EXHIBIT H

Erosion and Sedimentation Control Plan

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EROSION AND SEDIMENTATION CONTROL PLAN

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EROSION AND SEDIMENTATION CONTROL PLAN

1.0 Introduction

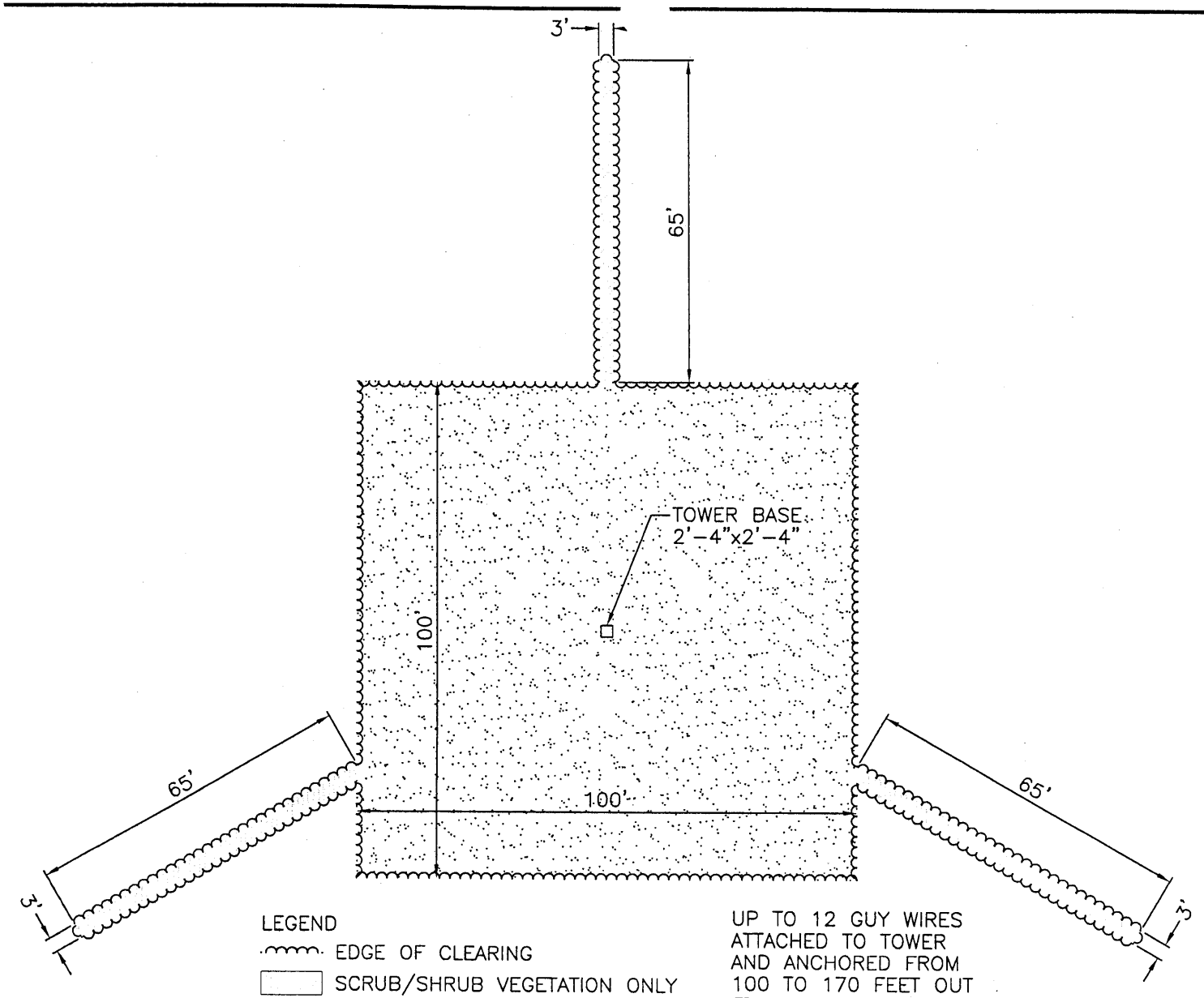
TransCanada Energy Ltd. (TransCanada) has prepared this Erosion and Sedimentation Control Plan (E&S Plan) to be a stand-alone document containing all erosion and sedimentation control requirements related to the installation and maintenance of the meteorological towers (met towers) and associated equipment. Since the potential for soil disturbance or exposure of soil would be most significant during the clearing of the met tower sites and access trails and from transporting the equipment and materials needed for installation of the met towers, this E&S Plan is based on the Maine Forest Service's *Best Management Practices for Forestry: Protecting Maine's Water Quality (MFSBMP)*, dated 2004. The MFSBMPs were supplemented, where appropriate, for excavation and other activities related to installation of the met towers with practices from the Land Use Regulation Commission (LURC) Chapter 10 Subchapter III, Land Use Standards (LURC Chapter 10), and the Maine Department of Environmental Protection's (MDEP) *Maine Erosion and Sediment Control BMPs*, dated March 2003.

2.0 Scope of Work

Eight met towers are proposed for three separate ridges in the Boundary Mountains in Kibby and Skinner Townships, Maine. Two towers are proposed for Kibby Mountain (A series), three for the Kibby Range (B series) and three for the D series ridge. Two additional met towers may be proposed in a subsequent application, one at Caribou Mountain (C series) and a second within the A series at Kibby Mountain.

In order to provide sufficient area for safe and efficient movement of personnel, materials and equipment during installation, each met tower location will require an approximate 100- by 100-foot area, centered at the base of the met tower, that has been cleared of all woody vegetation (all trees and shrubs) so that only very low ground cover vegetation remains. Stumps, ground cover, and forest duff layers will not be removed. In order to be able to attach and position guy wires and raise the met towers without significant entanglement of guy wires in vegetation, trees will be cut at ground level and other woody vegetation cut down to approximately 3 feet tall along three 3-foot-wide by 65-foot-long corridors that extend out from the cleared area. This two-tiered approach to clearing and trimming of vegetation will minimize to the maximum extent practical the removal of vegetation at the met tower locations. A typical site plan of a met tower location is provided as Figure 1.

Guy wire anchors will be installed into bedrock where possible, with only minor soil disturbance anticipated for this type of installation. Where bedrock anchors are not feasible, excavation of a hole approximately 1-foot wide by 5-feet long by 4-feet deep will be necessary to install plate or dead-man anchors. These holes will be backfilled and compacted to original grade.



TRC

Typical Met Tower Installation Site Plan

-Not to Scale-

Kibby Wind Power Project

Figure H-1

Existing roads and trails will be used to access the met tower sites to the maximum extent possible. Where trails do not currently exist or trail width is inadequate, new or improved trails will be established by removing only trees and shrubs. Stumps, ground cover, and forest duff layers will not be removed. The locations of new trails were selected to minimize the length of the trail, taking into consideration the avoidance of very steep slopes, wetland and stream crossings as much as practical. See Figure 2 for examples of trail profiles.

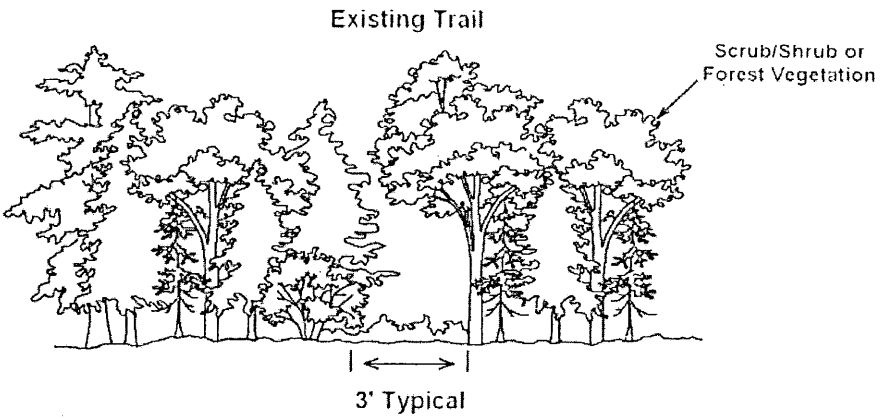
At the five locations planned for the A and B series met towers, where necessary, clearing will be performed using a skidder (or other logging equipment) and/or all-terrain vehicles (ATVs), and hand tools. Met tower sections and equipment for construction will be transported to the site by a low ground pressure track vehicle (also known as Nodwell or flex-track) or forwarder. A small backhoe/excavator will also be needed to install ground anchors. As a result, these access trails will need to be 10 feet wide to allow passage of this mobile equipment and minimize disruption of soils or remaining vegetation.

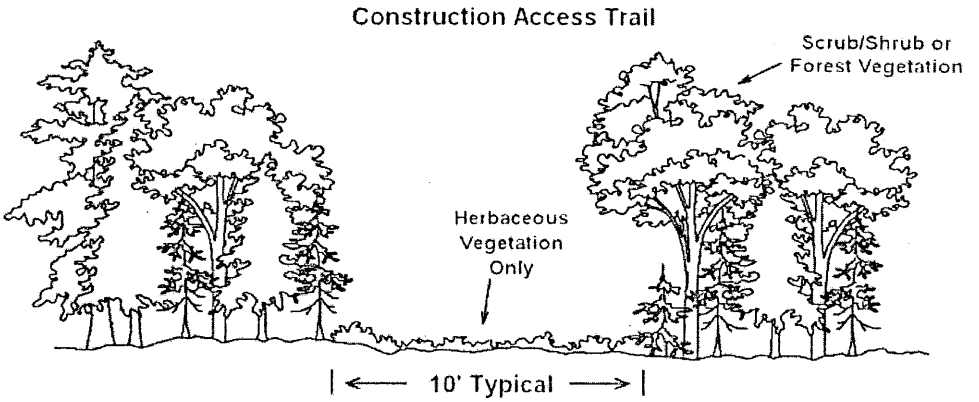
At the three locations planned for the D series met towers, transporting the towers and construction equipment to the sites over ground has been determined to be too difficult without significant cutting of vegetation. Transporting the met towers and equipment to these sites for installation will be accomplished by helicopter, resulting in the need for only a narrow trail, approximately 4 feet wide, to provide access for personnel by foot, ATV or snowmobile.

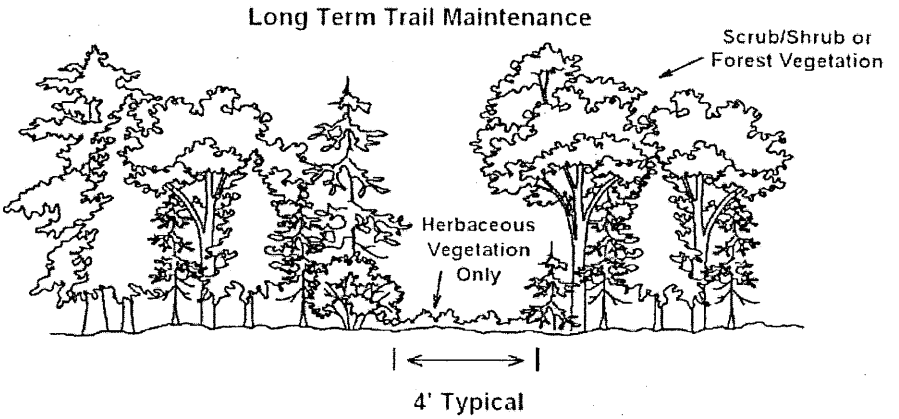
Trail use by large equipment, such as the skidder or track vehicle, will be temporary. These vehicles will be used primarily for clearing and delivering met tower construction materials. Once these tasks are complete, the only expected project-related use of the trails will be by met tower construction crews (ATV/snowmobile and foot access, 3-4 days/site), maintenance crews (sporadic ATV/snowmobile and foot access, as needed, only a few days/year likely), and environmental study personnel (mostly on foot). Due to the use of large equipment only for a short timeframe during clearing and met tower installation, and no expected use for operation and maintenance, erosion is not expected to be a major issue for the proposed project. Similar activities will be associated with met tower removal, and the measures outlined in this E&S Plan will be employed.

3.0 Soils and Slopes

Soils in the project area were primarily formed in glacial till. Most areas have a relatively thick organic soil layer with a thick well-developed mineral layer. Slopes in the vicinity of trails are 5 to 30 percent, and the met tower sites are in areas where slopes are close to 0 percent. No areas of bare mineral soils or exposed bedrock were observed at these sites or along the proposed access trails. Some of the access trails and tower sites may have shallow bedrock soils, however it appears that most of the met tower sites are on a rocky glacial till and are not on bedrock.







TRC	**Typical Access Trail Profiles** **-Not to Scale-**	**Kibby Wind Power Project** **Figure H-2**

4.0 Vegetation

Natural communities in the vicinity of met tower access trails, from lowest to highest elevations, are:

- Spruce-Northern Hardwoods Forest;
- Spruce-Fir-Wood Sorrel-Feathermoss Forest; and
- Fir-Heartleaved Birch Subalpine Forest.

In the area of the met tower sites, the typical community is a mix of the Spruce-Fir-Wood Sorrel-Feathermoss and Fir-Heartleaved Birch Subalpine Forest. Dominant tree species are balsam fir, red spruce, and heart-leaved birch. Shrubs present include balsam fir, mountain ash and hobblebush. Herbaceous species commonly found are goldthread, Canada dogwood, raspberry, blue-bead lily, mountain wood fern, intermediate woodfern, and northern wood sorrel.

5.0 Construction Sequence

The planned construction sequence is as follows.

1. Planning the location of access trails and met tower sites.

2. Clearing existing access trails to adequate width, or clearing new access trails. Installation of erosion and sedimentation control practices, as required, along access trails. At this stage, wetland and stream crossings will be installed. Inspection for disturbed soils will start at this time, and will be performed throughout construction.

3. Clearing met tower sites, as required to meet necessary size for met tower installation. Erosion and sedimentation control inspections of access trails and met tower sites ongoing.

4. Transporting construction materials to met tower sites. Erosion and sedimentation control inspections of access trails and met tower sites ongoing.

5. Installing met towers, including excavation for anchors, where necessary. Installation of erosion and sedimentation control practices including mulch and silt fence as anchor sites are backfilled. Erosion and sedimentation control inspections of access trails and met tower sites ongoing.

6. Removal of temporary equipment crossings and final stabilization of disturbed soils.

7. Erosion and sedimentation control inspections of access trails and met tower sites periodically until stabilized.

Note that clearing or other construction activities will be suspended during periods of heavy or prolonged rainfall, or when surface runoff is apparent in areas affected by construction.

6.0 Erosion and Sedimentation Control Practices for Access Trails

6.1 Planning

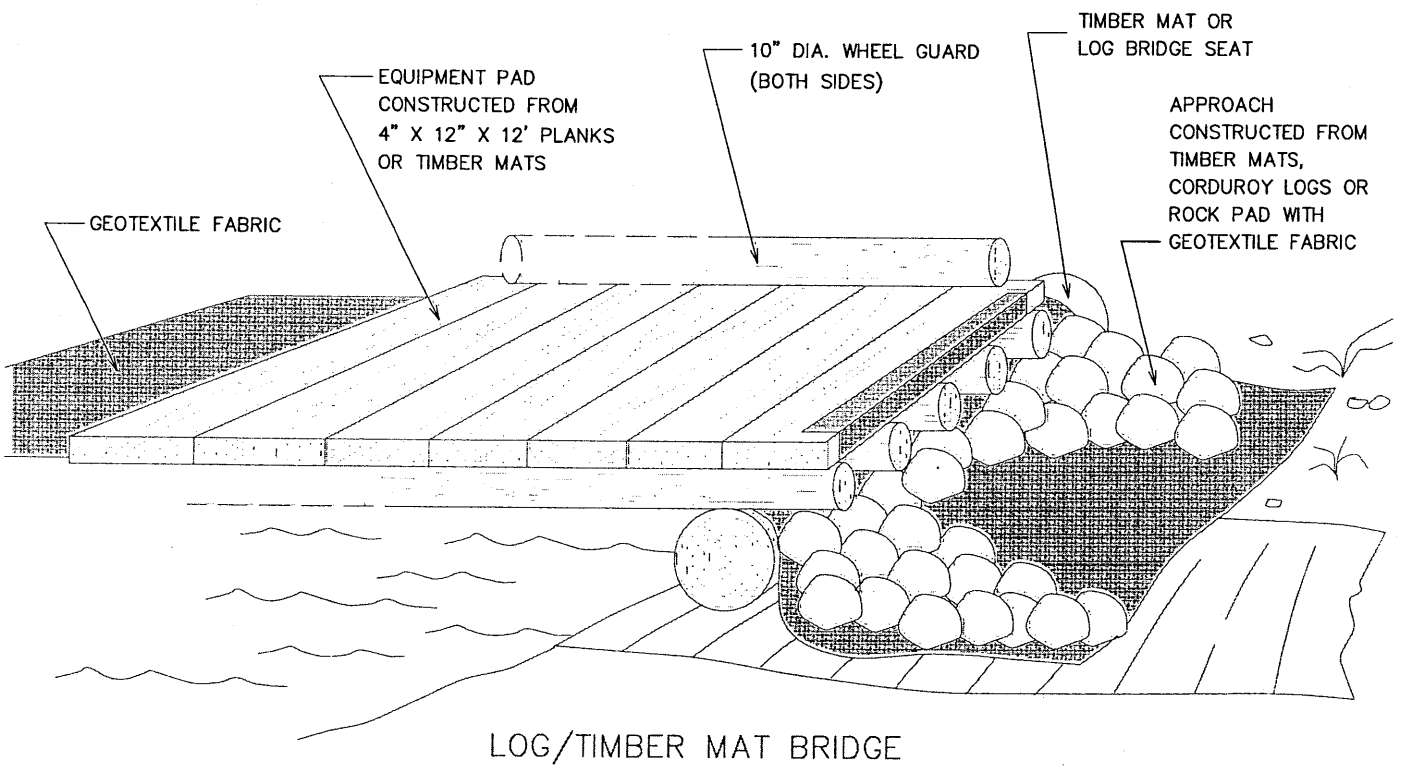
The first step in preventing erosion is planning access trail layout. To the extent practical, new access trails will avoid all wetlands, streams, and slopes steeper than 15 percent. Soil disturbance will be avoided to the maximum extent possible, and no stumps, forest duff, or top-soil will be removed from new access trail areas. In areas where slopes are steeper than 15 percent, access trails will be curved and sited on or close to contour, when doing so is safe and practical. These areas will be climbed by use of switchbacks or by traversing to areas of gentler slope. Where traveling up slopes that are steeper than 15 percent is necessary, soils on these slopes will be padded with brush (from clearing) to reduce compaction and prevent soil disturbance (per recommendation of the State Soil Scientist at the Maine Department of Agriculture, and the MFSBMP manual "Trails and Harvesting" subsection). Other areas where soils will be protected with brush are those areas that are wet, soft, and may be prone to rutting (though not wetland). Wetland areas will be protected by use of mats (see Section 6.2). Another consideration when planning a new access trail will be to utilize natural terrain to divert runoff water from the trail area.

For existing trails, the same concepts apply: trails or portions of trails that cross wetlands, streams, or steep slopes will be avoided when practical. In some instances, it may not be possible to avoid these areas. In the case of streams or wetlands, a crossing may be installed to prevent erosion and ruts from developing or deepening. These are described below. On steep slopes, brush will be placed in access trails to help prevent rutting and protect topsoil.

6.2 Stream or Wetland Crossings

All stream and wetland crossings required to access met tower locations will be temporary. These crossings will be installed as access trails are created or improved, and removed once the met towers and equipment are up and running correctly. Temporary crossings to access met tower locations will utilize timber mats. Timber mats will be used to span any streams, flowing or standing water, drainage ways, or wetland swales. Timber mats will be placed directly on other wetland surfaces and used as the travel surface. See Figure 3 for a typical timber mat bridge stream crossing detail, and Figure 4 for a typical timber mat wetland crossing detail. Stream and wetland crossings will be inspected weekly to ensure that the structure complies with the standards and specifications for each best management practice (BMP). This shall include the removal and disposal of any trapped sediment or debris at the mouth or outlet of a culvert, and cleaning soil from the travel surface of a bridge or mat.

SPAN	DIAMETER	
	(80,000 lb. load)	(40,000 lb. load)
8 ft.	16 in.	12 in
12 ft.	18 in.	14 in.
16 ft.	20 in.	16 in.



LOG/TIMBER MAT BRIDGE
(TEMPORARY)

NOTES:

1. Span small crossings with mats.
2. Add support culverts to stream if the stream is too wide to span with one mat length. (Ensure fish passage requirements)
3. Add geotextile fabric under equipment pad to prevent soil from entering stream.
4. Install wheel guards to ensure that soil does not spill over into stream.
5. Approaches to equipment pad may be timber mats, corduroy logs, or a rock pad over geotextile fabric.
6. Additional pads can be placed side by side if extra width is required.
7. Equipment pad typically contructed of hardwood; must accommodate the largest equipment utilized.

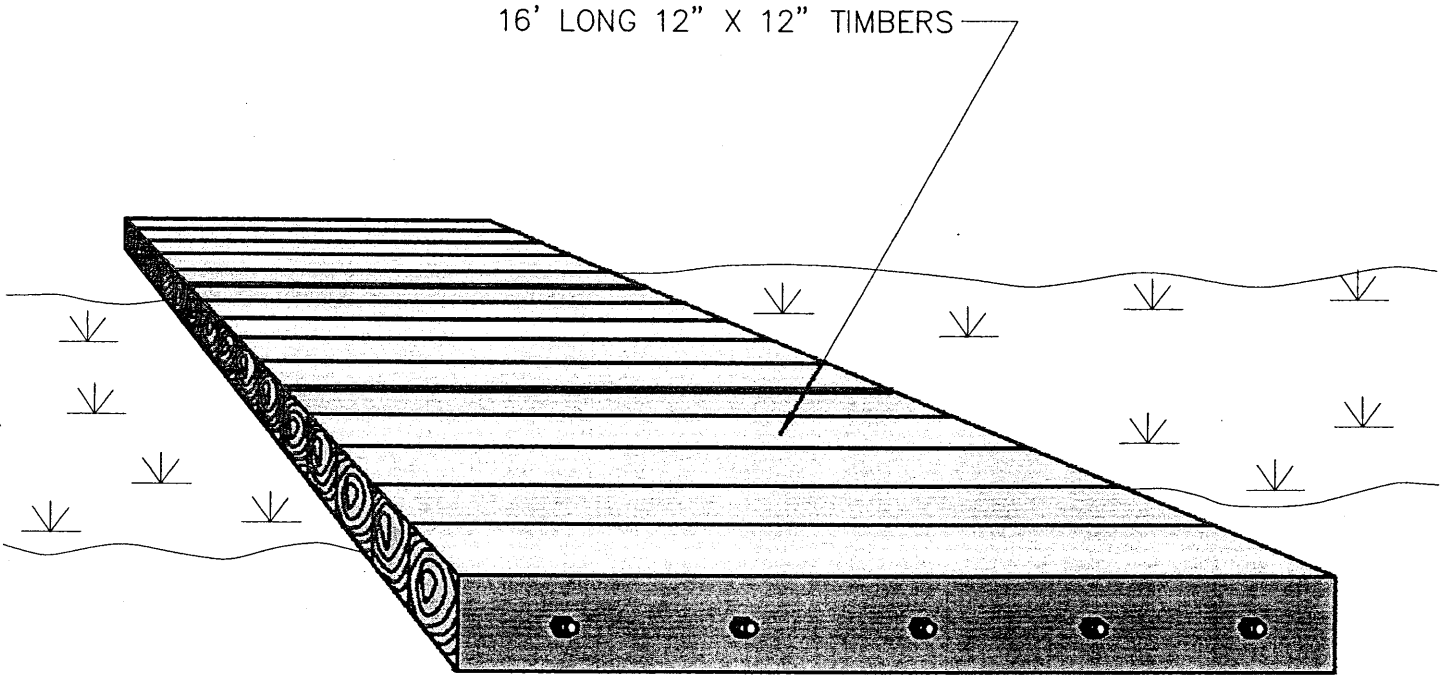
TRC

Typical Installation Log/Timber Mat Bridge

-Not to Scale-

Kibby Wind Power Project

Figure H-3



PREFABRICATED
TIMBER MAT WETLAND CROSSING
(TEMPORARY LIGHT DUTY)

NOTE: TIMBER MATS TO BE PLACED WITH THE LONGEST DIMENSION OF THE MAT PERPENDICULAR TO THE DIRECTION OF TRAVEL.

TRC	**Typical Installation** **Timber Mat Wetland Crossing** **-Not to Scale-**	**Kibby Wind Power Project** **Figure H-4**

6.3 Silt Fence

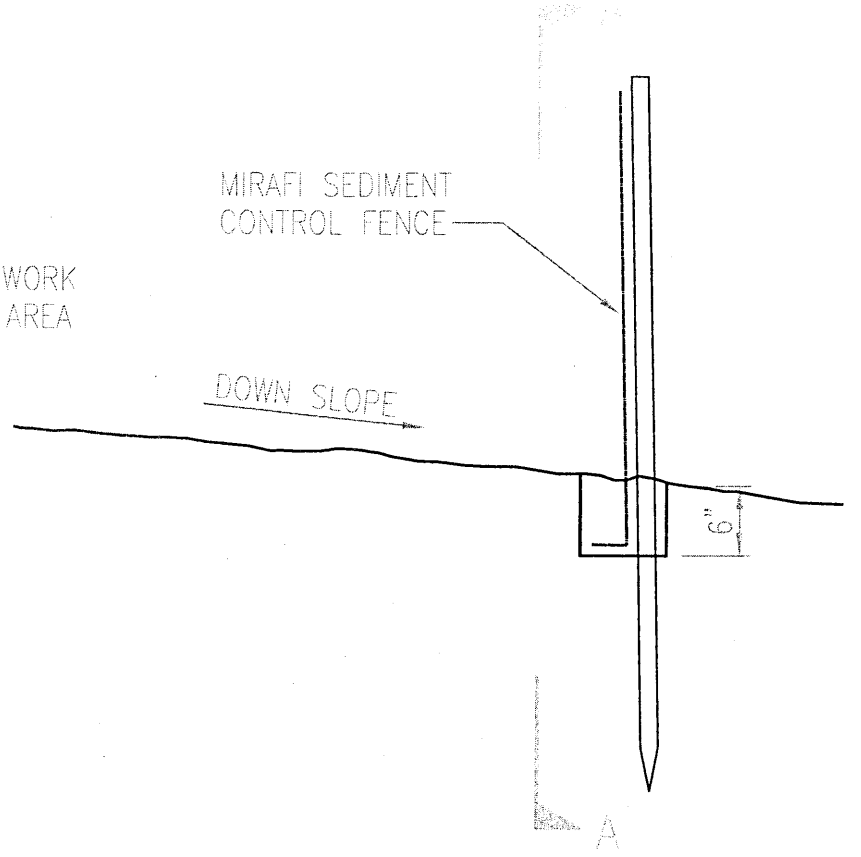
Silt fence generally will not be used along access trails, since soil disturbance will be kept to a minimum. However, the case may arise where a sediment barrier will be necessary to prevent excess or unreasonable movement of soils. In these cases, a silt fence is the preferred sediment barrier due to portability, ease of installation and effectiveness. Silt fence is installed by first excavating a trench approximately 4 inches wide by 6 inches deep. Trench spoils are shoveled onto the uphill side of the trench. The silt fence is then staked into this trench, with the attached fabric on the upslope side of the stakes. The trench is then backfilled with the trench spoils. See Figure 5 for a typical silt fence installation detail. Silt fences will be inspected weekly at a minimum, immediately after a significant rainfall event, and daily during periods of prolonged rainfall. They will be repaired immediately if there are any signs of damage, erosion, or sedimentation downslope of them. Accumulated sediment deposits will be removed after each significant storm event, or when deposits reach approximately one-half the height of the fabric. Any sediment removed will be spread in an upland area, seeded, and mulched. When the site has stabilized or erosion is no longer a problem at the site (vegetation has been established), the silt fence will be removed and any remaining bare soils will be seeded and mulched.

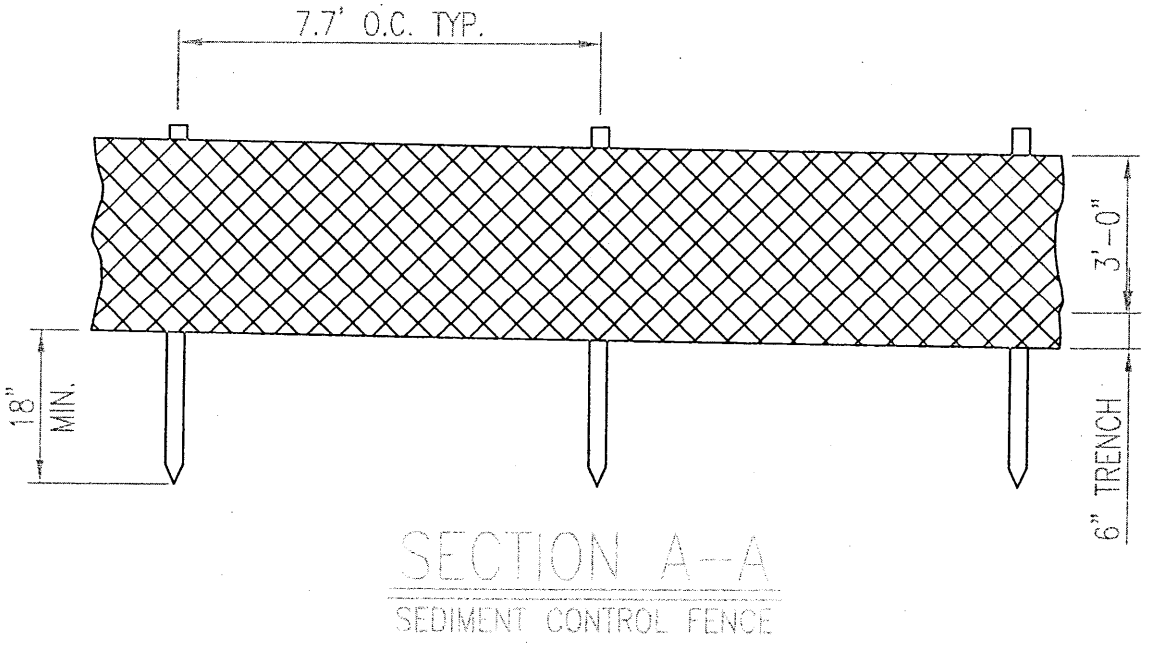
6.4 Mulch

In general, mulch will only be used in areas where bare soil has been exposed by large equipment or to temporarily or permanently stabilize water bars (if used) or other disturbed areas. Permanent stabilization with mulch may be accompanied by seeding. Mulch will consist of hay or straw, or erosion control blankets (also known as matting). Hay mulch will not be used in wetlands.

In most areas of disturbed soils with slopes less than 15 percent, hay or straw mulch will be applied at a rate of about 2 bales per 1,000 square feet, or enough to cover at least 90 percent of the ground surface. Where slopes with disturbed soil are steep (15 percent or greater) or within 100 feet of a stream or wetland, mulch will be anchored with netting, or erosion control blankets may be used to ensure bare soils are stabilized. Figure 6 provides a typical installation detail for mulch anchoring, and Figure 7 illustrates the correct application of erosion control blankets.

Areas that have been mulched or matted (e.g., covered with erosion control blankets) will be inspected weekly and after significant rainstorms to check for rill erosion or slope failure, until vegetation is firmly established. If less than 90 percent of the soil surface is covered by mulch, additional mulch will be applied immediately. If washouts occur, the eroded areas will be repaired, re-seeded, and mulch or matting reapplied.





SECTION A--A
SEDIMENT CONTROL FENCE

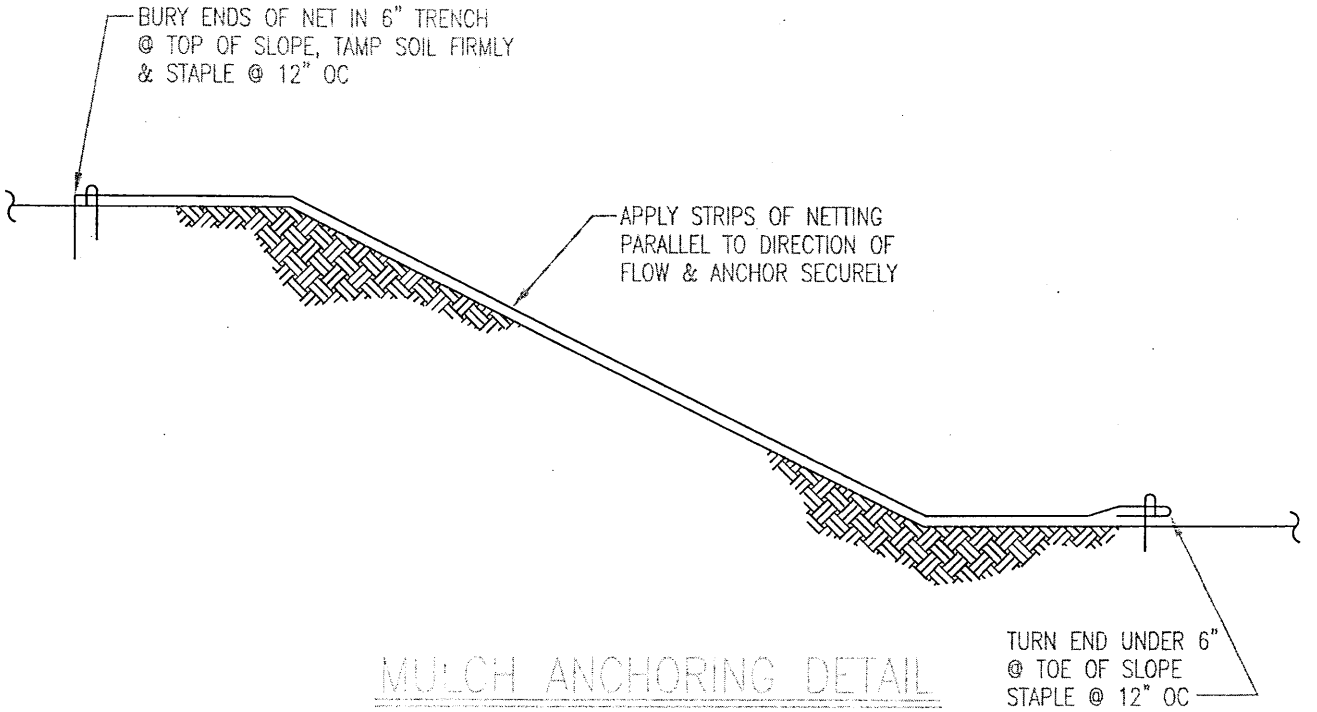
TRC

Typical Installation
Silt Fence

-Not to Scale-

Kibby Wind Power Project

Figure H-5



MULCH ANCHORING DETAIL

NOT TO SCALE
NOTE: OVERLAP EDGES OF STRIPS 4"
& STAPLE @ 3' OC @ CENTER
OF OVERLAP USING NETTING

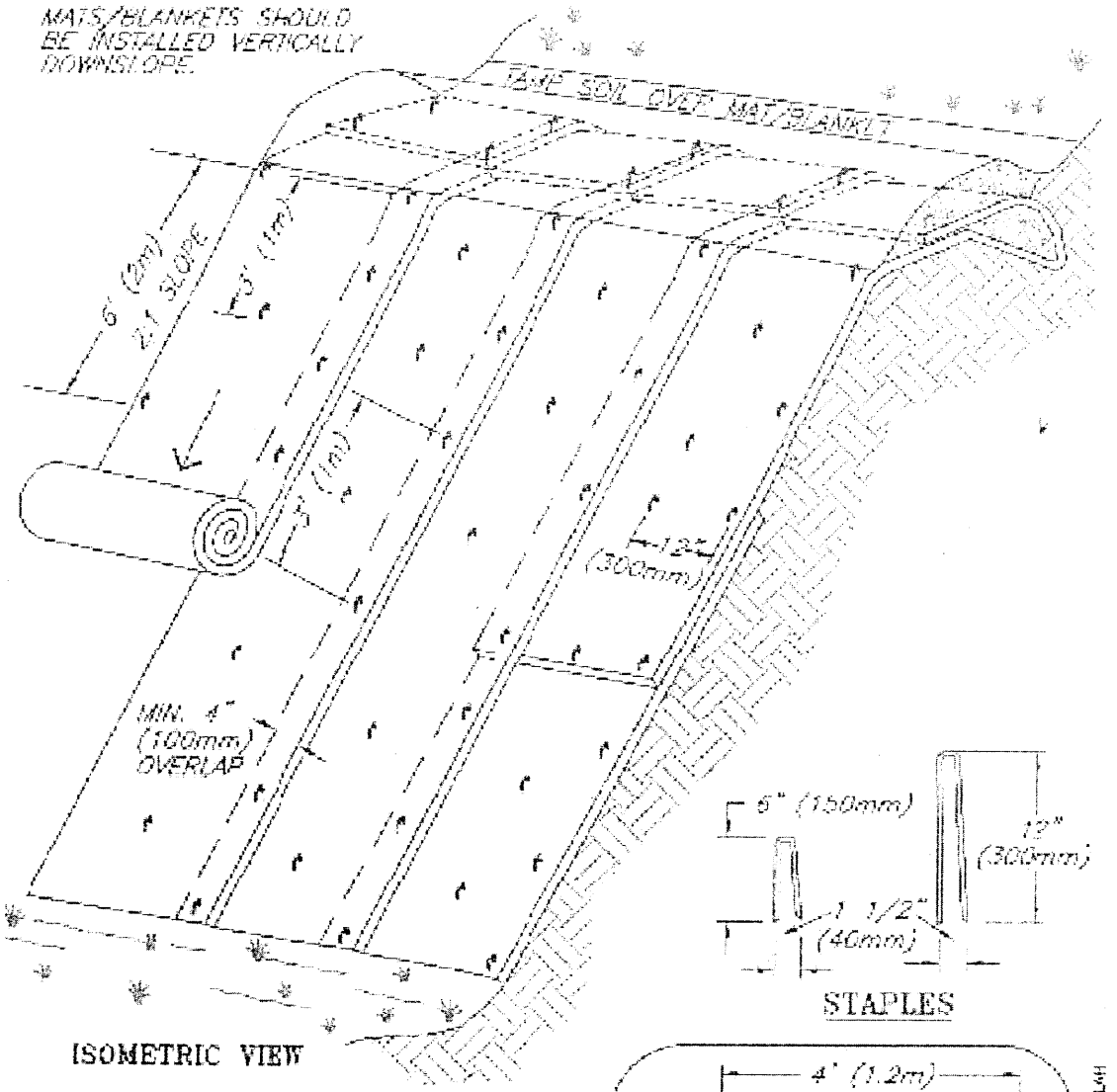
TRC

Typical Installation
Mulch Anchoring Detail

-Not to Scale-

Kibby Wind Power Project

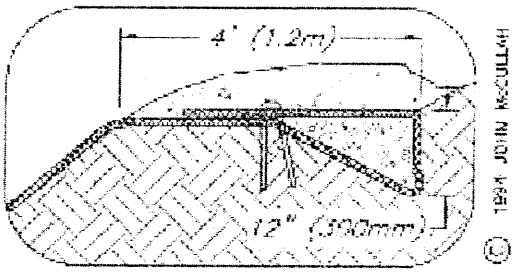
Figure H-6



TYPICAL SLOPE SOIL STABLIZATION

NOT TO SCALE

STAPLES



TOP OF SLOPE ANCHOR DETAIL

NOTES:

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/ BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

TRC

Typical Installation
Slope Stabilization Using Erosion Control Blankets
-Not to Scale-

Kibby Wind Power Project

Figure H-7

6.5 Water Diversions

It is not anticipated that water diversions will be used, except as a last resort, since installation of water bars requires soil disturbance. If running water is causing erosion of the access trail, water diversions such as a water bar will be installed to help move the water away from the access trail. Care must be taken to ensure that water is being diverted into vegetated uplands which are effective filter areas, and not into wetlands or streams. In general, water bars should be at least 6- to 12-inches deep, 6- to 12-inches wide, and installed at a 30-degree angle to the trail. Seed and mulch will be applied to stabilize bare soils associated with construction of water bars. Water bars should extend far enough beyond the trail edge to ensure water does not flow back onto the trail. See Figure 8 for a typical water bar installation detail and recommended spacing table. Water bars will be inspected and repaired, as needed, following each day of use to be sure they are not being rutted or eroded.

6.6 Seeding

In general, seeding will be completed only if topsoil is significantly disturbed or eroded. It is expected that topsoil will be present where soils are disturbed and will provide an adequate seed base of native plants. Where seeding is conducted, the goal is to establish a vigorous vegetative cover over at least 85 percent of the disturbed area. Seed mixes to be used in disturbed upland areas are as follows, as recommended by the Franklin County Soil and Water Conservation District.

For areas below 2,300 feet in elevation, the following "conservation mix" is recommended:

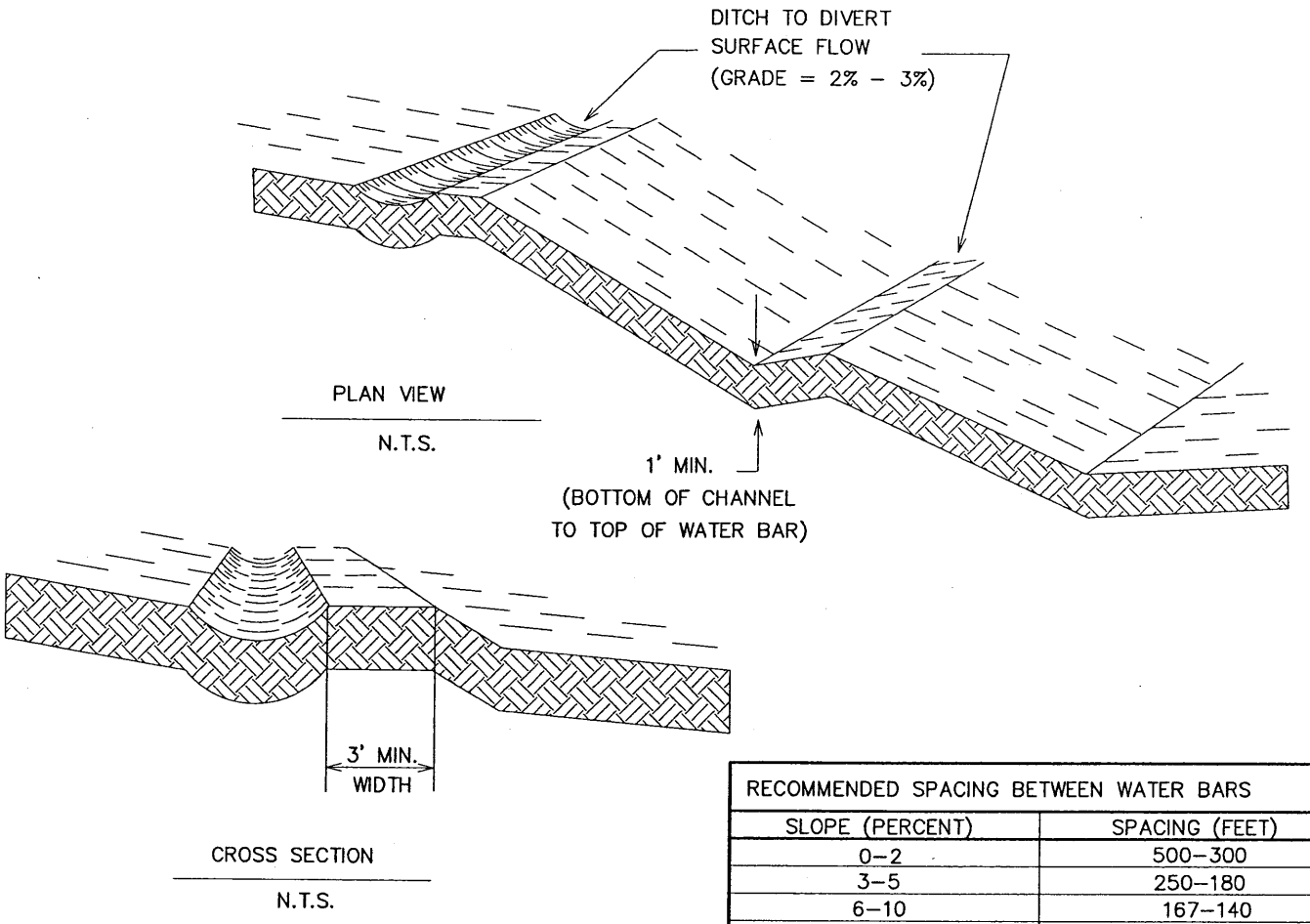
Creeping red fescue	18%
Flat pea	52%
Tall fescue	26%
Redtop	4%

For areas greater than 2,300 feet in elevation, the following "high elevation cover" seed mixture is recommended:

Hard fescue	25%
Chewings fescue	17%
Creeping red fescue	17%
Creeping bentgrass	17%
Redtop	7%
Birdsfoot trefoil	14%
White clover (ladino type)	3%

Disturbed wetland areas will be seeded with annual winter rye at 1 pound per 1,000 square feet, as necessary. Fertilizer or lime will not be used in wetlands.

TYPICAL WATER BAR CONSTRUCTION



RECOMMENDED SPACING BETWEEN WATER BARS	
SLOPE (PERCENT)	SPACING (FEET)
0–2	500–300
3–5	250–180
6–10	167–140
11–15	136–127
16–20	125–120
21+	100

NOTES:

1. All trees, brush, stumps, rocks, and other obstructions shall be removed and disposed of to prevent interference with the proper functioning of the diversion.
2. Fills shall be compacted as needed to prevent unequal settlement or failure.
3. All graded areas shall be stabilized with temporary or permanent seeding.
4. Diversion channel should be lined with erosion control fabric as soil conditions require.
5. The outlet of the water bar must be to a well vegetated area or be stabilized by installing a stone check dam, haybale/silt fence dissipating device or synthetic geomat, depending on the amount of channelized flow expected. If used, the geomat will consist of a geotextile fabric 8 feet wide and 10 feet long. The end of the fabric at the right–of–way must be toed into the ground.

TRC

Typical Installation
Water Bar

-Not to Scale-

Kibby Wind Power Project

Figure H-8

7.0 Erosion and Sedimentation Control Practices for Tower Clearings

Within the clearings created for the met towers, the potential for significant, project-related soil erosion would occur only during initial clearing and excavation for ground anchors. No streams or wetlands will be affected at the met tower locations, and slopes are generally level or less steep (typically less than 10 percent) than along access trails. Exposure of bare soil is anticipated only where excavation is required to install a ground or bedrock anchor and in random small areas that may experience repeated use for travel by clearing or construction equipment. In these limited areas, topsoil will be stockpiled separately from subsoils, and the soils will be replaced in order, with topsoil being replaced last. This practice will help stabilize the disturbed soils and encourage the reestablishment of native plants from natural seed sources.

Erosion and sedimentation control measures in these areas will include the use of only mulch at level excavated anchor sites, mulch and silt fence downslope of excavated anchor locations on slopes, and possibly some seeding in any unusually large area of disturbance. The details of the installation, inspection and maintenance of these erosion and sedimentation control measures will be as described for their use along access trails.

8.0 Winter Construction Considerations

In the likely event that installation of the met towers occurs during the fall or winter season (September 15 – May 15), mulching and seeding will be modified to ensure adequate stabilization.

- Mulching: From September 15 – May 15, if hay or straw mulch is used, it will be applied at a rate of about 4 bales per 1,000 square feet. Hay or straw mulch will also be anchored when applied on slopes greater than 5 percent during this time of year. Anchoring is most efficiently accomplished by using netting. As an alternative, erosion control mats can be used in place of hay/straw mulch and netting. In sensitive areas, where slopes that are 15 percent or greater or within 100 feet of a stream or wetland, a heavy grade mat will be used.

- Seeding: After October 15, seeding will be done at a rate of three times higher than the standard specified rate for permanent seeding (two times higher in wetlands) and then mulched.

9.0 Recommended Reference Materials

The following reference materials were used in preparing the E&S Plan and are recommended for additional guidance, as necessary.

LURC. 2004. LURC Chapter 10, Sub-chapter III, Land Use Standards, September 13, 2004. Available on-line at: http://www.state.me.us/doc/lurc/reference/ch10.html

Maine Department of Environmental Protection. 2003. Maine Erosion and Sedimentation Control BMPs. Available on-line at http://www.state.me.us/dep/blwq/docstand/escbmps/index.htm, and by calling MDEP at 1(800) 452-1942.

Maine Forest Service. 2004. Best Management Practices for Forestry: Protecting Maine's Water Quality. Available on-line at www.maineforestservice.org, and by calling the Maine Forest Service at 1(800) 367-0223 (in-state) or 1(207) 287-2791.