter or fall construction and seeding in order to provide 90% vegetative cover as required for Acceptance by the Owner.
- Erosion control mix utilized for permanent stabilization and to promote natural revegetation may be used in lieu of loaming and seeding.

Temporary Seeding and Mulching Schedule – During construction, all disturbed areas shall adhere to the schedules specified in Tables 14-1 and 14-2. Refer to *Permanent Seeding and Mulching Plan* above for permanent seeding and mulching requirements.

- The Contractor will monitor daily weather reports when working in sensitive areas and weekly weather reports in all other areas. The Contractor will adjust the work schedule in anticipation of rains and shall stabilize the site as indicated or required;
- All completed areas that have been loamed and/or finish graded will be permanently reseeded in accordance with the *Permanent Seeding and Mulching Plan* above;
- Temporary mulching and/or seeding will commence immediately following the initial fine grading of any area expected to remain bare for an interim period of more than 30 days (7 days for sensitive and critical areas). Stabilization or seeding requirements will be determined in accordance with Tables 14-1 and 14-2 and will be implemented at the



beginning of the expected interim period. In no case will any bare areas remain untreated for more than 30 days (7 days for sensitive and critical areas);

- Interim periods for sensitive and critical areas are indicated in Tables 14-1 and 14-2. However, exposed or bare soil in these areas will be mulched at the completion of work, each day, if significant rainfall is predicted.
- Mulch application rates will be doubled during winter construction. Where practicable, mulch should be applied at the end of each day's work for areas that have been fine graded or if snow is predicted. In no case will any areas be left bare for more than 15 days during winter construction;
- Permanent seeding will not be attempted during the fall or winter seasons unless otherwise approved by the Engineer. Should seeding be approved by the Engineer during fall or winter seasons, the Contractor will follow procedures for dormant seeding. See *Permanent Seeding and Mulching Plan* above for dormant seeding requirements. However, vegetation must be inspected and reseeded by Contractor as necessary in the following spring to provide good vegetative cover. Acceptance of dormant seeding will not occur after May 1, in the following spring;
- Temporary seeding and mulch will be inspected and maintained or repaired weekly. At a minimum, 75% of the soil surface should be covered by vegetation. If any evidence of erosion or sedimentation is apparent, repairs will be made and other temporary measures used in the interim (e.g., mulch, filter barriers, check dams, bales). Mulch will be reapplied as necessary to completely cover soil; and
- Areas within 75 feet of a wetland or waterbody will be stabilized within 48 hours of initial disturbance of the soil or prior to any storm event, whichever comes first. (Maine Construction General Permit, Appendix A (3)).

Table 14-1. Stabilization Schedule

Maximum Expected Interim Period* - (Days)	Temporary Mulching (Hay)	Temporary Seeding
0-7 (0-2)	None	None
7-30 (2-14)	2-bales/1,000 sq.ft.	None
30-60 (14-30)	2-bales/1,000 sq.ft.	(per Table 14-2: Temporary Seeding Schedule)
More than 7 days during winter season	4-bales/1,000 sq.ft.	Dormant seeding only

*Values in parentheses indicate interim period for sensitive and critical areas

**Mulch application rates will be doubled for winter construction

Table 14-2. Temporary Seeding Schedule

Seed	Seeding Rate (lbs/1,000 sq.ft.)	Seeding Depth	Recommended Seeding Dates
Annual Rye Grass	0.9	¼	4/1 to 7/1
Sudan Grass	0.9	½	7/1 to 8/15
Perennial Rye Grass	1.8	¼	8/15 to 9/15
Winter Rye Grass	2.6	1	9/15 to 10/15
Dormant Seeding 50% Winter Rye 50% Annual Rye	3.5 (2.6) (0.9)	1	10/15 to 3/31

Topsoil – Topsoil will be stockpiled on-site when needed in areas that have minimum potential for erosion, such as flat slopes or on-site borrow pits, and will be kept as far as possible from existing drainage areas. Stockpiles that will remain longer than 15 days will be encircled with bales, erosion control mix berms, or silt fence at the down gradient sides of the stockpile and mulched with a second application of hay mulch and anchored with biodegradable netting if deemed necessary by the Engineer.

Winter Construction – For any work proposed during the winter season, the Contractor will comply with the following guidelines.

- Limit the exposed area to those in which work is to occur during the following 15 days and can be mulched in one day prior to any snow event;
- Where required and approved by the Engineer, installation of silt fence may be modified from details on design plans to substitute six inches of suitable non-organic material over the bottom of the silt fence in lieu of trenching and backfilling fabric or erosion control berm/barrier;
- Mulching and seeding rates will adhere to the Temporary Seeding and Mulching Schedule above. *Note that all mulching rates will be doubled as shown in the above table and shall follow the sensitive area schedule during winter construction; and*
- Permanent seeding will not be attempted by the Contractor during winter season unless otherwise approved by the Engineer.

14.5.2. EROSION CONTROL REMOVAL

Removal of temporary erosion control measures will be the responsibility of the Contractor. Erosion controls will remain in place and be maintained by the Contractor until all related construction is complete and the area has been stabilized. Erosion control mix will be used to revegetate roads/pads, where applicable, and should be left in place.

An area is considered stable if a 90% cover of vegetation has been established or riprap or other permanent measures are in place and functioning properly.

Bales and silt fence will be removed within 30 days of final stabilization. The bales and silt fence shall be disposed of legally and properly off-site. Sediment trapped behind these controls shall be

distributed to an area undergoing final grading and graded in an aesthetic manner to conform to the topography, and fertilized, seeded and mulched, or otherwise stabilized, in accordance with the rates previously stated.

The sediment trapped behind/around/in stone check dams, perforated risers, and sediment basins shall be removed and transported off-site, or to an upslope area undergoing final grading. The sediment trapped by these devices shall not be regraded locally since they exist in drainage ways.

The riprap and stone from the check dams and risers may be either removed or regraded in an aesthetic manner that does not inhibit flow or create the potential for erosion.

Once the trapped sediments have been removed from the temporary sedimentation devices, the disturbed areas will be loamed (if necessary), fertilized, seeded and mulched, or otherwise stabilized, in accordance with the rates previously stated.

14.6. CONCLUSION

If constructed in conformance with the Project design plans and these basic standards, the Project will not result in any significant erosion or sedimentation during the construction and operation phases.