EROSION AND SEDIMENTATION CONTROL

Construction of the DCP Terminal will involve approximately 19.4 acres of land disturbance on DCP property, including clearing and grading activities, and up to an additional 5.7 acres of disturbance to install the transfer pipe. Most of this area will remain permanently developed following construction. Without the proper precautions and implementation of best management practices ("BMPs"), the potential for erosion and offsite sediment transport would exist.

DCP has incorporated the proper erosion and sedimentation control measures into its facility design and construction plans to minimize potential impacts. These measures include both temporary and permanent devices that will control runoff and minimize potential non-point source pollution. As described in Appendix F: Stormwater Management, DCP will also implement a stormwater management plan that will treat stormwater runoff after construction and final stabilization are completed.

DCP will train all of its construction personnel prior to construction and maintain a training program for new construction personnel throughout the construction process to insure the erosion and sedimentation control measures are installed and maintained as necessary. In addition, DCP's chief inspector will play an important role in maintaining strict compliance with all permit conditions to protect the environment during construction.

The following Erosion and Sedimentation Control Plan (E&S Plan) narrative has been developed to provide a strategy for controlling erosion and sedimentation that may result from the construction of the DCP Terminal, and to ensure all disturbed areas remain stabilized following construction. The primary goals of DCP's E&S Plan are to preserve the integrity of environmentally sensitive areas and to maintain existing water quality. Implementation of the following objectives is required to achieve those goals:

- Minimize the extent and duration of disturbance,
- Protect exposed soil by stabilizing and/or diverting runoff to stabilized areas,
- Install temporary and permanent erosion control measures, and
- Establish an effective inspection and maintenance program.

The E&S Plan is based upon sound conservation practices such as those outlined in the MDEP *Maine Erosion and Sediment Control Best Management Practices* (BMPs), dated March 2003, and general construction experience on other projects. For detailed, site-specific information please refer to the Post-Development Drainage Plans, Erosion Control and Construction Detail Drawings located in Appendix G of this application.

This document, together with the illustrations and drawing set, will supply contractors, DCP's chief inspector, and agency inspectors with a complete, cohesive set of erosion control specifications for the project. These documents are designed to provide specifications for the installation and implementation of soil erosion and sedimentation control measures while allowing adequate flexibility to apply the most appropriate measures based on site-specific conditions, the construction sequence, timing and weather. Bid packages and contracts for work to be performed for the project will include these specific guidelines to ensure the work is completed in an environmentally sensitive manner. DCP personnel and their representatives will ensure that the procedures contained in this E&S Plan are followed by regularly inspecting all work and requiring corrective action when necessary.

A. Site Erosion and Sedimentation Potential

The Soil Survey of Waldo County, Maine, and other soil information published by the USDA-NRCS was reviewed for the project site. The site's soil characteristics relative to parent materials, drainage class, texture, consistence, and hydric soil status have been further evaluated as part of the on-site wetland delineations and stormwater design.

Soils on the site are principally silty textured glacio-marine deposits, but fill materials are also present along previously developed or altered areas such as the existing railroad right-of-way vicinity and the unpaved parking area located to the north of Station Avenue and west of the railroad tracks. The topography of the upper parcels slopes from U.S. Route 1 towards Penobscot Bay to the southeast, with a number of drainage dissections containing wetland and stream components formed in the silty textured surficial deposits. Existing elevations range downward from approximately 80 to 12 feet above mean sea level. Within the area comprising the proposed LPG storage tank, truck loading, and office facility, slopes are generally less than 8%, although short, steep slopes exist along the drainage gullies that run across the site in a general northwest to southeast orientation. Slopes are generally flat along the proposed transfer pipe route once inside the Sprague fence line. The soils on the site have a seasonal high water table that generally ranges from 0 to 24 inches from the surface, depending on location. The natural soils mapped by the USDA-NRCS on the site (Boothbay and Swanville Series) are in Hydrologic Soil Group C. Areas mapped by the USDA-NRCS as Udorthents (filled and disturbed soils) are generally variable in their characteristics and have no assigned Hydrologic Soil Group.

The soils at the DCP Terminal are suitable for the proposed development with the implementation of construction BMP's and appropriate design measures. The gently to moderately sloping silty soils have a moderate erosion potential, which may be mitigated by implementation of construction erosion and sediment control BMP's, as discussed below. Areas with silty soils and steeper slopes (e.g. drainage gullies), and areas adjacent to waterbodies or wetlands pose a higher risk of erosion and sedimentation, and will need to be addressed accordingly during construction. Shallow subsurface groundwater management and/or diversion may need to be addressed during the winter and spring construction.

B. Construction Schedule, Sequence, and Procedures

The general construction procedures for the DCP Terminal will consist of clearing and grading the site; installation of foundations; construction of the bulk storage tank and other structures and equipment; transfer pipe construction; start-up and testing; and final clean up and stabilization of the site. Each stage of construction presents potential erosion and sediment issues that will require BMPs to mitigate. Construction of the DCP Terminal is expected to occur sequentially, beginning as soon as possible in 2012, and take up to approximately 18 months of active construction to complete for full operations using LPG distribution by truck. The schedule for construction of the rail car loading facility is unknown at this time. A preliminary construction schedule is presented below.

B.1 Phased Construction Schedule

Phase 1: Clearing and Major Earthwork

Construction workspace limits and protected natural resources will be surveyed and marked in the field with flagging tape. The upper parcel will be cleared of existing trees and woody vegetation. Stabilized construction entrances will be installed, and perimeter erosion and sedimentation control measures will be put in place concurrent with stumping and initial grading activities. The first phase of site grading will commence and will include completion of the stream culvert and relocation work to divert this source of surface water flow to the perimeter of the construction area. The stream will be relocated and any grading or fill areas, plunge pools, etc. associated with this work will be stabilized in accordance with the

requirements of this appendix. Rough grading of the remainder of the site will follow during the second phase of site grading, focused primarily on the bulk storage tank containment area and berm. Excavation of foundation holes will get underway with the intent that, should any blasting be required, it will be completed during the "off-season" for tourism if possible.

Phase 2: Installation of Major Foundations and Structures
As foundation excavations are completed, pouring of foundations will commence, again focused initially on installation of the bulk storage tank and its containment berm. Installation of other terminal facility buildings, structures and equipment will get underway. Construction of the transfer pipe from the pier to the bulk storage tank will begin. Work over the water would be from above and below the pier and/or a jack-up barge or floating work boat tied off alongside the pier. Final site grading, stabilization, and revegetation will occur as site work is completed in an area. Erosion and sedimentation controls will be inspected and repaired and enhanced, as needed, throughout this period.

Phase 3: Installation of Exterior Piping and Electrical Work
Installation of terminal facility tanks, buildings, equipment and other structures, and the transfer pipe will be ongoing. Exterior electrical and piping work will be underway. Final site grading, stabilization, and revegetation will occur as work in areas of the site is completed. Erosion and sedimentation controls will be inspected and repaired and enhanced, as needed.

Phase 4: Interior Piping and Electrical Work
Final installation of terminal buildings and ancillary facilities will be completed. Construction of the bulk storage tank containment berm and transfer pipe will be completed, as needed. Interior electrical and piping work will get underway. Final site grading, stabilization, and revegetation will occur as work in areas of the site is completed. Erosion and sedimentation controls will be inspected and repaired and enhanced, as needed.

Phase 5: Testing, Final Cleanup and Restoration
Hydrostatic testing will be completed; electrical and computer systems will be tested. Final site inspection and clean-up will occur, and the DCP Terminal will be commissioned and placed into operation. If any temporary construction erosion and sediment control measures remain in-place they will be removed unless unstable areas are identified. Unstable areas will be addressed accordingly and monitored post-construction until they are stable or revegetated.

B.2 Identification of Construction Limits and Resource Areas

Prior to the initiation of construction activities, a survey crew will locate the construction workspace limits in accordance with the project drawings. The construction workspace limits are shown on the Post-Development Site and Drainage Plans, located in Appendix G. The construction limits will be clearly marked with flagging and maintained as needed. All construction activity, including material and equipment storage will be contained within the approved construction workspace.

In addition, prior to commencement of construction activities, the stream and wetland resource flagging will be "freshened" as necessary to clearly demarcate these resource areas. This flagging will be maintained through each stage of the construction process, as necessary, until final site stabilization is completed.

B.3 Erosion and Sedimentation Control Measure Installation

Installation of various erosion and sedimentation controls will begin immediately following the clearing phase and will be completed concurrently with stump removal and site grading. These control measures

will be installed and maintained in accordance with the specifications provided in this section and as shown on the Erosion Control Detail drawings (Appendix G). All erosion and sedimentation controls installed will be reviewed by the chief inspector to insure their proper location and function prior to commencement of grading activities.

The general sequencing of erosion and sedimentation control installation that will be utilized for construction will be as follows:

1. Concurrent with the initiation of site clearing, construct and stabilize the construction entrance(s) and maintain until final paving is completed.
2. Install and maintain perimeter erosion control (sediment) barriers such as silt fencing, erosion control mix (ECM), and/or other erosion control barriers along the downhill limit of work, as shown on the Post-Development Drainage Plan and Erosion Control Detail drawings. Double rows of sediment barriers must be used during the winter construction period (November 1 through April 15). Sediment barrier locations may be adjusted in the field based on site conditions as determined by the chief inspector. Where silt fence cannot be toed-in properly due to tree roots, rocks or frozen ground, hay bales or an erosion control mix berm must be substituted. Erosion control barriers will be installed after clearing but concurrent with initial grubbing and grading activities. Any erosion issues developed during clearing will be temporarily stabilized with mulch, tree limbs or rock as necessary.
3. Stabilize construction access surface, parking areas, and equipment storage and laydown areas with matting and a gravel sub-base as necessary to minimize rutting and avoid ponding. These measures should be gauged based on the intended equipment and anticipated frequency of usage.
4. Concurrent with initiation of site grading, construct and stabilize temporary drainage swales, diversion berms, check dams, temporary sediment basins, and culverts with temporary inlet and outlet structures, as needed, to minimize sediment in site runoff during the construction of the facility.
5. Install check dams in temporary drainage swales within 24 hours of shaping swale and prior to final stabilization of permanent channels. Swales or channels constructed during the winter construction period must be rip rapped immediately upon completion and check dams installed.
6. Minimize the amount of disturbance at any one time by staging construction as much as practical for efficient construction of the facility. Existing vegetative ground cover should be left in place, where feasible, to aid in sediment retention and reduce erosion potential.
7. Stabilize any exposed slopes greater than eight percent and newly constructed drainage swales with anchored erosion control blankets or other approved mulching techniques.
8. Dust control methods will be employed after grading and prior to final stabilization to prevent the blowing and movement of dust through the application of water and/or calcium chloride to reduce wind erosion. Repetitive treatment will be applied as needed to accomplish control.
9. Apply temporary seed and mulch to any exposed areas where activity is not anticipated for 30 days or more, or where activity has not occurred within 30 days. Temporarily mulch any exposed areas within 100 feet of a wetland where activity is not anticipated or has not occurred in 7 days.
10. Unless clear water is present, any dewatering, such as the excavations for foundations, must be done through a geotextile-lined sediment-containment structure or through a filter bag that discharges to a vegetated area. Control and direct runoff from the excavation areas to the stabilized site drainage system using stabilized water bars, berms and/or hay bales. The structure or filter bag will be sized appropriately to accommodate the pumping rate and volumes. Sediment traps will be cleaned out and/or replaced as needed to prevent exceeding their capacity and effectiveness.

11. Remove excess spoils from the site that will not be used for the final design and stabilization. Stockpiled soils that remain undisturbed for 48 hours or more will be contained with sediment barriers such as silt fence, hay bales or equivalent. The sediment barriers shall be adequately located and reinforced to handle a significant rain event and the potential slumping of the pile. Between April 15 and October 1, apply temporary seed and mulch to a stockpile that is not expected to be disturbed within 30 days. Apply anchored mulch daily, as needed, during the winter construction period.

B.4 Clearing, Grading, and Foundation Excavation

The first construction activity to take place will be to clear the existing trees and woody vegetation and establish construction access to the site for construction equipment. Only the area required for construction workspace to construct, install and maintain facility structures and equipment will be cleared. Stabilized construction entrance(s) from paved public roads will be installed in accordance with the Post-Development Drainage and Construction Detail drawings (Appendix G). Stumps will be removed and either ground for use as ECM, or hauled off-site to an approved location for re-use as ECM or disposal (see Appendix M). A limited number of stumps may be disposed of on-site in accordance with MDEP Solid Waste regulations. The cleared areas of the site will then be graded, as necessary, to approximate final grade and to provide level surfaces for work areas. Large rocks dislodged during grading or other excavation will be properly disposed of on-site or hauled off-site for disposal in an approved area. Although blasting is not expected to be necessary, if blasting is required the contractor will follow all necessary standards and specifications.

Initial grading work will be in the vicinity of the stream channel, a portion of which is to be relocated and a portion culverted. Completing this work first will direct the existing channelized surface drainage to the perimeter of the site, and will facilitate work in the middle of the site. The second phase of initial grading will involve the remainder of the upper parcel. Foundation holes will be excavated at this time.

B.5 Foundation Installation

Once the site has been cleared and graded, the building and tank foundations will be poured and allowed to set. The foundations for the bulk LPG and fire water storage tanks and the compressor building require a significant mass of reinforced concrete to provide a stable support. Forms and reinforcing bars will be installed and high strength concrete will be poured to the appropriate levels. Rigid controls on concrete quality and installation procedures will ensure a suitable foundation is obtained.

B.6 Construction of Structures, Storage Tanks, Transfer Pipe and other Facility Equipment Installation

As the various foundations are completed and cured sufficiently, construction of tanks, buildings and other structures will begin, focused initially on the bulk storage tank. As structures are completed and facility equipment installed, electrical wiring will be installed for power and instrumentation, piping related to the truck loading station and other facilities will be installed and connected, and plumbing will be installed in the administration building. Commercial power and telephone will be established at the site as soon as possible. Town water and sewer will be connected to the administration building as those hook-ups are completed.

Very little additional clearing, grading or ground disturbance will be needed in order to construct the proposed transfer pipe. The pipe will be attached to the existing Dry Cargo Pier at the Sprague facility. Once over land, piling style foundations for the new pipe rack will be set, sections of pipe will be strung along the proposed route, the pipe will be welded, x-rayed, coated, painted and installed on the pipe racks.

The portions of the transfer pipe that must cross railroad tracks and existing roads will be installed underground.

B.7 Final Stabilization and Revegetation

Final stabilization and revegetation of the DCP Terminal construction site will be an ongoing process throughout construction. Sections of the work area will be final graded, loamed, fertilized, seeded, and mulched as work is completed. Other areas will be paved or covered with crushed stone. Permanent erosion and stormwater management controls will be installed sequentially as well. The general sequence of the final stabilization and revegetation measures that will be utilized during the growing season is as follows:

1. Complete final grading and stabilization of earthen structures such as steep banks and containment walls, and diversion berms and swales that will control runoff.
2. Finish grade and replace topsoil or loam in all disturbed areas to be revegtated. Seed and mulch disturbed areas within two weeks of final grading, weather permitting.
3. Maintain all temporary erosion controls and sediment barriers until vegetation has been established over 85-90 percent of the area to be revegetated. Reseed sparsely vegetated areas.

B.8 Start-up and Testing

As the various systems and subsystems of the DCP Terminal are completed they will be tested and calibrated for proper operation. The transfer pipe, storage tanks that are constructed on-site, and other components that will contain propane will be pressure tested to ensure their integrity. Typically the testing is accomplished by pressurizing with water (hydrostatic testing); however, pneumatic testing may also be used for smaller components. Commissioning and start-up of the DCP Terminal will commence once the new facilities are tested, cleaned and prepared for use, and an initial LPG delivery by truck is made to the site.

B.9 Final Inspection and Clean-up

When construction is completed the site will be inspected, and any areas in need of remedial measures will be cleaned-up, stabilized, and monitored until the site is stable and revegetated. If any temporary construction erosion and sediment control measures remain in-place they will be removed unless unstable areas are identified. Unstable areas will be addressed accordingly and monitored post-construction until they are stable and revegetated.

C. Erosion and Sedimentation Control Plan Drawings

The Post-Development Drainage Plan, Construction and Erosion Control Detail drawings provided in Appendix G include additional detailed information regarding the sequencing, applicability, installation and maintenance of the erosion and sedimentation control devices to be used. The information provided on these plans includes:

- Protected natural resources;
- Limits of disturbance;
- Construction entrance/exit stabilization details;
- General erosion and sedimentation implementation schedule;
- Temporary erosion and sedimentation control details, locations and installation specifications;

- Location and construction detail drawings of permanent structural erosion and sedimentation control measures such as culverts, plunge pools and swales;
- Pre- and post-development contours;
- Final ground cover type;
- Seed mix specifications and application rates;
- Mulching specifications and application rates;
- Winter construction specifications; and
- Inspection and maintenance requirements.

Adherence to this E&S Plan and associated drawings and specifications will insure the successful implementation of erosion and sediment control measures during the construction of the DCP Terminal. Each contractor and inspector on the Project site will have the E&S Plan and drawings available for reference on-site at all times.

D. BMPs – Erosion and Sediment Control Guidelines

DCP is proposing to employ the methods described in the *Maine Erosion and Sediment Control BMPs*, or equivalent measures based on prior construction experience, to minimize erosion of disturbed soils and transportation of sediment into sensitive resource areas (streams, wetlands). The erosion and sedimentation control measures that DCP will utilize include both temporary and permanent nonstructural measures such as mulching, seeding, vegetated buffers, as well as temporary and permanent structural measures such as geotextile filter fabrics, ECM, sediment traps, water diversion berms and sedimentation basins.

D.1 Non-Structural Measures

Nonstructural measures are temporary or permanent methods used to cover exposed soil areas to minimize erosion and the transport of sediment. Their purpose is to cover exposed soil to prevent initial erosion of soil from a construction site. Examples of nonstructural measures include mulch, ECM, erosion control matting, and/or seeding. Temporary measures are typically used during construction, while permanent measures are usually applied during the final restoration phase when construction is completed.

D.1.1 Mulching

If permanent stabilization has not been established on the construction area, temporary mulching must take place within 100 feet of the edge of all wetlands at any time when no activity is anticipated or occurs for more than a 7 day period, or prior to a severe storm event when erosion is likely to occur. For areas located more than 100 feet from the edge of waterbodies and wetlands, temporary mulch will be applied to all exposed areas if no activity occurs within 30 days. The contractor will apply mulch sooner than 30 days when it can be anticipated that activity is not going to occur within 30 days.

The determination of a severe storm event should be based on observation of the current weather and on reports by the National Weather Service for the relevant geographical area. The likelihood of erosion during a storm event (i.e., the definition of a severe storm event) should be based on anticipated total rainfall in excess of 1.0 inch within a 24-hour period, as predicted by the National Weather Service's advisory reports.

The selection of mulching materials will be based on the season, soil and site conditions. Mulching measures will be employed on all disturbed areas and as needed in wetlands. Mulch materials will be

spread uniformly by hand or machine. Application rates, conditions, mulch type, and timing for both temporary and permanent mulch requirements are summarized in Table 1.

On slopes greater than 8 percent, hay or straw mulch will be firmly anchored into the soil utilizing one of the following methods:

- Crimping with a straight or notched mulch crimping tool (farm discs will not be allowed);
- Track walking with deep-cleated equipment operating up and down the slope (mulch crimped perpendicular to the slope) on slopes <25 percent;
- Application of mulch netting;
- Application of 500 lb./acre of wood fiber mulch over straw/hay mulch; and
- Commercially available tackifiers (except within 100 feet of waterbodies or wetlands).

Table 1

Summary Of Temporary And Permanent Mulch Application Requirements

Condition	Timing	Mulch Type[1,2]	Application Rates[3]
Temporary			
Within 100 feet of wetlands	If no activity in exposed areas for 7 days, or prior to a storm event	Hay/straw mulch ECM or Wood fiber mulch	2 tons/acre 2000 lb./acre
All disturbed areas of the construction workspace	Apply mulch to all exposed areas if no activity occurs within 30 days. Apply mulch and temporary seeding sooner when it can be anticipated that activity is not going to occur within 30 days.	Hay/straw mulch ECM or Wood fiber mulch	2 tons/acre 2000 lb./acre
All inactive work areas with exposed soil are to be mulched immediately upon completion of soil disturbance and following completion of subsequent disturbance	November 1 – April 15	Hay/straw mulch ECM or Wood fiber mulch	3 tons/acre 2000 lb./acre
Permanent			
On all exposed areas after seeding to stabilize the soil surface	Permanent grass and/or legume seeding covered by hay or straw mulch on all areas that have been restored to final grade. This does not apply to areas stabilized by other means such as jute matting or permanent erosion control mix.	Crimped hay/straw mulch or Paper mulch or Wood fiber mulch	2 tons/acre 1500 lbs./acre[4] 2000 lbs./acre
Wood chip application areas	Permanent grass and/or legume seeding covered by hay or straw mulch on all areas that have been restored to final grade. This does not apply to areas stabilized by other means such as jute matting or permanent erosion control mix.	Crimped hay/straw mulch or Paper mulch or Wood fiber mulch	2 tons / acre 1500 lbs./acre[4] 2000 lbs./acre

Notes:
1. Straw and hay mulch may be used interchangeably, except in wetland areas where straw mulch will be required.
2. Double rate of wood fiber mulch when used in critical areas.
3. Straw, hay, or hydromulch (wood fiber or paper mulch as appropriate) will provide 90 percent ground coverage. See ECM application rates in Section D.1.3.
4. Paper mulch is acceptable for use during the growing season. On slopes >30 percent and in areas where vegetation has not established well, additional hay mulch will be added as a winterizing measure.

D.1.2 Erosion Control Matting

Erosion control blankets or matting is a loosely woven burlap type material or other biodegradable plant fiber material. In lieu of anchored mulch, erosion control matting may be installed in drainage swales following final seeding, as needed, to prevent erosion prior to revegetation. In addition, erosion control blankets may be installed on slopes greater than 3:1 (3 feet horizontal to 1 foot vertical).

Curlex or jute matting will be placed on areas of high wind exposure, steep slopes (steeper than eight percent grade), unstable soils, and stream bank restoration areas. Matting is typically anchored with large staples, as recommended by the manufacturer. Although this type of material is usually used during final restoration, it is considered a temporary measure because it generally deteriorates within two years and is eventually replaced by vegetation which serves as the permanent measure in the end. A detail drawing showing the proper installation of erosion control mats and blankets is provided on the Erosion Control Detail drawings in Appendix G.

Matting or blankets lining channels and slopes will be properly anchored and the fabric inspected for tears. Damaged matting will be replaced where necessary and the channel cleared of debris and obstructions. The disturbed area shall be free of brush, stumps and other debris that could damage the fabric. Inlet and outlet areas should be checked for scour and repaired until vegetation is established.

D.1.3 ECM

ECM can be used as slope reinforcement or mulch on slopes that are 2:1 or less, on frozen ground or forested areas, and at the edge of gravel parking areas and active construction areas. ECM used as mulch is applied at different thicknesses depending on the slope and slope length.

- For slopes of 3:1 or less, apply erosion control mix 2 inches thick plus an additional 1/2 inch per 20 feet of slope up to 100 feet (e.g., 3 inches thick for 60 feet of slope; 4 inches thick for 100 feet of slope).

- For slopes between 3:1 and 2:1, apply erosion control mix 4 inches thick plus an additional 1/2 inch per 20 feet of slope up to 100 feet (e.g., 5 inches thick for 60 feet of slope; 6 inches thick for 100 feet of slope).

When the ECM is used as mulch, it must be spread evenly and must provide 100 percent soil coverage. The erosion control mix will not support grass, but will support clover and other legumes and woody vegetation. Vegetation can be promoted by seeding, or it can be left to occur naturally.

D.1.4 Vegetative Stabilization

Proper vegetative stabilization is dependent on the selection of the appropriate seed for upland and wetland areas. Seed mixtures are generally composed of perennial and annual species. Perennials do not produce much top growth or seed the first year. Perennials develop a strong sturdy root structure that generally inhibits the growth of native vegetation. Annuals however, reproduce only from seed rather than roots, therefore they produce good top growth and seed the same year planted. Annual species are more suitable as a temporary vegetative measure and generally allow native vegetation to recolonize the disturbed area.

Depending on the area in which the seed is planted and whether temporary or permanent vegetation is desired will determine the best seed mix suitable for that area. Upland areas will be generally planted with a mix of perennial species during the growing season to establish permanent vegetative stabilization. Upland areas are generally suitable for supporting the growth of perennial species with strong rootstock since revegetation for permanent stabilization is the primary concern. Typically, annual ryegrass is the only vegetative measure used to stabilize restored wetlands, unless the native soils used for restoration don’t provide a sufficient wetland seedbed for regrowth of wetland species.

Temporary Seeding

Planting of fast-growing grasses provides rapid stabilization of disturbed surfaces that will experience further disturbance or construction activity at a later date. Temporarily seeded surfaces will have greater resistance to storm water runoff and/or wind erosion. Disturbed areas on the site where further disturbance temporarily ceases for at least 30 days shall be stabilized with temporary seed and/or mulch. Temporary seeding is restricted to the period April 15 through October 1. Compacted soils will be loosened to a depth of four inches prior to seeding.

Permanent Seeding

Permanent seeding shall be used on graded and loamed surfaces with a mixture of fast growing and permanent species suitable to the site and regional conditions. Surfaces to be permanently seeded shall be properly prepared as a seed bed and treated with fertilizer as appropriate. Compacted soils will be loosened to a depth of 4 inches or topdress upland areas with 6 inches of topsoil, as needed. Seeded surfaces shall be mulched, and then watered and maintained until an adequate and permanent vegetative cover is established over 85 – 90 percent of the area. All disturbed areas are to receive permanent seeding within two weeks of final grading, weather permitting. Seed mix specifications are provided in Table 2 and a seeding requirements summary is provided in Table 3.

Seeding with the permanent upland seed mix will be allowed until October 1. After October 1, 120 pounds per acre of winter rye will be added to the permanent seed mix. Between October 15 and April 1, seeding and mulching at winter application rates can occur until final seeding can be applied outside of this window. Depending on weather conditions, supplemental winter rye may be added as early as September 15 (if freezing weather occurs early in the year). The supplemented seeding mixture will be applied to the construction area, weather permitting, until snow accumulation restricts the seeding operations. No seeding will take place if snow cover exceeds 1 inch. Dormant seeding may be performed after the first killing frost and before the first snow fall.

The construction area will be evaluated in the spring following the completion of construction. Areas where vegetation has not successfully established over 75 percent of the area will be re-seeded and mulched as soon as soil conditions are suitable.

Table 2

Seed Mix Specifications

Seed Mix Name	Seed Mix Components	lb./acre [1]
Permanent Upland Seed Mix	Redtop	4
	Creeping Red Fescue	40
	Tall Fescue	40
	Birdsfoot Trefoil	16
Wood Chip Application Seed Mix	Creeping Red Fescue	20
	Redtop	4
	Tall Fescue	30
	Crownvetch	30
Wetland Seed Mix	Annual Ryegrass	40
Winter rye [2]	Winter Ryegrass	120

Notes:
1. Increase seeding rates 10% when hydroseeding
2. Winter rye will be added to Permanent Upland Mix at a rate of 120 lb. /acre after October 1.

Table 3 Summary of Seeding Requirements		
Permanent Seeding		
Condition	**Timing[1,2]**	**Seed Mix**
Upland portions of the construction area	Disturbed area will be seeded within two weeks of final grading, weather permitting	Permanent Upland mix
Slopes >3:1	Disturbed area will be seeded immediately after seedbed preparation	Permanent Upland mix
Wetlands	Disturbed wetlands will be seeded within 6 days of final grading, weather permitting	Annual Ryegrass
Wood chip application areas	Disturbed area will be seeded within two weeks of final grading, weather permitting	Wood chip application seed mix
Notes: 1. Weather conditions permitting 2. Areas that do not successfully revegetate within the appropriate period of time will be reseeded as necessary.		

Fertilizer and Limestone Requirements

In general, fertilizer and lime application rates will follow the guidelines identified below, if needed, or unless site specific soil tests identify the need for alternative fertilizer/lime application rates. Fertilizer will be applied to upland areas prior to seeding at a rate of 800 pounds per acre using 10-20-20 (N-P205-K20) or equivalent. Ground limestone (equivalent to 50 percent calcium plus magnesium oxide) will be applied at a rate of 3 tons per acre. An equivalent mixture of fertilizer and lime may be applied using the hydroseeding method. No lime or fertilizer will be applied to wetlands.

Hydroseeding

Hydraulic application (hydroseeding) is an alternative method of revegetation, and is a suitable method for use. Hydroseeding combines the seed, fertilizer and lime, and may include paper mulch, wood fiber or straw, mixed with water that is sown in one application. Hydroseeding is generally limited to upland areas on slopes less than 2:1. This type of seeding application is recommended for use during the growing season, weather, accessibility, local restriction, and conditions permitting. Seeding rates will typically increase 10 percent when hydroseeding. Hydroseeding with mulch and annual rye seed only will be allowed in wetland areas.

Paper mulch and wood fiber mulch are normally used in hydroseeding applications. Paper mulch is generally comprised of recycled newspaper and wood fiber mulch is generally comprised of thin strands of wood fiber. Wood fiber mulch is more durable and more resistant to decomposition than paper mulch. Paper mulch typically decomposes within 30 days following application leaving the soil surface without adequate protection against erosion.

If hydroseeding methods are used for revegetation purposes, paper mulch will only be allowed for use during the growing season and will be spread at a minimum rate of 1,500 pounds per acre. If paper mulch is used on slopes greater than 30 percent, or vegetation has not become well established prior to the onset of winter, additional hay mulch will be spread as a winterizing measure on all surfaces treated with paper mulch to insulate and stabilize the exposed soil. If wood fiber mulch is used, it will be spread at a minimum rate of 1,500 pounds per acre during the growing season.

If it is anticipated that vegetation will not become established prior to the onset of winter, wood fiber mulch can be used as a winterizing measure and will be applied at a rate of 2,000 pounds per acre and will not require additional hay mulch. The contractor and the chief inspector will determine the most appropriate method of revegetation to be used based on existing conditions at the time of application.

D.1.5 Stabilized Construction Entrance/Exit

A construction entrance will consist of a stone pad, mud rack, or other materials used to reduce the tracking or flowing of sediment off the construction site. Where entrances cross poorly drained locations or drainage ditches, a subsurface drain will be installed prior to constructing the stabilized entrance.

The entrance will be maintained in a condition that will reduce tracking of sediment off the construction site. Periodic top dressing with additional stone or replacement with clean stone will be accomplished as needed. Roads adjacent to the construction site will be cleaned at the end of each day, as needed. The entrance will be removed following the completion of construction.

The disturbed area created for the access pad shall be free of brush, stumps and other objectionable material. Stone will be course aggregate with a minimum 2 inch size. Pad dimensions will be 50 feet long, 25 feet wide and 6 inches thick. A construction detail drawing of the stabilized construction entrance is provided in Appendix G.

D.1.6 Dust Control

Dust control methods will be employed to prevent the blowing and movement of dust through the application of temporary measures that are designed to reduce wind erosion. Construction roads, access points, and exposed soil surfaces will be moistened as needed with water and/or treated with calcium chloride. Repetitive treatment will be applied as needed to accomplish control. Maintain dust control measures through dry weather periods until all disturbed areas are stabilized. Avoid erosive quantities of water.

The use of temporary mulch will reduce the need for dust control in areas that will remain disturbed for longer than 30 days.

D.2 Structural Measures

Structural measures are temporary or permanent methods used to control erosion and sedimentation at a construction site and range from temporary hay bale structures to permanent vegetated swales and ponds. Temporary earthen structures such as diversion berms, dikes, swales and sediment basins may be constructed to control off-site sedimentation. Structural measures that will be used for stormwater control can also play an effective role in erosion and sedimentation control. Permanent structures that are part of the stormwater management plan that will be established for the site are discussed in Appendix F, and shown on the Construction Detail drawings in Appendix G.

D.2.1 Temporary Sediment Barriers

Temporary structural sediment barriers include silt fence, hay/straw bale and ECM barriers that are constructed on-site to contain sediments carried by runoff.

Silt Fence

Silt fence is a temporary sediment filter device consisting of a barrier of geotextile fabric used to intercept sediment laden runoff from small drainage areas. Sedimentation control is accomplished by reducing runoff velocity and trapping transported sediment at the outlet end of newly constructed level spreaders, ditch turnouts, diversion berms and along the construction limits where the land slopes downward from the disturbed area. Silt fence also provides a visual and physical barrier defining construction limits.

Silt fence will be placed in a single row, parallel with the land contour, or along the limits of the work area. Silt fence should be placed approximately 6 feet beyond the toe of the slope to allow for sediment accumulation; between disturbed areas and down gradient environmental resource areas; at the base of all slopes adjacent to wetland resource areas; and the inlet and outlet of open drainage structures. Silt fence may be installed backed with straw/hay bales for additional control of erosion and sedimentation.

Inspection will occur weekly in areas of active construction and following a major storm event. Repair or replacement will be made, as needed, to retain proper functioning. Accumulated sediment will be removed when it exceeds approximately one-third of the height of the barrier. Following construction, silt fence will be maintained until revegetation is complete (upslope areas have a healthy catch of vegetation over 85 – 90 percent of the area). Additional silt fence will be kept on site for replacement purposes.

The fabric will be securely fastened to wooden posts with wire or staples. Posts will be spaced a maximum of 10 feet apart. Spacing will be reduced, if necessary, to prevent sagging of the fence. Joints will overlap a minimum of 6 inches. A trench will be excavated approximately 6 inches wide and 6 inches deep along the post line with 8 inches of fabric placed in the trench and backfilled (see the Erosion Control Detail sheet in Appendix G). In areas where conditions prohibit trenching due to ledge, rocky soil, or many large tree roots within the top 4 inches of soil, sandbags or backfilling may be used to secure the bottom of the fence. The American Society of Testing Materials ("ASTM") has specified minimum standards for geotextile fabric used for sediment control. The fabric shall conform to the following standards:

SILT FENCE CRITERIA

Property	**Requirement**
Grab Strength	100 lbs.
Elongation	15% Min. to 50% Max.
Permissivity	0.2 sec. -1
A.O.S. (Apparent Opening Size)	30-80 (coarse soils)* 50-80 (Fine soils)
Ultraviolet Resistance	70% Minimum

* Coarse soils with less than 50 percent of the particles passing through a #200 sieve, fine soils with greater than 50 percent of the particles passing through a #200 sieve.

Straw/Hay Bales

The use of silt fence or silt fence in combination with hay or straw bales is preferred over the use of hay/straw bales alone. However, in many instances, straw/hay bale sediment barriers are effective temporary sediment filter devices used to provide for sediment retention at stormwater drain inlets, settling basin and diversion berm outlets, and as drainage swale check dams. A temporary barrier of hay or straw bales can be used to intercept sediment laden runoff from small drainage areas exhibiting disturbed soil conditions. Sedimentation control is accomplished by reducing runoff velocity and trapping transported sediment. Hay/straw bales also provide a visual and physical barrier defining construction limits.

Bales may be placed in a single row, parallel with the land contour, or along the limits of the work area with ends tightly abutting. Hay bales should be placed approximately 6 feet beyond the toe of a slope to allow for sediment accumulation; between disturbed areas and down gradient environmental resource areas; at the base of all slopes adjacent to wetland resource areas; and the inlet and outlet of open drainage

structures. Hay bales used as check dams in drainage swales shall be limited to drainage areas of 1/2 acre or less.

Inspection and maintenance of hay and straw bale sediment barriers is the same as for silt fence, keeping in mind that the bales may deteriorate more rapidly from exposure to the weather.

Bales should be bound around the sides with string oriented horizontally to prevent contact with the ground and deterioration of the bindings. Bales will be entrenched unless the ground surface consists of rocky soils or ledge, or there are many large tree roots within the top 4 inches of soil. In those situations, the upslope side must be backfilled. As subsurface conditions allow, the bales will be securely anchored with two wooden stakes driven flush with the top of the bale (see the Erosion Control Detail sheet in Appendix G). Gaps should be chinked (filled with loose straw or hay). Hay bales must be removed upon successful completion of permanent revegetation.

ECM

ECM berms are often most effective for areas where the installation of silt fence and/or haybales is not practical due to frozen soils, shallow roots, or rock. The proper installation of ECM berms is shown on the Erosion Control Detail sheet in Appendix G. ECM consists primarily of organic materials such as shredded bark, stump grindings, composted bark, or similar materials. Wood and bark chips, ground construction debris, or reprocessed wood products are not acceptable for use in ECM. It can be manufactured on or off site, and will contain a well-graded mix of particle sizes and may contain rocks up to 4 inches in diameter. The following specifications are provided for ECM:

- organic matter content between 80 and 100 percent (dry weight),
- 100 percent of particles passing a 6-inch screen,
- between 70 and 85 percent passing a 0.75-inch screen,
- the organic portion will be fibrous and elongated,
- only small proportions will be silts, clays, or fine sands,
- soluble salts content will be <4.0 mmhos/cm, and
- pH will be between 5.0 and 8.0.

As with other barriers, to be most effective these berms must be placed along the contour of the slope. It will be necessary to cut tall grasses or woody vegetation to avoid creating voids and bridges that may enable runoff and sediment to wash under the barrier. For ECM berms, on slopes less than five percent or at the bottom of steeper slopes (<2:1) up to 20 feet long, the barrier must be a minimum of 12 inches high and a minimum of 2 feet wide. On longer or steeper slopes, the barrier must be wider to accommodate additional runoff. ECM berms should be inspected weekly in areas of active construction and following a major storm event, and replenished or reshaped as needed.

ECM berms will not be used at low points of concentrated runoff, below culvert outlet aprons, around catch basins and closed storm systems, and at the bottom of steep perimeter slopes that have large watersheds.

A continuous contained berm (or filter sock) is a fabric sock that is filled with ECM. It is also an effective barrier in areas that cannot be effectively trenched for installation of silt fence or hay bales. It is especially suited for use on pavement, since it can be driven over without adversely affecting its effectiveness. The netting holds the organic mix together and keeps it from being displaced.

D.2.2 Slope Breakers/Diversion Berms

Temporary or permanent slope breaker/diversion berms are useful for the management of surface water flow and are to be installed on disturbed areas as necessary to avoid excessive erosion. Berms can be placed depending on the slope in order to trap and divert sheet flow off the construction site to a stable area or settling basin.

Slope breakers/diversion berms are typically constructed of compacted earth and rock but are sometimes constructed with earth filled sacks and/or staked hay bales or other functionally equivalent material where appropriate. On long slopes, a series of berms can be used. Runoff water will be filtered at the outlet end by discharging into a well vegetated area, energy dissipating device typically constructed of a hay bale and/or silt fence filter or into a settling basin. Slope breakers may extend slightly (about 4 feet) beyond the edge of the construction workspace to effectively drain water off of the disturbed area.

During and following construction, slope breaker/diversion berms will be inspected to insure proper functioning and repairs will be made as necessary. The channel will be kept cleared of debris and obstructions.

The berm shall be free of brush and stumps and other debris. Each berm will have a minimum height of 18 inches after compaction and a minimum width of 36 inches to ensure structural integrity and to allow easy passage of construction equipment.

Fill shall be compacted as needed to prevent unequal settlement. Following construction, if the berm will remain as a permanent water diversion structure, it will be seeded and mulched accordingly. Slope breakers must have a 2 to 8 percent outslope and be located so that they will outlet to a vegetated area without causing water to pool or erode behind the breaker. However, if no vegetation is present within a reasonable distance of where a slope breaker must be located to properly function, then an energy dissipating device, typically consisting of hay bales, sandbags, silt fence, and or crushed stone, must be constructed at the outlet. With the preceding comments accounted for, breakers will be constructed and maintained at the following typical spacing:

SPACING OF SLOPE BREAKERS	
SLOPE	***SPACING***
5 - 15%	300 feet
15 - 30%	200 feet
> 30%	100 feet

Note: The spacing of slope breakers may be reduced as directed by the chief inspector.

D.2.3 Stone Check Dams

Temporary check dams are small temporary dams constructed across a swale or drainage ditch. Their purpose is to reduce the velocity of concentrated stormwater flows, thereby reducing the erosion of the swale or ditch and associated sediment transport. The use of check dams is limited to small open channels that drain 10 acres or less. Check dams are typically constructed of clean, 2- to 3-inch crushed stone but, for very low flows, hay or straw bales can be used.

The maximum height of a check dam should be 2 feet and the center of the dam must be at least 6 inches lower than the outer edges to help prevent water movement around the ends of the dam. The proper installation of a stone check dam is shown on the Erosion Control Detail plan (Appendix G). Installation of hay bales is discussed in Section D.2.1, and also shown on the Erosion Control Detail sheet.

Inspection of check dams will occur weekly in areas of active construction and following a major storm event. Repair or replacement will be made, as needed, to retain proper functioning. Accumulated sediment will be removed when it exceeds approximately one-third of the height of the barrier. Following construction, check dams will be removed, provided that revegetation or other final stabilization of the site and drainage channel is completed.

D.2.4 Dewatering

Dewatering of excavated areas may be required periodically. The discharge from dewatering will be directed to the on-site drainage system, or, alternatively, sediment laden discharge will be passed through a non-woven filter bag or sediment trap (such as a hay bale/filter fabric structure). Filter bag or sediment trap dewatering structures may at times be located outside of the marked workspace/disturbance limits to take advantage of vegetated areas.

Filter bags or the sediment trap will be placed as far away from waterbodies and wetlands as practical, keeping in mind that they need to be accessible for removal after construction. The discharge point must be well-vegetated (i.e. not impervious surface or exposed soil) to the maximum extent practicable; be at least 25 feet from the edge of a wetland or waterbody; and be on a slope of less than 20 percent. When a filter bag is placed within 250 feet of a waterbody (not wetland), the bag must be surrounded with secondary containment. In the case of wetlands, the discharge must meet the same criteria if the water can be easily pumped outside of the wetland. However, if the wetland is very large and it is not practical to discharge outside of the wetland, then the water should be pumped through a filter bag or sediment trap, as described, before discharging into the wetland.

Filter Bags

Non-woven filter bags, can be used as an effective filter medium to contain sand, silt and fines when dewatering excavated areas. The filter bag contains these sediment materials while allowing the water to flow through the fabric. Filter bags are constructed of non-woven geotextile fabric. A maximum of one 6-inch discharge hose will be allowed per filter bag. Bag capacity will not be exceeded beyond 2,000 gallons per minute. Typical bag dimensions are 15 feet by 13.25 feet.

To insure proper installation, filter bags will be placed on relatively flat terrain free of brush and stumps to avoid ruptures and punctures. To help prevent punctures, geotextile fabric may be placed beneath the filter bag when used in areas where wood debris or stones cannot be avoided. Proper installation requires cutting a small hole in the corner of the bag, inserting the pump discharge hose, and then securing the discharge hose to the bag with a hose clamp (no wire or string). Prior to removing a bag from the hose, the bag will be tied off below the end of the hose allowing the bag to drain. Drainage will not be allowed through the inlet hole. To avoid rupture, the bags will be attended and pumping rates monitored. Once the bag is inflated to a height of 4 feet, pumping will stop to avoid rupture. Filter bags used during construction will be bundled and removed for proper disposal.

D.3 Winter Construction Plan

The winter construction period defined by the MDEP BMPs runs from November 1 through April 15th. DCP anticipates the need for winter construction in order to complete the Project on schedule. DCP hopes to conduct site clearing and initial grading activities as much as possible during this time to take advantage of frozen ground conditions for clearing and the major earth moving work and, in response to local concerns, to confine these activities, including any blasting that may be needed, to a time period when tourist activities in Searsport are at a minimum. However, depending on the timing of completion

of the permitting process, this may not be possible. It is also possible that construction activity will be ongoing through a second winter period, although the intent is to avoid the need for significant new earth disturbance over more than one winter construction period.

DCP will implement specific measures for erosion and sediment control during this period, and will also implement specific overwinter stabilization measures as necessary. The proposed winter construction erosion and sedimentation control measures and overwinter stabilization measures are discussed below and are based on a reasonable application of Section A-3 of the MDEP BMP's.

D.3.1 Winter Construction Erosion and Sediment Control Measures

During the November 1 through April 15 period, winter construction erosion and sediment control measures will be applied to any open disturbed areas where final stabilization has not occurred. More frequent and heavier applications of temporary mulch, increased dormant seeding rates, the substitution or additional use of ECM berms in erosion control barriers, and other supplemental erosion controls will be used as discussed below. Erosion and sedimentation risks during periods of winter construction, or at open soil areas where final site stabilization has not been completed prior to November 1, will be managed by implementing the following winter construction measures.

Winter Construction Sequencing

- The acreage of exposed soil at any given time will be minimized to the extent practical by strategically sequencing grading operations;
- Exposed areas will be limited to those areas in which major earth work is needed to bring the terminal area to rough final grades and excavate for building and tank foundations;
- Exposed soil surfaces will be mulched for over winter conditions or otherwise stabilized as soon as earthwork in a given area is completed;

Winter Construction Mulching

- The hay or straw mulch application rate during the winter shall be increased from 2 tons/ acre to 3 tons/ acre and properly anchored;
- If ECM is applied as a mulch material, the minimum thickness will be 4 inches;
- If there is snow over exposed soil that is not stabilized by mulch, the snow will be removed down to approximately a one-inch depth before mulch is applied;
- All hay or straw mulch will be anchored by either mulch netting, chemical non-petroleum tackifier, tracking, or wood cellulose fiber;
- When final grading is completed in an area and no further disturbance is required during the winter construction period, the area will be stabilized within 24 hours with anchored hay or straw, ECM, or erosion control matting, weather or other site conditions permitting;
- Soil stockpiles will be at least 100 feet from a protected natural resource, and will be mulched with hay or straw at twice the normal rate, or with a four-inch layer of ECM within 24 hours of stockpiling or new disturbance.

Winter Construction Structural Erosion and Sedimentation Controls

- A double row of sediment barriers (i.e. silt fence backed with hay bales or ECM) will be placed around the down slope perimeter of the construction area, and between the disturbed area and any protected natural resource within 100 feet of the disturbed area;
- Stockpiled soils that are to remain in place over the winter will be contained with sediment barriers in addition to mulching as required above;

Winter Construction Channel and Swale Stabilization

- Open channels and swales designed to carry and/or divert surface runoff, including the relocated stream segment, will be rip rapped immediately upon completion of the channel and temporary check dams installed before flow is allowed through the channel.

Winter Construction Slope Stabilization

- By November 15 or the completion of construction for the winter, whichever is later, all stone covered slopes greater than 15% will be constructed and stabilized;
- Depending on the slope grade and the timing of construction completion, all slopes greater than 15% that are to be vegetated will be stabilized for the winter using one of the following measures:
    - By October 1, slopes will be stabilized with temporary vegetation (seeded with winter rye at a rate of 3 pounds per 1,000 square feet) and anchored with erosion control mats, or;
    - By October 1, slopes will be stabilized with wire-pinned sod, or;
    - By November 15 or the completion of construction for the winter, whichever is later, slopes will be stabilized with erosion control mix to a depth of four inches, or;
    - By November 15 or the completion of construction for the winter, whichever is later, slopes will be stabilized with stone riprap.

Winter Construction Seeding

- Prior to October 1, temporary seeding will be used where feasible to limit the amount of exposed soil and temporarily stabilize exposed soils with vegetation. Temporary seeding will consist of seeding with winter rye at a rate of 3 pounds per 1,000 square feet, lightly mulching with hay or straw at 75 pounds per 1,000 square feet, and anchoring with plastic netting. Temporary seeding for overwinter stabilization is not effective after October 1. Winter mulching or other winter stabilization measures must be used after that date.
- Between October 15 and April 1, loam or seed is not required.
- If permanent seeding is conducted after October 1, 120 pounds per acre of winter rye will be added to the permanent seed mix.
- Dormant seeding can be applied after final grading during winter construction and prior to the application of mulch, provided there is less than 1 inch of snow covering final grade and the area has been covered with four inches of loam. Areas where dormant seed is applied shall be monitored during the next growing season, and reseeding will take place where vegetation is less than 75 percent established.
- If dormant seeding is not used, all disturbed areas brought to final grade will be revegetated in the spring.

Before construction is completed for the winter, the site will be inspected to ensure that it is adequately stabilized. Areas in need of remedial measures to ensure that the site remains stable over the winter will be addressed as necessary.

D.4 Training

Environmental training will be given to both DCP and contractor personnel whose activities could impact the environment during construction. The level of training will be commensurate with the duties of the personnel. The training will be given prior to the start of construction and throughout the construction process, as needed. The training program will cover this E&S Plan; procedures for handling and storing petroleum products and hazardous materials; relevant conditions and requirements related to Site Law, Natural Resources Protection Act, and municipal permits; company policies; and any other pertinent

information related to the job. In addition to the chief inspector, all other construction personnel are expected to play an important role in maintaining strict compliance with all permit conditions to protect the environment during construction.

D.5 Supervision and Inspection

To effectively mitigate construction impacts, the E&S Plan must be properly implemented. The chief inspector, employed by DCP, will be trained and responsible for inspecting the site on a weekly basis during active construction and will supervise environmental compliance aspects of construction activities. The chief inspector will have the authority to stop activities that violate the environmental conditions, or other permits and authorizations, and to order corrective action. The chief inspector will have construction inspection experience and/or training, be experienced in erosion control techniques and have an understanding of the wetland and waterbody resources required to be protected.

Responsibilities of the chief inspector will include working with the contractors and DCP to ensure project compliance with the erosion control measures described in this Section, and environmental permits and conditions. Specific duties will include: verifying that all authorized construction work areas are marked before clearing, the proper installation and maintenance of erosion control devices, ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification, working with construction contractors and DCP to ensure compliance with environmental permit conditions, verifying the proper implementation of dewatering and hydrostatic test water discharge procedures, documentation of temporary and permanent revegetation programs, ensuring restoration of contours and topsoil, coordination with environmental regulatory agencies, ensuring the contractor's appropriate implementation of the Construction Spill Plan, inspecting contractor activities to ensure implementation and function of stormwater control measures, determining corrective action and implementation of additional measures deemed necessary based on field or weather conditions, and identifying areas that should be given special attention to ensure stabilization and restoration following construction. Field decisions may sometimes be required regarding the timing of placement of erosion controls, dewatering, revegetation and other construction related items.

The chief inspector will meet with the construction contractor to review the sequence of construction and the placement of erosion control measures to be employed. He/she will conduct detailed inspections of erosion controls at least once a week during active construction and restoration, and following major storm events generating greater than 1.0 inch of rainfall within a 24-hour period. Following completion of final restoration, inspections will occur once per month until the site is considered to be stabilized and any remaining temporary erosion controls are removed. The chief inspector will keep records of any non-compliance with environmental permit conditions and the mitigation measures proposed by DCP in its applications submitted to the federal and state environmental permitting agencies. The inspector will also participate in periodic coordination meetings with the construction superintendent and contractor personnel during construction, and will advise the construction superintendent when conditions make it advisable to restrict construction activities to avoid and minimize rutting and erosion.

DCP will require the on-site contractor(s) to identify a qualified individual from their workforce(s) to be responsible for environmental compliance support such as observing the presence and effectiveness of erosion control measures and site conditions on a daily basis during active construction. The contractor's environmental coordinator will immediately report any areas of non-compliance or other concerns to the DCP chief inspector. The inspection and maintenance schedule of individual erosion and sedimentation control measures is included in Sections D.1 and D.2 with the description of each measure that may be employed.

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