MAINE POWER
RELIABILITY PROGRAM

A CENTRAL MAINE POWER COMPANY PROGRAM

TOWN OF ARUNDEL, MAINE
CONDITIONAL USE APPLICATION

Section 3021
Transmission Line Construction

Prepared for:

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Maine Power Reliability General Project Description

The Maine Power Reliability Program (MPRP) is a Central Maine Power Company (CMP) program to upgrade Maine's bulk power system. The vast majority of Maine's bulk power transmission system was placed into service in the early 1970s and is now reaching the limits of its ability to meet the growing electrical demand of Maine customers. Since the last major transmission infrastructure was completed more than 30 years ago, the patterns of both available generation and customer load have shifted significantly. For example, population has become more concentrated in the southern part of the state, while the generation needed to serve that load is now more distant and dispersed. When these changes are combined with increasing peak demand, the current transmission infrastructure in Maine will, in very few years, become inadequate and unsafe. In addition, the reliability and security standards mandated by law and administered by the North American Electric Reliability Corporation (NERC), the Northeast Power Coordinating Council, Inc. (NPCC), and ISO New England (ISO-NE) have changed significantly in recent years. CMP must upgrade its bulk power system with this proposed project to meet the mandatory standards and to provide reliable electric service to Maine customers into the future.

Central Maine Power Company has, with the awarding of the U.S. Army Corps of Engineers permit on Thursday, July 22,, 2010, received the three major state and federal permissions to build the Maine Power Reliability Program. In April 2010, the Maine Department of Environmental Protection awarded the SLODA and NRPA permits for the project, completing nearly two years of field work and research. On June 10, 2010, the Maine Public Utilities Commission awarded the Certificate of Public Convenience and Necessity for the MPRP, granting permission to build the project.

Project Description in the Town of Arundel

The part of the program located in the Town of Arundel involves work in an existing 300 foot wide transmission line corridor (Section 163 and 238) that runs north to south from Biddeford to the Kennebunk River (see Exhibits 1 and 2). In this corridor, which extends for approximately 2.8 miles, the project involves installing a new 345 kV transmission line (Section 3021) along the southeast side of the existing corridor. The new line will be carried on twenty-three 2-pole wooden H-frame structures and four 3-pole structures with a typical above ground height of 75 feet.

To meet mandated line clearance and safety standards for installation of the new transmission line, approximately 40' of vegetation clearing along the southeast side of the existing corridor will be required.

Please note that structure heights vary due to changes in terrain and the need to achieve spans which will avoid or minimize impacts to natural resources. Typical above ground structure heights are described above, although some structures may exceed those heights in specific instances (see the attached table in Exhibit 3 for a description of the number of structures within specific height ranges for the new transmission line).

Summary of Applicable Ordinances and Zoning Districts

Conditional Use approval is required for this project.

The proposed project will be located primarily within the Rural Conservation District (R-4). The project also crosses Shoreland Districts in conjunction with the Kennebunk River and a wetland area north of Curtis Road.

In addition, portions of the project area will traverse two 100-year floodplain areas -- one located on the Kennebunk River and one located along a tributary stream of Duck Brook and associated wetland south of Brimstone Road. A separate Flood Hazard Development Permit Application is being submitted to the Code Enforcement Officer as a part of this project.

SECTION 7 PERFORMANCE STANDARDS – GENERAL REQUIREMENTS

7.1 Emissions

Other than the potential for minor dust creation during construction under very dry conditions, the project will not generate any air emissions.

7.2 Erosion Control

With the exception of the immediate area around the base of the support structures there is no increase in impervious surface area associated with the transmission line upgrades. The amount of ground disturbance associated with this project will be limited to the immediate vicinity of the pole placements and the impacts associated with temporary access roads. CMP has developed a standard manual, "Environmental Guidelines for Construction and Maintenance Activities on Transmission line and Substation Projects" (2007, amended in 2010), which it uses as a routine part of all transmission projects (a copy of which is attached as Exhibit 5). This manual contains erosion and sedimentation control requirements, standards, and methods that will be used to protect soil and water resources during construction of the various MPRP components. The manual was developed in consultation with the Maine Department of Environmental Protection, is largely based on DEP's *Maine's Erosion and Sediment Control BMPs* dated March 2003 and DEP's Chapter 500 and contains specific Best Management Practices for electric transmission line construction. These guidelines will be followed during the construction of this project

7.3 Explosive Materials

There will be no storage of highly flammable or explosive materials associated with this project.

7.4 Flood Plain Management

Portions of the proposed project will traverse two 100-year floodplain areas (as depicted on the Flood Insurance Rate Map as developed by the Federal Emergency Management Agency (FEMA) as follows:

1. Kennebunk River (Exhibit 1, Map 1)

The transmission line corridor traverses the floodplain along the Kennebunk River. One 2-pole wooden H-frame structure as part of the new 345 kV line will be installed within the floodplain, and is also within the floodway (within 50% of the width of the floodplain as measured from the high water mark of the river). Approximately 1/3 acre of vegetation clearing to remove "capable species" will be necessary within the floodplain.

2. Tributary of Duck Brook and Associated Wetland south of Brimstone Road (Exhibit 1, Maps 2 & 3)

The transmission line corridor traverses a floodplain along a tributary of Duck Brook and associated wetland south of Brimstone Road. Two 2-pole wooden H-frame structures as part the new 345 kV line will be installed within the floodplain north of the tributary, but

not within the floodway. Approximately 1¼-acres of vegetation clearing will be necessary to remove "capable species" within the floodplain.

A separate Flood Hazard Development Permit Application is being submitted to the Code Enforcement Officer as a part of this project.

7.5 Lighting

There will be no lighting associated with this project.

7.6 Off-Street Parking and Loading

There will be no permanent off-street parking or loading associated with this project.

7.7 Street Access & Traffic Impacts

Other than minimal construction related traffic, the transmission line rebuild will not generate any additional traffic.

7.8 Landscaping

The transmission line corridor has been in existence since the 1950s, and has been maintained to encourage the growth of scrub-shrub vegetation that will not present safety or reliability problems. Trees within the corridor capable of growing up into the conductors ("capable species") have been removed for safety and reliability reasons. The new 345 kV line will require approximately 40 feet (14 acres) of additional vegetation clearing along the southwest side of the existing corridor to remove capable species. Once construction is complete, non-capable species will be allowed to grow, and conditions maintained similar to what exists currently.

The project will otherwise retain the current elevations and natural contours within the corridor.

7.9 Refuse Disposal

The project will produce limited amounts of waste, mainly packing materials associated with the construction process. No waste will be produced thereafter. All waste produced during construction will be disposed of in accordance with all applicable local, state and federal requirements.

7.10 Sanitary Provisions

There will be no on-site wastewater disposal associated with this project.

7.11 Setbacks and Screening

The project does not involve parking and loading areas, exposed storage areas, salvage yards or other activities that require setbacks and screening to provide a visual buffer. In addition, the project does not present a potential safety hazard that requires physical screening to deter small children from entering the project vicinity.

7.12 Signs

No permanent signs will be erected as part of this project.

7.13 Storm Water Management

With the exception of the immediate area occupied by the support structures, there will be no increase in impervious surface area associated with the transmission line. Therefore, there will be no significant storm water run-off generated as a result of the project. All new construction will be designed to minimize storm water runoff from the site in excess of the natural predevelopment conditions. As a result, the project will not have an adverse impact on abutting or downstream properties. (See discussion of CMP's environmental guidelines under Section 7.2, Erosion Control)

The Maine Department of Environmental Protection also determined that a stormwater analysis was not required for the transmission line portion of the MPRP project (see DEP Permit, page 57).

7.14 Water Quality

There will be no above ground, outdoor storage of fuel, chemicals, industrial wastes, or potentially harmful raw materials associated with this project. Similarly there will be no discharges to surface water or groundwater associated with this project.

7.15 Water Supplies

There will be no water supply associated with this project.

7.16 Noise

Heavy equipment used during construction will generate some noise. This noise will be limited in location (moving from pole location to pole location as construction progresses), intensity, and duration.

7.17 Soils

Based on analysis of the Soil Survey Geographic Database compiled by the United States Department of Agriculture – Natural Resources Conservation Service, soils within the project area will accommodate the proposed MPRP construction activities. The project is designed by a professional civil engineer, registered in the State of Maine, and the suitability of the soils to accommodate the proposed construction has been taken into account.

7.18 Storage

There will be no storage associated with this project.

7.19 Toxic and Noxious Discharges

There will be no toxic or noxious discharges associated with this project.

7.20 Vibration

There will be no vibration associated with this project.

SECTION 6 LAND USE DISTRICT REGULATIONS

6.4 SHORELAND DISTRICT

The proposed project will cross the Shoreland District in the following locations as follows:

1. **Shoreland Overlay District along the Kennebunk River (Exhibit 1, Map 1)**

   The existing transmission line corridor traverses the Shoreland Overlay District along the Kennbeunk River. One new 2-pole wooden H-frame structure (#3021-159) will be installed within the District as part of the installation of the new 345 kV line. Approximately ¼-acre of vegetation clearing along the southeast side of the existing corridor to remove "capable species" will be needed.

2. **Shoreland Overlay District along a Resource Protection Area North of Curtis Road (Exhibit 1, Map 2)**

   The existing transmission line corridor traverses a Shoreland Overlay District along a Resource Protection area north of Curtis Road. There will be three new 2-pole wooden H-frame structures (#3021-152, 3021-153, 3021-154) installed within the Overlay District or Resource Protection area as part of the installation of the new 345 kV line. Approximately 1¼-acres of vegetation clearing along the southeast side of the existing corridor to remove "capable species" will be needed within the district and Resource Protection area.

Permitted Land Uses

Transmission lines are "Public Utility Services" as defined on page 14 (Section 2, Definition of Terms, Arundel Land Use Ordinances), and is an allowed use within the Resource Protection District upon issuance of a Conditional Use Permit (see page 29, Land Use by Districts table). Page 38 under the Town's Land Use Ordinance further stipulates that "where feasible, the installation of public utilities shall be limited to existing public ways and existing service corridors" and that "the installation of public utilities is not permitted in a Resource Protection District…except where the applicant demonstrates that no reasonable alternative exists. Where permitted, such structures and facilities shall be located so as to minimize any adverse impacts on surrounding uses and resources, including visual impacts." (See Section 6.4.G.7).

6.4.G Special Provisions

6.4.G.1 Piers, Docks, Wharfs, Bridges, etc.

Not applicable.

6.4.G.3 Individual Private Campsites

Not applicable.

6.4.G.4 Parking Areas

There will be no parking areas associated with the project within the shoreland district.

6.4.G.5 Roads and Driveways

There will be no new permanent roads or driveways associated with the project. CMP will continue to maintain (as is already part of its operations) access points and ways suitable for routine and urgent maintenance by its own vehicles. Temporary access ways, which do not add any impervious surface area, and may be located in the shoreland district, will be established for use during the construction phase (see maps in Exhibit 1 depicting the access ways). This will be an ongoing process as access will be established to areas undergoing immediate construction. Determinations surrounding the exact nature of the construction of these temporary access ways will be made by the contractor in consultation with an environmental representative. All access paths are temporary and will be removed once construction is complete. For general access to the corridor for construction purposes, temporary access ways will be in place for more than one growing season, but will be removed once all aspects of construction in that area are complete. Access to pole sites, either for removal or construction, will be achieved by temporary access ways which will be in place for no more than one growing season. Areas where soils have been disturbed will then be mulched with hay. Vegetation will be allowed to reestablish itself once the temporary access ways have been removed.

Measures will be taken to avoid and minimize impacts to streams and wetlands through the use of crane mats, temporary bridges, geo-textile fabrics, and culverts, when necessary. Appropriate erosion controls will be installed wherever necessary. If necessary, mats will be placed parallel to the upland edge as abutments to further protect bank stability and establish stability (See *Environmental Guidelines for Construction and Maintenance Activities* in Exhibit 5). No extensive grubbing (grading to remove root systems) within wetland crossing areas will be done. However, some minor grading may be required to ensure mat stability and construction access safety. All such grading will be performed on a limited basis and only with prior approval by CMP's environmental representatives. Streams that are too wide to cross with crane mats or temporary bridges will be avoided.

6.4.G.7 Public Utility Services

A guiding principle in the design of the MPRP transmission line upgrades has been to utilize the existing transmission line corridors to the maximum extent possible. Co-location of the transmission line upgrades, as opposed to the creation of new corridors, has multiple benefits, including the minimization of impacts to communities, individual property owners, and the environment. Within the Town of Arundel, the construction of the new 345 kV transmission line will occur within the existing transmission line corridor.

1) Because the project will occur within the existing transmission line corridor, and because this corridor crosses the shoreland districts as described on page 7, these shoreland areas could not be avoided. While these areas must be crossed, CMP has designed the upgrades to minimize the number of poles in the shoreland zone and minimize the impact on the resources, including visual impacts.

2) The corridor along which the new transmission line will run crosses a Shoreland Overlay and Resource Protection District along the Kennebunk River and a wetland area north of Curtis Road. Within the corridor, CMP has, to the greatest extent practicable, sited each structure so as to avoid, and where unavoidable to minimize, adverse impacts to surrounding uses and resources. As part of this avoidance and minimization effort, CMP has attempted to site the structures so that none is located within these districts. However, in the Town of Arundel, the areas along the Kennebunk River and north of Curtis Road cannot be entirely spanned.

There is no reasonable alternative to locating these structures within the Resource Protection District. The amount of ground disturbance associated with the planned structures will be small, i.e., limited to the immediate vicinity of the pole placements (approximately 40 square feet per pole), and because the project is within an existing transmission line corridor (which contains structures of a similar bulk and style), locating structures within these districts causes the least overall impact when compared to the alternatives. Avoiding these districts would require expanding or moving the existing transmission line corridor or erecting much taller and much more substantial structures to achieve the required spans over this district. The overall environmental and visual impacts of either of these alternatives would be much greater than the impacts associated with the project as planned (see the sections related to specific impacts to the Shoreland Districts on page 8).

6.4.G.8 Mineral Exploration and Extraction

Not applicable.

6.4.G.9 Agriculture

Not applicable.

6.4.G.11 Clearing of Vegetation for Development

Some clearing of vegetation will be required within the transmission corridor to accommodate the transmission line upgrades and ensure that the project meets federal reliability and safety standards. The amount of clearing will be limited to that which is necessary for development of the project, and is generally limited to removal of species that are capable of growing tall enough to interfere with the transmission lines (so-called "capable species"), and, in some instances, the occasional removal of mature "danger trees." Danger trees are trees that are large enough and positioned in such a manner that they could fall into the conductor, thereby posing a severe reliability risk. The removal of danger trees is a relatively infrequent activity.

The vegetation management work is performed using equipment typical of logging operations including cable and hook skidders, forwarders, tree movers, chain saws, and logging trucks. In general all trees, saplings of capable species, and sometimes tall shrubs are cut at ground level. All root systems are left intact. All slash (i.e., limbs, tree trunks, wood chips, etc.) from the cutting operation is disposed of in accordance with the Maine Slash Law (12 M.R.S.A. § 9333). The remaining vegetation is typically composed of scattered growth of small shrubs of non-capable species and herbaceous plants. After initial clearing, the condition of these cleared areas generally resembles that of a high-quality forestry operation.

After construction is completed, non-capable species are allowed to grow to ensure that the corridor is vegetated, which prevents erosion and provides wildlife habitat. Over a relatively short period of time (generally within one calendar year), the newly cleared portions of the corridors will exhibit the early-successional habitat type that is typical of existing transmission line corridors in Maine. See attached maps in Exhibit 1 and the section related to specific Shoreland Districts on page 8.

6.4.G.12 Erosion and Sedimentation Control

With the exception of the immediate area around the base of the support structures there is no increase in impervious surface area associated with the transmission line upgrades. The amount of ground disturbance associated with this project will be limited to the immediate vicinity of the pole placements and the impacts associated with temporary access roads. CMP has developed a standard manual, "Environmental Guidelines for Construction and Maintenance Activities on Transmission line and Substation Projects" (2007, amended in 2010), which it uses as a routine part of all transmission projects (a copy of which is attached as Exhibit 5). This manual contains erosion and sedimentation control requirements, standards, and methods that will be used to protect soil and water resources during construction of the various MPRP components. The manual was developed in consultation with the Maine Department of Environmental Protection, is largely based on DEP's *Maine's Erosion and Sediment Control BMPs* dated March 2003 and DEP's Chapter 500 and contains specific Best Management Practices for electric transmission line construction. These guidelines will be followed during the construction of this project.

6.4.G.13 Soils

Based on analysis of the Soil Survey Geographic Database compiled by the United States Department of Agriculture – Natural Resources Conservation Service, soils within the transmission line corridor will accommodate the proposed MPRP construction activities. Soil constraints within the transmission line corridor will be managed and mitigated through implementation of erosion and sediment control measures, proper site and project design, and special construction procedures. If concrete foundations for specific poles should need to be constructed, soil borings will be conducted and the foundations will be designed in accordance with soil characteristics.

6.4.G.14 Water Quality

The project will not impair water quality. To minimize spill potential during construction, no fueling or maintenance of vehicles and equipment will be performed within 100 feet of wetlands, streams or other sensitive natural resources. After construction, the transmission line corridor is maintained to encourage the growth of scrub-shrub vegetation. Trees within the corridor that are capable of growing up into the conductors ("capable species") must be removed for safety and reliability reasons. CMP uses a selective herbicide program to treat an area once every four years to maintain an early successional stage of growth. Herbicide is selectively applied (using a low-pressure backpack applicator) to capable species to prevent growth (or re-growth of a cut plant) of individual plants. CMP does not use herbicides within 25 feet of any waterbody or wetland with standing water. Crew forepersons are certified by the Maine Pesticide Control Board, and all herbicides are EPA registered. The selective use of herbicides within the transmission line corridor does not pose a threat to groundwater quality.

6.4.G.15 Archaeological and Historic Resources

Following consultation with the Maine Historic Preservation Commission (MHPC), CMP has conducted comprehensive investigations of cultural resources along the entire scope of the MPRP. Survey reports have been submitted to the State Historic Preservation Officer (SHPO) and findings of effect from the SHPO have been completed for all required reports (Phase 0 and Phase IA/IB). There have been three types of Cultural Resource Surveys completed along the scope of the MPRP including: pre (European) contact archaeology, post (European) contact (or Historic) archaeology, (both subsurface), and a historic architecture survey which is concerned largely with the visual and/or physical impacts affecting functioning, historically relevant structures, districts and landscapes.

TRC Engineers confirmed, on behalf of CMP, that these surveys documented no archaeological or historic resources will be impacted within the project area in the Town.

EXHIBIT 1

Transmission Line Corridor with Topo Maps, Sensitive Habitats and Hydrographic Features

EXHIBIT 2

Transmission Line Configuration Cross Sections

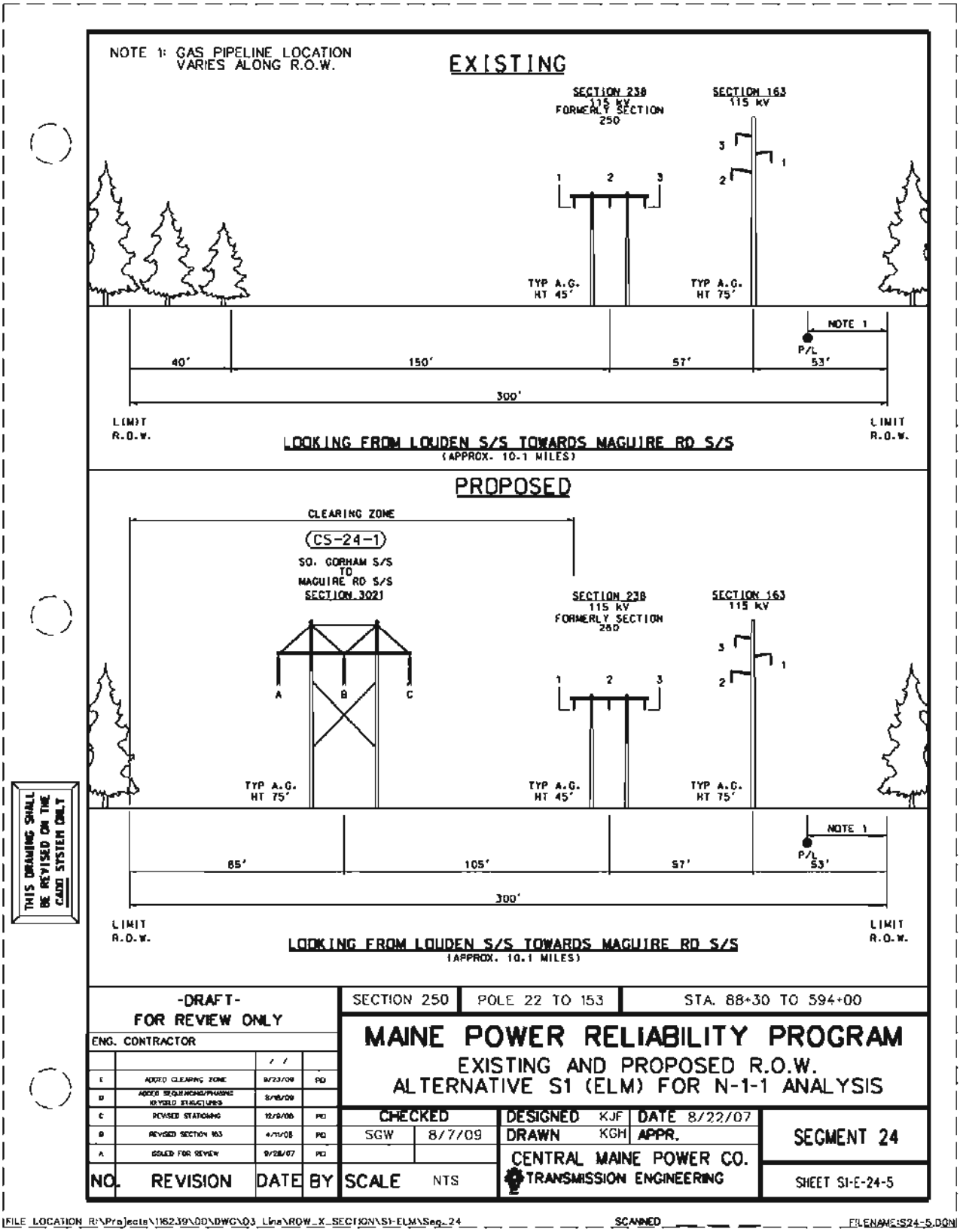
NOTE 1: GAS PIPELINE LOCATION VARIES ALONG R.O.W.
EXISTING
SECTION 238
115 kV
FORMERLY SECTION 250
SECTION 163
115 kV
TYP A.G. HT 45'
TYP A.G. HT 75'
NOTE 1
P/L
40'
150'
57'
53'
300'
LIMIT R.O.W.
LIMIT R.O.W.
LOOKING FROM LOUDEN S/S TOWARDS MAGUIRE RD S/S
(APPROX. 10.1 MILES)
PROPOSED
CLEARING ZONE
(CS-24-1)
SO. GORHAM S/S TO MAGUIRE RD S/S
SECTION 3021
A
B
C
TYP A.G. HT 75'
85'
105'
THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY
-DRAFT-
FOR REVIEW ONLY
ENG. CONTRACTOR
NO. REVISION DATE BY
E ADDED CLEARING ZONE 9/23/09 PD
D ADDED SEQUENCING/PHASING REVISED STRUCTURES 5/18/09
C REVISED STATIONING 12/9/08 PD
B REVISED SECTION 163 4/11/08 PD
A ISSUED FOR REVIEW 9/28/07 PD
SECTION 250 | POLE 22 TO 153 | STA. 88+30 TO 594+00
MAINE POWER RELIABILITY PROGRAM
EXISTING AND PROPOSED R.O.W.
ALTERNATIVE S1 (ELM) FOR N-1-1 ANALYSIS
CHECKED SGW 8/7/09
DESIGNED KJF DATE 8/22/07
DRAWN KGH APPR.
SCALE NTS
CENTRAL MAINE POWER CO.
TRANSMISSION ENGINEERING
SEGMENT 24
SHEET S1-E-24-5
FILE LOCATION R:\Projects\16239\00\DWG\03 Line\ROW_X_SECTION\S1-ELM\Seg_24
SCANNED
FILENAME:S24-5.DGN

EXHIBIT 3

Structure Height Table

Approximate Above Ground Height Range for New Transmission Poles

Structure Height (in feet)	**Section 3021** (new 345 kV)
70 - 79	14
80 - 89	6
90 - 99	7
Total	**27**

EXHIBIT 4

Abutting Landowners
and
CMP Deed Reference Table

(Copies of deeds demonstrating CMP's Title, Right, or Interest within the project area have been provided to the Town Planner)

EXHIBIT 5

Central Maine Power Company
Environmental Guidelines for Construction and Maintenance Activities on Transmission Line and Substation Projects

Central Maine Power Company

Environmental Guidelines For Construction and Maintenance Activities on Transmission Line And Substation Projects

Prepared for:

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CENTRAL MAINE POWER COMPANY

Environmental Guidelines for Construction and Maintenance Activities on Transmission Line And Substation Projects

1.0 INTRODUCTION

These guidelines contain standards and methods used to protect soil and water resources during construction, reconstruction, and maintenance of transmission lines and substations. They are based on practical methods developed for construction in utility corridors and their use is enforced by both State of Maine and Federal regulatory agencies. The construction practices described in this manual are typically required by the regulatory agencies for all projects. These practices are commonly referred to as Best Management Practices (BMPs). Illustrations have been provided as part of this manual (Appendix D) which demonstrate both the proper and improper techniques used for the more common construction activities.

All contracts for work performed on Central Maine Power Company (CMP) transmission line rights-of-way and substation sites will include these specific guidelines to ensure the project is constructed in an environmentally conscious manner. CMP personnel or their designated representatives will ensure that the guidelines are followed by inspecting all work and prescribing corrective steps to be taken where necessary. While this manual takes into consideration legal requirements, project personnel are still responsible for compliance with all federal, state, and local requirements.

This guide uses a number of scientific and technical terms. Definitions of these terms are provided in Appendix A.

2.0 PLANNING AND DESIGN CONSIDERATIONS

Planning is an important practice that will reduce the risk of erosion on a construction site, saving both time and money for Central Maine Power Company and its contractors. An erosion control plan should be prepared during project planning and design phases. It will likely be required for any Maine Department of Environmental Protection and/or local permits.

The erosion control plan should consist of:

- A narrative.
- A map.
- Plan details.

The narrative should describe the proposed project, existing site conditions, adjacent land uses, and any natural resources or properties that might be affected by the project. Other important details to include are descriptions of critical areas, proposed construction start and end dates, construction sequence, and brief descriptions of erosion and sedimentation control measures,

inspections and maintenance programs, and other clearing or construction that has taken place on the site in the last five years.

The map should include pre-development site contours at a scale to identify runoff patterns (minimum 5-foot contour interval), final contours, limits of clearing and grading, existing buffers, critical areas, natural resources, erosion control measures, and other clearing or construction that has taken place on the site in the last five years.

The plan details should include drawing of the erosion control structures and measures, design criteria and calculations, seeding specifications, and inspection and maintenance notes.

Key considerations include resource identification, familiarizing all parties with the construction site and limitations, and construction sequence.

2.1 Resource Identification

Sensitive natural areas which will receive priority treatment include:

- Streams and rivers.
- Great ponds.
- Wetlands.
- Steep slopes.
- Unstable soil conditions.

Sensitive natural areas which may receive priority treatment, depending upon the specifics of the project, include:

- Stream, river, pond, and wetland buffers.
- Significant wildlife habitats.
- Habitat for rare species.
- Historic and prehistoric sites.

During the planning phase, all sensitive natural areas that require priority treatment will be identified. The method of avoiding or crossing the sensitive natural areas to minimize impacts will be identified and incorporated into the project plans. Project plans should be designed and drawn to provide contractors and inspectors with a comprehensive reference guide that include, but is not limited to, locations of sensitive natural areas, access, and abutter and landowner issues. If modifications to the plans need to be made in the field, a designated person shall make necessary changes and shall notify all necessary personnel promptly. Copies of these plans should be provided and explained to equipment operators to assure that construction practices meet the intent of avoiding or minimizing impacts to the identified sensitive natural areas. In addition to the plans, the proposed access ways and water/wetland crossing locations, as well as other environmentally sensitive areas where activities will be restricted or prohibited, will be flagged and/or have signs posted.

Prior to crossings or construction in or near any sensitive natural areas, a "walk-through" will be conducted. Attendees at the walk-through will include: 1) the contractor, 2) CMP and/or any designated representative, and may include 3) any assigned Third Party Inspector. The purpose of the walk-through is to establish the following objectives, **prior to any clearing or construction work**:

- Identify available or alternate points of access to the project site.
- Identify sensitive natural areas.
- Identify future "No-Access" areas.
- Review color designation for all flagging used.
- Establish the Communication Chain of Command (Contact Point).
- Identify and flag access/construction roads within the ROW and/or project area.
- Establish methods of access over water resource areas (mats, timber corduroy, frozen ground, tracked equipment).

In order to minimize impacts to sensitive natural areas, the above objectives will continually be evaluated throughout the construction process. Project superintendents, foremen, and inspectors should also monitor weather conditions and reports on an on-going basis. Knowledge of changing or anticipated wet weather will allow time to address erosion control needs. In this way, CMP and its contractors will be prepared to respond to changing environmental conditions (e.g., unusually wet or dry weather) and other unknowns that are inherent in the construction and maintenance of transmission lines.

2.2 "Walk-Through" Mechanics

2.2.1 Use of Flagging and Signs

Flagging will be conducted at the time of the walk-through in order to visually identify select features or construction methods to be used. Wetlands may be flagged earlier as part of project permitting. Signs may also be installed following the walk-through to direct construction to approved access routes and away from "no access" areas. The CMP flagging color-code is as follows:

- ***Glow-pink*** with the printed words "Wetland Delineation", "Wetland Boundary" or "Wetlands". This flagging denotes the edge of wetlands.
- ***Red*** with or without the printed words – "Do Not Cross". This flagging denotes a No-Access area where no equipment is allowed.
- ***Yellow*** – no printed words. This flagging denotes the location of an environmental measure such as a waterbar, hay bale barrier, or silt fence.
- ***Blue*** – no printed words. This flagging denotes approved travel ways. This is typically flagged on each side of the access-way to denote the designated travel lane for all access.
- ***Glow-pink with black stripes*** or otherwise printed with the words Buffer or Wetland Buffer. This denotes a setback from a water resource and should be treated the same as No-Access area.

2.2.2 Identification and Use of Existing Roads

Available logging, farm, or access roads, as well as other existing rights-of-way, will be utilized for access to and from transmission line rights-of-way with permission of the respective landowners. In order to minimize ground disturbance, existing roads within the right-of-way and wetland/stream crossing areas will be used whenever possible for travel during construction, unless a better route is agreed upon during the walk-through. The movement of equipment and materials within the transmission line right-of-way will be confined as much as possible to a single road or travel path.

For example, it may be better to construct new access roads in order to: (1) minimize the span of a wetland or stream crossing, or (2) avoid the more environmentally sensitive or "wetter" portions of a wetland or stream crossing.

In all cases, CMP and its contractors will attempt to avoid and minimize impacts to sensitive natural areas. As a result of this procedure, wetland and stream crossings, steep slopes, unstable soils, and other sensitive natural areas will be avoided and adverse impacts minimized whenever practicable.

2.3 Construction Sequencing

Although a "Project Plan" may be specific in identifying the *locations* of water resource areas (wetlands, streams, etc), and the *methods* of access over water resource areas (crane mats, frozen ground, etc) it should not dictate *when* construction activities should occur. It would be impractical to include day to day activities in the "Project Plan" such as, 'pole X will be installed on Y date'. However, including environmental considerations in the daily and weekly project planning is very important. Factors such as the project schedule and weather often determine where and when construction activities occur; environmental impacts should also be considered. Below are some guidelines:

- Work closely with the individual(s) in charge of environmental compliance to plan project activities.
- Construction activities that cause soil disturbance should not occur during or just prior to forecast heavy rain events.
- Coordinate access planning with all of the contractors on the project. Often temporary access roads are used by several different contractors and the construction and use of temporary access roads can cause significant soil disturbance. Minimize equipment and vehicle travel on temporary access ways.
- Stabilize/restore disturbed areas as soon as possible, preferably while equipment is on site. Additional trips with equipment can create more soil disturbance which will need to be stabilized. Often a site can and should be stabilized within hours of when the soil disturbance occurred.
- Use frozen conditions to your advantage. There may be instances where water resource areas can be crossed during frozen conditions in lieu of installing crane mats. Before using this technique consult with the project environmental inspector.

- Crane mats should be removed as soon as they are no longer needed and/or when conditions are favorable.

3.0 STANDARDS FOR CONSTRUCTION

3.1 Road Construction

The following five standards apply to the construction and/or upgrade of all roads, skid trails, yarding areas, or work pads whether temporary or permanent.

1. Where construction will be located near water resources, such that material or soil may be washed into them, these disturbances will be set back from the edge of the water resource to maximize the amount of undisturbed filtering area between the disturbed area and the resource. These "filter strips" will consist of an area of undisturbed vegetation between the edge of disturbed area and/or silt fence/hay bale barriers placed to intercept any sediment load in runoff water before it can enter the resource area. In order to maintain the integrity and effectiveness of filter strips, sediment barriers should be installed very early in the construction sequence, and they need to be monitored to make sure they are functional. Effective filter strip widths may vary from only a few feet in relatively well drained flat areas to as much as several hundred feet in steeper areas with more impermeable soils. The minimum width of the buffer strip shall be 25 feet or in accordance with local CEO or DEP regulations. The width of the filter strip shall be increased proportionately for slopes longer than 150 feet or for higher sediment concentrations. **Table 1** below provides the recommended widths for the filter strips according to the slope of land between the edge of the resource and any exposed soil.

Table 1
Recommended Widths For Filter Strips Between Disturbed Areas And Water Resources

Slope of Land Between Disturbance and the Resource (Percent)	Width of Filter Strip* (Feet)
0	25
10	45
20	65
30	85
40	105
50	125
60	145
70	165

*Measured along surface of the ground

2. Wherever possible, construction equipment will either avoid steep slopes or proceed across the slope in a safe manner to avoid excessive disturbance of vegetation and soils. Equipment will not travel straight up or down any slopes with a grade steeper than 10 percent, except where necessary due to safety concerns and/or terrain constraints.

3. Where access roads or construction areas are to be built across the slope, the area will be properly sloped, slanting away from the cut bank to the outside edge of the roadbed in order to facilitate road surface drainage.
4. Slopes of cut-and-fill banks will be no steeper than 1 horizontal to 1 vertical. If located within 100 feet of water resources, the slopes will be no steeper than 2 horizontal to 1 vertical.
5. Rivers, streams, and wetland areas will be crossed, where necessary, at right angles to the channel and/or at points of minimum impact. To insure that natural drainage patterns will not be altered or restricted as a result of construction activities, crossings will be designed and constructed according to specific standards outlined below.

3.2 Stream or Wetland Crossings

The following standards apply to all unavoidable stream, drainage way, or wetland crossings encountered while accessing the project site or on the project site itself.

3.2.1 Types of Crossings Used

The type of crossing used for access is dependent on: the purpose and use of the crossing, the nature of the resource being crossed, ground conditions present at the time of construction, and construction materials available. Some planning guidance is provided below. The appropriate means and location of the crossing will be determined at the time of the formal walk-through. It is important to consult with the project environmental inspector prior to installing any crossing.

- Permanent culverts and bridges will be used only where long-term, continued, and frequent access is required (such as substation access roads).
- Temporary crossings will be used at all other locations. Temporary bridges, culverts, or crane mats must be used to cross any streams, drainage ways, or wetland swales that contain: (1) flowing water, (2) standing water, (3) saturated soils, or (4) organic/mucky soils.
- The use of corduroy as crossing material will be limited to wetlands which are not anticipated to have flowing or standing water during the construction period.
- In certain cases, no crossing material will be required if the stream bottom or drainage way is dry and contains a gravel or solid rock bottom (a "ford"). Fords can only be used if they will cause no unreasonable sedimentation of the stream and no unreasonable alteration of the stream banks and bottom.
- All crossings should include water bars or broad based dips or turn outs on the access, approximately 50 feet from each side of the crossing, to promote filter-strip treatment of runoff.
- All temporary crossings must be stabilized within seven (7) days of its removal, unless specified otherwise.

3.3 Construction in Wetlands

Where structures are to be placed in wetlands, topsoil must be excavated first, and stockpiled separate from subsoil. Be sure that stockpile soils are placed in such a manner that they are readily replaced into the excavated area. Soils shall be replaced into the excavated area in the

opposite order they were removed. Excavation and pole placement in wetland areas should be completed within the same day. After pole installation, topsoil must be restored to the original surface grade, except where mounding around a structure is necessary for structure stability.

4.0 INSTALLATION OF CROSSINGS

4.1 Bridges

Bridges are a preferred method for temporary access waterway crossings. Normally, bridge construction causes the least disturbance to the waterway bed and banks when compared to the other waterway crossing methods. Most bridges can be quickly removed and reused without significantly affecting the stream or its banks and without interfering with fish migration.

Materials
Access bridge construction typically entails the use of log stringers as construction materials.

Sizing
Table 2 below illustrates the log sizing requirements depending on the span and anticipated loads.

Table 2
Log Bridge Stringer Requirements

Span	Minimum Log 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.

Wheel guards: 10" diameter
- Size of deck planks: 4" x 12" x 12'
* Assume 6 stringers at 24" centers

Positioning
The following is guidance for the positioning and installation for all permanent and temporary bridges:

- Access roads will cross streams at right angles to the channel at a location with firm banks and level approaches whenever possible.
- Bridge piers and abutments will be aligned parallel to the stream flow so that the original direction of stream flow is not altered.
- Piers and abutments will be imbedded in good foundation material. The grade of the bridge should coincide with that of the road wherever practicable.

For additional specifications on bridge construction, refer to section F-2 of the Maine Erosion and Sediment Control BMPs (see full citation in Appendix C).

4.2 Culverts

Materials
Permanent culverts will be either corrugated metal or plastic pipe. Temporary culverts will be corrugated metal, plastic pipe, or lumber ties. Chemically-treated wood will be not used.

Sizing
Permanent culverts will be sized to have a diameter of at least 3 times the cross-sectional area of the stream channel or will be designed to accommodate 25-year frequency flows. Multiple culverts may be used in place of one large culvert if they have the equivalent capacity of a larger one. A culvert sizing criteria table (3x Rule) produced by the MDEP can be found in Appendix G. However, it is recommended that an engineer be consulted when installing any permanent culvert.

Temporary culverts will also be sized to provide an opening at least 3 times the cross-sectional area of the stream channel and sized to accommodate a 25-year frequency storm flow. The stream channel cross-section will be determined at highest flows or will be approximated during periods of lower flows using the apparent natural high water marks remaining on the stream banks. For small intermittent streams, drainage ways or wetland crossings, the minimum sized culvert that may be used is 18 inches. Multiple culverts may be used in place of one larger culvert if they have the equivalent capacity of a larger one.

Positioning
The following is guidance for the positioning of all permanent and temporary culverts:

- Culverts should be placed to allow for the crossing to take place at right angles to the channel to assure that natural drainage patterns will not be altered.
- Culverts should be placed at the point of narrowest crossing and where firm banks and level approach slopes are available. Slopes should be no greater than 1.5 to 1.

Installation
The following is guidance for the installation of all permanent and temporary culverts:

- Culverts should be of sufficient length to allow both ends to extend at least one foot beyond the toe of any fill used to cover the culvert.
- Inlet and outlet armoring shall extend at least one pipe diameter beyond the upstream and downstream end of the culvert. See Table 3 below for outlet protection in erodible areas.
- Culverts should be bedded on firm ground. Supplemental use of geotextile with gravel can be used to create this firm base. Permanent culvert installation should include firm compaction of the foundation and the fill around the sides of the culvert. Compaction should be done in no less than 8-inch lifts.
- Both the inlet and outlet ends of the culverts will be set at or slightly below the natural stream bottom to allow passage of fish and other aquatic life at all levels of flow. At no point should either end of an installed culvert be positioned in the air out of the water.
- Multiple culverts must be offset in order to concentrate low flows into the culvert within the natural channel.

- When working in and around a perennial stream, temporary stream diversion may be necessary to avoid creating turbidity in the stream water. This type of work requires a permit from Maine DEP, and must be coordinated with the project environmental inspector.
- Fill used to bury the culvert will be compacted at least half-way up the side of the culvert for its full length in insure that flowing water will not undermine the culvert.
- Culverts will be covered with fill to a depth of at least one foot or one and a half times the culvert diameter, whichever is greater.
- Road fill at the upstream (headwall) and downstream (out-fall) ends of culverts will be armored with either rock rip rap or logs to protect the road fill from being eroded by the action of water or road traffic. This material will be installed up to the level of anticipated high water.
- In areas where the streambed appears highly erodible, the streambed at the outlet end of the culvert will be lined with riprap to prevent erosion and potential stream bed scour. Table 3 below indicates the distances away from the culvert to install such riprap.

Table 3
Culvert Size - Length of Rock Protection

Culvert Diameter (Inches)	Length of Rock Protection From Culvert (Feet)
12 – 20	7
21 – 24	9
30	11
36	13
42 – 48	18
54 – 60	24
66 – 78	32

Removal

Temporary culverts will be removed once their use is no longer necessary. The fill material can be redistributed and spread out on the nearby uplands at a distance sufficient to prevent its reentry into the resource. Silt fence/hay bales, seeding, and mulching may be necessary to stabilize this material. The banks and bottoms of the stream, drainage way, or wetland should be restored to original conditions. Exposed soils on the banks and within 100 feet of the crossing should be stabilized using seed and mulch. Some banks and steep slopes adjacent to streams may require stabilization with curlex or jute matting in combination with seed and mulch.

4.3 Mats (Crane or Swamp Mats)

CMP construction projects require that adequate mats are present at the project site prior to construction. A readily accessible source of mats should also be available in case construction conditions change and necessitate the need for more mats.

Materials

A number of different sized and constructed crane mats are typically available. CMP requires that the appropriate mats be used for the appropriate crossing. For example:

- Longer mats should be used for the longer crossing spans. This practice avoids the need to install additional mats within the crossing area in order to support the "span" mats.
- Mats should be in good condition to allow for their "clean" installation. Having mats in good condition prevents them from being dragged in versus them being carried in due to broken hitching cables, breaking apart on the job site, or becoming imbedded in mud due to their inability to support the required weight.
- Mats with partial/short timbers joined end to end should generally not be used to cross stream channels.

Installation
- Whenever possible, mats should be carried and not dragged. Dragging mats creates more soil disturbance which requires additional erosion control or final restoration work.
- At the crossing location, the ends of the crane mats should extend at least two feet onto firm banks or several feet into the upland edge of a wetland to assure a dry, firm approach onto the mats.
- At crossings which contain open or flowing water, the mats should be supported within the span using cross mats as abutments in order to prevent the impoundment of water or having water flow over the mats.
- At "dry" crossings where no water is present or anticipated during project construction, the mats may be placed directly onto the sensitive natural area in order to prevent excessive rutting, provided stream banks and bottoms are not altered.

Maintenance
Matted crossings should be continually monitored to assure their correct functioning. Mats which become covered with dirt should be kept clean and the material removed must be disposed of in an upland location. The material must not be scraped and shoveled into the water resource. Mats which become imbedded must be reset or layered to prevent mud from covering them or water passing over them.

Removal
Mats should not be removed until their use is absolutely no longer necessary. Specifically, all final restoration work should be completed prior to the mats being removed from the crossings. The planned removal of mats should be coordinated with CMP (or designated representative), the project environmental inspector, and any Third Party Inspector. As temporary structures, they should be removed within one year from the date of installation. All areas disturbed during ford removal shall be stabilized with seed and mulch.

4.4 Corduroy

Materials
Corduroy material will consist of de-limbed trees or logs. The logs must have a diameter greater than three inches at the small end and lengths greater than 18 feet. Shorter length material may be used only as described in the Installation section below.

Positioning
Corduroy should be placed perpendicular to the direction of travel. Corduroy should be placed at the point of narrowest crossing and where firm banks and level approach slopes are available.

Installation
The corduroy should be placed with the longer length pieces laid down first. The bed of corduroy should not only be placed within the low portions of the crossing but also for at least three feet up the sides of any upland side slopes in order to prevent rutting and sedimentation from the approaches to the crossing.

Once a thick base of corduroy has been laid, pieces shorter than 18 feet can be used to fill gaps and raise the elevation of the corduroy to provide for a more stable crossing.

Removal
Removal is the reverse of installation. Once the corduroy has been removed from the crossing, it may be moved off the right-of-way, burned, or chipped. The material may also be spread and distributed on the ROW over the nearby upland if in accordance with the Maine Slash Law (see Appendix E) and approved by a CMP representative. The banks of streams and drainage ways must be graded back to original conditions. Exposed soils on the banks and within 100 feet of the crossing must be stabilized using seed and mulch. Banks of drainage ways that are expected to receive high flows should be stabilized with seed and curlex or jute matting.

5.0 SURFACE WATER DIVERSION STRUCTURES (WATER BARS)

A number of above-ground structures or techniques are available to divert water out of travel ways and work areas in order to prevent subsequent runoff and erosion. The terminology and definitions for these techniques (i.e., broad-based dips, water bars, skid humps, water turnouts, and cross-drainage box culvert) vary, but the purpose of all is to redirect water moving down a slope into adjacent vegetated areas (filter strips). Any activities that involve land grading have the potential to cause sedimentation. Their use and installation needs to be carefully planned. Planning for these techniques must include timing, use of natural buffers (filter strips), mulching, and temporary and permanent seeding. Minimizing the area of soil exposed at one time is a key component of ensuring that surface water diversion structures function effectively. General standards for their construction are as follows.

Materials
Most of these structures are constructed by excavating or moving and shaping earth from within the access way or work area. The cross-drainage culvert structure typically uses logs or timber to form a box-like structure to catch water from travel ways or side ditches in order to direct it across the travel way and away from disturbed areas.

Positioning
These structures should be installed immediately above and along steep pitches in the road and below seepage areas on natural or cut banks. They should be sited to take advantage of existing vegetation for filtering and slope away from the travel surface. The interval for installing these diversion structures depends on the slope of the road, as well as the nature of the road surface, soils, and wetness. Generally speaking, steeper slopes require shorter distances between

diversion structures. The following table contains recommended distances between installed structures depending on slope.

Table 4
Recommended Distances Between Water Diversion Structures

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

All of these structures should be sized in anticipation of greater flows resulting from snow melt, spring runoff, and storm rains.

Installation

These structures should be installed at 30-degrees angled down grade. The shape of the backside portion of the structure should have a reverse slope of about 3 percent. Use of a pop-level is recommended to ensure that drainage is away from the road. Structures should be constructed with rounded (not vertical) mounds and dips to allow for firm compaction and to allow re-vegetation.

In the case of the cross-drainage culvert, the minimum width of the open face of the culvert should be 18 inches. The travel surface should consist of at least 12 inches of gravel or soil over the culvert. The slope of the culvert should be a drop of at least 5 inches in every 10 feet of length to ensure proper drainage.

The inlet end of all structures should extend beyond the edge of the access road so that it fully intercepts water flows that may flow onto the access road. The outlet end of the structure should extend out enough to prevent water from flowing around and re-entering the road or work area.

The discharge ends of any of these diversion structures should outlet into a vegetated filter strip. Where heavy flows are encountered or anticipated, the outlet end of the structures should incorporate an apron of rock, gravel, or brush to reduce water velocities. If construction will extend into fall and winter months, be sure to upgrade to meet winter standards all erosion control measures (e.g., increase amount of mulch, etc.), to protect the site from spring runoff.

Where the structure is within 100 feet of a stream or wetland, the incorporation of a small, excavated settling basin or ditch turnout to reduce the velocity of flows and the continued movement of sediment downslope should be considered. In addition, some type of sediment barrier (silt fencing or staked hay bales) will be installed at the outlet of the diversion structure, where vegetated filter strips are narrow or sparsely vegetated, in order to prevent sediment from eroding into water resources.

Maintenance
Due to repeated travel over these structures, maintenance is critical to their effective functioning. As the structure becomes flattened or rutted, it needs to be re-excavated or graded to ensure the interception and redirection of water runoff. The ends of any cross-drainage culverts should be maintained by clearing away any potential blockages.

Removal
After the completion of the construction project, removal of these structures is not a requirement, with the exception of the cross-drainage culvert. The structures can be left in place provided they have been suitably stabilized with seed and mulch. Any hay bale barriers or silt fence at the outlet end should be removed when the site has a healthy vegetative cover.

6.0 SEDIMENT BARRIERS (STRUCTURAL MEASURES)

6.1 Introduction

The use of properly installed erosion and sediment control barriers is a fundamental and critical component for preventing erosion at CMP construction projects. Erosion control barriers include silt fence, hay bales, and/or erosion control mix berms. In some cases, these barriers may be deemed unnecessary by CMP, its representatives, or a Third Party Inspector due to factors including slope and filter strip width within project boundaries. A typical CMP construction project will use a combination of barriers to effectively control erosion near water resources. Installation and diligent maintenance of these barriers serves the following purposes:

- Assures the environmental integrity of those upland and water resource areas not designated or permitted for disturbance. Specifically, it maintains the onsite vegetative community and water quality of the surface water within the watershed.
- Assures compliance with all applicable federal, state, and local environmental and land use regulations or permit conditions.

Generally, silt fence is the preferred barrier because: it traps a much higher percentage of suspended sediments than hay bales; it can be easier to install, obtain, and transport; and is less costly. In addition, the structural longevity of silt fence is 60 days or longer unlike straw or hay bales' longevity which is 60 days or less.

The standards and procedures outlined in this section of the manual are meant to address a majority of the situations encountered during transmission line and substation construction activities. For additional information on sediment and erosion control methods and techniques, or to address a particularly problematic situation, this manual should be used in conjunction with and supplemented by the Maine Erosion and Sediment Control BMPs. For other recommended references, see Appendix C.

6.2 Silt Fence

Materials
Silt fence is provided by a number of manufacturers and is generally a synthetic fabric pre-attached to wooden staking. The fabric should be pervious to water allowing a flow through rate of 0.3 gallon per square foot per minute. The fabric should contain stabilizers and ultraviolet ray inhibitors to allow it to sustain exposure of a minimum of 6 months. The height of the filter fabric should not exceed 4 feet in height.

Placement
Silt fence is to be utilized at the edge of any planned work area or area which will cause the disturbance of soil. It will be installed to intercept any sheet flow of water and detain sediment from entering water resources or leaving the project site. It should be installed prior to starting work. Given the expansiveness of CMP transmission line projects in particular, the amount of silt fence placement must be selective; however, it should still be used in amounts sufficient to meet potential changing conditions in a pro-active manner. After the primary stabilization measures (temporary and permanent) have been implemented, silt fence use is encouraged in the following selected locations, as appropriate:

- Around all substation project sites.
- Along all access roads or work areas that are within 100 feet of water resources.
- Along all access roads or work areas in upland settings that encounter seepage moving across slope.
- Around all stockpiled soils.

In general, the placement of silt fence is appropriate when:

- Serving a drainage area of no more than .25 acre per 100 feet of silt fence length.
- The maximum slope length behind the fence is 100 feet or less.
- The maximum gradient behind the fence is 50% or 2:1 horizontal/vertical.
- Where the filter strip is not of an adequate width (see Table 1).

Installation
The following installation guidelines are the minimum which should be implemented; however, appropriate changes to silt fence installation should be made as conditions change during the construction operation.

Silt fence will be placed an adequate distance (6-10 feet) beyond the toe of the slope (if there is sufficient room) to allow for sediment accumulation between the disturbed area and the down-gradient water resources. If there is not sufficient room to place the silt fence an adequate distance beyond the toe of the slope, CMP, a representative of CMP, or the Third Party Inspector should be consulted. The barrier should be installed along the contour, within reason. The goal is to slow and pool the sediment-laden runoff to allow fine sediments to settle-out before the runoff enters the water resource. The ends of the barrier should be up-turned to maintain the pool volume.

A trench shall be excavated approximately 6 inches wide and 6 inches deep on the up-slope side of the silt fence alignment. The lower edge of the silt fence fabric should be entrenched for a distance of at least 4 inches up-slope and then back-filled. Should frozen or rocky ground conditions prevent the effective or practical use of trenching, materials such as bark/wood chips, wood fiber mulch, or a soil erosion control mixture can be used. This material is to be mounded on top of at least 4 inches of filter fabric which would otherwise be trenched.
Silt fence should be installed in a continuous roll to avoid the need of a joint between different pieces of fence. If joints are necessary, filter fabric shall be "spliced" together at a support post, securely sealed, and with a minimum of 6 inches of overlap. Splicing rolls of silt fence entails twisting end posts together, creating a continuous section of silt fence.

Support posts should be placed on the down-slope side or the side closest to or facing the water resource. The posts should be placed 6 feet apart (a maximum of 10 feet may be acceptable in some locations) and driven securely into the ground, typically about one foot deep. Silt fence usually has posts pre-attached.

Silt fence should not be installed in streams or drainage ways where concentrated water flow is present or concentrated flows are anticipated.

Maintenance
Once a week, or after rainstorms producing at least ½ inch of rainfall, whichever is more frequent, the contractor is responsible for inspecting all temporary erosion and sediment control barriers. Such inspection is necessary to assure that the barriers are functioning properly as well as identifying new areas requiring installation. A maintenance log should be kept of all erosion control changes, improvements, and maintenance performed.

If any barriers are not functioning properly, they will be repaired or replaced. A sediment control barrier is not functioning if:

1. Water is flowing around the sides or under the barrier.
2. Soil has built up behind the barrier to the point more than half-way up the fence.
3. There is excessive sag in the fence.
4. There is evidence of sedimentation such as gully erosion, slumping of banks, or the discoloration of water outside of the perimeter silt fence.

Corrective measures include removing accumulated sediment from behind the barrier, restaking, extending the ends of the fence, or installing another fence further upslope.

Removal
Installed silt fence will be removed once it is evident that the soils have become stabilized and the potential for erosion no longer exists. In most cases, the silt fence will not be removed until at least one growing season has past. Removal of silt fence should be coordinated with CMP or their designated representative.

Any ridges or mounds of soil or caught sediment remaining in place after the silt fence has been removed, must be leveled-off to conform to the existing grade. Any newly exposed soil that may erode must be seeded and mulched.

All removed silt fence must be properly disposed of off the project area.

6.3 Hay Bales

Placement

Like silt fence, hay bale barriers can be utilized at the edge of any planned work area or areas where soil disturbance has occurred or will occur. Barriers are installed to intercept sheet flow of water and detain sediment from entering water resources or leaving the project site. Given the expansiveness of CMP transmission line projects in particular, the amount of hay bale barrier placement must be selective, but still in amounts sufficient to meet potential changing conditions in a pro-active manner. Hay bale barriers will be used, as appropriate, in the following locations:

- Around all substation project sites.
- Along all access roads or work areas that are within 100 feet of a water resource area.
- Along all access roads or work areas in upland settings that encounter seepage moving across slope.
- Around all stockpiled soils.

In general, the placement of hay bales is appropriate when:

- Serving a drainage area of no more than .25 acre per 100 feet of barrier length.
- The maximum slope length behind the barrier is 100 feet or less.
- The maximum gradient behind the barrier of 50% or 2:1 horizontal/vertical.
- Where the filter strip is not of an adequate width (see Table 1).

Installation

The following installation guidelines are the minimum which should be implemented; however, appropriate changes to hay bale installation should be made as conditions change during the construction operation.

The barrier will be placed an adequate distance (6-10 feet) beyond the toe of the slope (if there is sufficient room) to allow for sediment accumulation between the disturbed area and the down-gradient sensitive areas. If there is not sufficient room to place the hay bales an adequate distance beyond the toe of the slope, CMP, a representative of CMP, the project environmental inspector, or the Third Party Inspector should be consulted. Within reason, the barrier should be installed along the contour. The goal is to slow and pool the sediment-laden runoff to allow fine sediments to settle-out before the runoff enters the water resource. The ends of the barrier should be up-turned to maintain the pool volume.

A shallow trench shall be excavated the width of the bale and to a minimum depth of 4 inches in which to bed the bale. The excavated soils are then used to seal the lower inside (up-slope) edge of the barrier. The bales should be set tightly together and entrenched with the baling string oriented on the sides (i.e., not touching the ground) in order to prevent deterioration of the string.

Every bale should be staked using 2 stakes per bale. The stakes should be driven in at angles such that it binds and forces abutting hay bales together.

Gaps between bales shall be packed with loose hay to prevent water from escaping between the bales.

Hay bales will not be placed in streams where flow is present or anticipated.

Maintenance
Once a week, or after rainstorms producing at least ½ inch of rainfall, whichever is more frequent, the contractor is responsible for inspecting all temporary erosion and sediment control barriers. Such inspection is necessary to ensure the structures are functioning properly as well as identifying new areas requiring installation. A maintenance log should be kept of all erosion control changes, improvements, and maintenance performed.

If any barriers are not functioning properly, they must be repaired or replaced. A sediment barrier is not functioning if:

- Water is flowing around the sides or under the barrier.
- Soil has built up behind the barrier to the point more than half-way up the hay bale or where there is excessive lean to the barrier.
- There is evidence of sedimentation such as gully erosion, slumping of banks, or the discoloration of water outside of the hay bale barrier.

Corrective measures include removing accumulated sediment from behind the barrier, re-staking, extending the barrier at the ends, or installing another barrier further up-slope.

It is not recommended that straw or hay bales be used for periods greater than 60 days.

Removal
Installed hay bales will be removed once it is evident that the soils have become stabilized and the potential for erosion no longer exists. In most cases, the hay bale barrier will not be removed until at least a healthy growth of vegetation is established on the disturbed site. Removal of hay bale barriers should be coordinated with CMP or their designated representative.

Any ridges, mounds of soil, or caught sediment remaining in place after the hay bales have been removed, must be leveled-off to conform to the existing grade. Any newly exposed soil that may erode must be seeded and mulched.

All removed hay bales must be properly disposed of, or broken up and used as mulch on the bare soils near the barrier.

6.3.1 Problems With Straw or Hay Bale Barriers

There are several situations where straw or hay bale barriers may be ineffective or cause problems:

1. When improperly placed and installed (such as staking the bales directly to the ground with no soil seal or entrenchment), hay bales allow undercutting and end flow.

2. When used in streams and drainage ways, high water velocities and volumes destroy or impair their effectiveness.
3. When bales are not inspected and maintained adequately.
4. When hay bale barriers are removed before up-slope areas have been permanently stabilized.
5. When hay bale barriers have not been removed after they have served their usefulness.

6.4 Erosion Control Mix Berms

Composition

Erosion control mix berms are made up of shredded bark, stump grindings, and composted bark. It may be made on a project site if adequate materials are available, however its composition needs to be a well-graded mix of different particle sizes. Wood chips, bark chips, ground construction debris and processed wood cannot make up the organic component of the mix. Be sure to consult with the project environmental inspector regarding the suitability of any erosion control mix material proposed for use.

Installation

Erosion control mix berms are simply placed on the surface of the ground and do not require any soil disturbance. The berm should be located in a similar manner to other sediment control barriers along contour, downslope of disturbed soils. Also similar to other sediment barriers, they should not be placed in areas of concentrated runoff, below culvert outlets, around catch basins, or at the bottom of a large contributing subwatershed. At the toe of shallow slopes less than 20 feet long, at a minimum berms should be 12" high and a minimum of 2 feet wide at their base. For longer or steeper slopes, the berms should be wider to accommodate additional runoff. They are ideal for installation on frozen ground, on shallow to bedrock soils, outcrops of bedrock, and heavily rooted forested areas (i.e., those areas where other barriers are difficult to install).

Erosion control mix can also be placed in a synthetic "sock" to create a contained stable sediment barrier. This is especially useful in areas where trenching is not feasible, such as frozen ground, across pavement, or compacted gravel. When in a sock, erosion control mix can staked in an area of concentrated flow (i.e., ditch or swale) as the netting prevents movement of the mulch mixture.

Maintenance

As with other barriers, inspection should be performed after each rainfall or daily during prolonged periods of rain. Accumulations of sediment should be removed when they reach half the height of the barrier, and the berms can be reshaped and new material can be added as needed.

Removal

In most cases, erosion control mix berms do not need to be removed. They will continue to function as they decompose, become part of the soil on the site and will naturally revegetate. If synthetic socks are used, the erosion control mix can be emptied from the sock and the socks can be disposed of off site.

7.0 NONSTRUCTURAL EROSION CONTROL MEASURES

7.1 Nonstructural Measures Defined

Nonstructural measures are temporary or permanent methods used to cover exposed soil areas to prevent erosion from occurring. Their purpose is to cover whole areas of exposed soil to prevent initial erosion of soil from a construction site.

Examples of nonstructural measures include hay or straw mulch, erosion control mix, matting, or seeding.

7.2 Importance of Nonstructural Measures

Nonstructural measures are important because they provide both temporary and permanent protective cover to exposed soils. Generally, they provide the first line of protection against erosion, and can be the most effective means of preventing erosion. This protection is important because exposed soils are easily eroded by wind or water. Some soils such as silts can easily be removed from a construction site by rainwater. The impact of individual raindrops on exposed soils can loosen soil particles, and these particles can then be carried off the work site by runoff and deposited into water resources including streams, rivers, wetlands, ponds, and lakes. Silt particles don't settle out of water easily, and water siltation can pollute surface waters and harm aquatic creatures such as insects and fish. For example, brook trout, one of Maine's premier game fish species, requires clear, high quality water in order to survive. Silty water can reduce spawning habitat, irritate fish gills, lower oxygen content in water, and make fish susceptible to diseases.

Dry soil conditions and high winds can also cause siltation. When small particle soils such as silts become dry, they have a baby powder-like texture and can easily be swept away by winds. Nonstructural measures help prevent wind erosion because they hold moisture next to the soil, keep the soil from drying out due to wind exposure, and prevent winds from carrying away dry soil particles. Keep in mind, however, that proper construction sequencing is invaluable (See Section 2.3).

7.3 Placement of Nonstructural Measures

Nonstructural measures should be used whenever there is a possibility that exposed soils on a construction site could wash into adjacent sensitive water resources. Temporary nonstructural measures such as hay or straw mulch should be spread on exposed soils within 100-feet of water resources within 48 hours of initial soil disturbance, or before any predicted storm event. There are two types of nonstructural measures: temporary and permanent. Temporary measures are typically used during construction, while permanent measures are usually applied after construction is complete (i.e., restoration). Provided below are general discussions and explanations of the common nonstructural measures that are used on CMP construction sites.

7.3.1 Temporary Measures

- Hay or straw mulch (unanchored on slopes less than 8%, anchored on slopes greater than 8%) on exposed soil areas and soil stockpiles in the construction area.
- Temporary seeding covered by hay or straw mulch on soil stockpiles or areas of exposed soil next to sensitive resources that are not scheduled for final restoration for 30 days (this only applies between the dates of April 16 to October 31 of any given year). Temporary seeding is not required during the Winter Construction Season.
- Erosion control mix can be used as a stand-alone temporary mulch on slopes that are 2 horizontal to 1 vertical, or less, on frozen ground, in forested areas, or at the edge of gravel parking and areas under construction. It should be applied at a thickness of 4 to 6 inches.
- Rolled Erosion Control Products (RECP's) such as Curlex or Jute matting, can be used on areas of high wind exposure, steep slopes (steeper than 8% grade), unstable soils, and stream/river bank restoration areas. Matting is typically anchored (usually 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.

Table 5
Temporary Seeding Rates and Dates

Seed	Lb./Ac	Seeding Depth	Recommended Seeding Dates	Remarks
Winter Rye	112(2.0 bu)	1-1.5 in.	8/15-10/1	Good for fall seeding. Select a hardy species, such as Aroostook Rye.
Oats	80 (2.5 bu)	1-1.5 in.	4/1-7/1 8/15-9/15	Best for spring seeding. Early fall seeding will die when winter weather moves in, but mulch will provide protection.
Annual Ryegrass	40	.25 in.	4/1-7/1	Grows quickly but is of short duration. Use where appearance is important. With mulch, seeding may be done throughout growing season.
Sudangrass Perennial	40 (1.0 bu) 40 (2.0 bu)	.5-1 in. .25 in.	5/15-8/15 8/15-9/15	Good growth during hot summer periods. Good cover, longer lasting than Annual Ryegrass. Mulching will allow seeding throughout growing season.
Temporary mulch with or without dormant seeding			10/1-4/1	Refer to TEMPORARY MULCHING BMP and/or PERMANENT VEGETATION BMP.

Proper application rates, location, and seasonal consideration are provided in Table 6 on page 22 of this manual.

7.3.2 Permanent Measures

Uplands

- Permanent grass and legume seeding covered by hay or straw mulch on all areas that have been restored to final grade (this seeding generally applies between the dates of April 16 to October 31 of any given year). This is required to establish permanent, perennial, vegetative cover on exposed soils. Permanent seeding is not required during the Winter Construction Season, although dormant seeding may be performed. (See Section 8.0 for details on winter construction.)
- Seeds covered by anchored (usually with large staples) Curlex or jute matting in areas of high wind exposure, on steep slopes (steeper than 8% grade), unstable soils, and stream/river bank restoration areas.
- The soil may need to be properly prepared before any seeds are placed on the ground. This preparation may include addition of fertilizer (only in designated upland areas not adjacent to, or near waterbodies or wetlands, if in doubt ask the environmental or construction inspector) in areas that have been tested, and are found to be deficient in plant nutrients.
- Erosion control mix can also be used as a permanent mulch to provide a buffer around disturbed areas. It can be left in place to decompose and naturalize. It will eventually support vegetation, which should be promoted. If vegetation is desired in the short-term, legumes and woody vegetation can be planted, which will create additional stability.

Wetlands

- Wetland areas are to be seeded only with resource agency approved wetland seed mixes. If it is decided that wetlands will not be seeded, disturbed wetland will be graded to original contours, mulched with straw, and allowed to revegetate naturally.

As with the Temporary Measures, refer to Table 6 on page 22 for proper application rates, locations, and seasonal considerations.

For permanent seeding mixtures refer to Appendix A of the Maine Erosion and Sediment Control BMPs.

8.0 WINTER CONSTRUCTION CONSIDERATIONS

If a project is actively being constructed between November 1 and April 15 of any given year, sediment and erosion control guidelines developed by the Maine Department of Environmental Protection for projects occurring during the winter months must be followed.

Of course, nothing can replace good common sense. These guidelines may not be necessary at all times during the winter construction dates for several reasons. For example, if there is no snow on the ground or the ground isn't frozen by November 1, only the standard BMPs must be followed. Also, if the ground thaws and all the snow is gone before April 15, the standard BMPs may be appropriate. Nothing substitutes good judgment, being familiar with the construction site, and being aware of the site-specific conditions. Proper construction sequencing (Section 2.3) can greatly minimize environmental impact during winter construction. When in doubt, contact the project construction manager or environmental inspector with any questions.

Table 6 on page 22 highlights some of the major differences between the winter construction guidelines and normal BMPs used during construction and for temporary stabilization. The table presents differences for temporary measures that should be used during construction, and permanent measures when construction is completely done.

Table 6
Nonstructural Erosion Control Measures (Seasonal Differences in Construction BMP Requirements)

Dates	General Construction April 16 through October 31 of every year	Winter Construction November 1 through April 15 of every year
Mulch on slopes less than 8%	Within 100-feet of sensitive water resources apply hay and/or straw mulch at a minimum of 70 lbs./1000 square feet of exposed soil (about 2 bales). Must be done within 7 days of initial soil disturbance and before storm forecasted events, unless specified otherwise.	Within 100-feet of sensitive water resources apply and maintain properly anchored hay and/or straw mulch at a minimum of 150 lbs./1000 square feet of exposed soil (about 5 bales) at all times. (double the April 16 – October 31 rate)
Mulch on slopes greater than 8%	Hay or straw mulch can be applied without being anchored, though specific site conditions may require use of anchoring.	Apply mulch as specified above. Properly anchor with Curlex, jute matting, or similar mulch netting on upland slopes exceeding 8% and within 100 feet of streams if no construction activities are anticipated for 7 or more days.
Area of exposed soils allowed at any one time	No restriction on area exposed, but contractor must attempt to minimize amount of exposed soil at any one time, especially next to water resources.	Not more than one (1) acre of exposed (not mulched or otherwise devoid of vegetative cover) soil.
Sediment barriers	A single line of sediment barriers including silt fence, hay bales, or wood waste filter berms must be installed between water resources and disturbed soils.	If soil is frozen, wood waste filter berms or 2 lines of sediment barriers (including hay bales and silt fence) must be placed between water resources and disturbed soils.
Temporary seeding in uplands	If required, apply at the rate specified by the supplier, CMP Environmental Department, or Environmental Inspector. Cover with mulch.	Not required, but if temporary seeding is desired, it must be applied at a rate 3 times higher than the General Construction Season, and covered with mulch.
Temporary seeding in wetlands	Wetlands are not to be seeded unless done so with an agency approved seed mix. Annual Rye Grass is not acceptable and shall not be used. Disturbed wetland areas will be mulched exclusively with straw.	Wetlands are not to be seeded unless done so with an agency approved seed mix. Annual Rye Grass is not acceptable and shall not be used. Disturbed wetland areas will be mulched exclusively with straw.
Permanent seeding in uplands	Site must be seeded at rate specified by the supplier and covered with hay or straw mulch. If needed, the site can be limed and fertilized.	Not required before April 16, but if dormant seeding is desired, the site should receive an adequate cover of loam, if necessary, be seeded at a rate 3 times higher than the General Construction Season, and covered with mulch at a minimum of 150 lbs./1000 square feet.
Permanent seeding in wetlands	Do not apply permanent seed mixes to wetland areas unless they are specially designated wetland seed mixes approved by a resource agency.	Do not apply permanent seed mixes to wetland areas unless they are specially designated wetland seed mixes approved by a resource agency.
Temporary seedbed preparation	Apply limestone and fertilizer (uplands only) according to soil test data. If soil test is not possible, 10-10-10 fertilizer may be applied at a rate of 600 lbs./acre and limestone at 3 tons/acre.	Not required, but seedbed can be prepared according to General Construction requirements.
Permanent seedbed preparation	Apply limestone and fertilizer (uplands only) according to soil test data. If soil test is not possible, 10-20-20 fertilizer may be applied at a rate of 800 lbs./acre and limestone at 3 tons/acre.	Not required before April 16, but if dormant seeding is desired, the seedbed can be prepared according to the General Construction requirements.

Dates	General Construction April 16 through October 31 of every year	Winter Construction November 1 through April 15 of every year
Temporary slope stabilization	Same as winter construction season, but mulch does not need to be anchored.	Anchored hay or straw mulch on slopes greater than 8% and drainage ways with greater than 3% slope as necessary. Wood waste mix can be used on slopes in place of anchored hay or straw mulch.
Maintenance of erosion controls	Same as winter construction guidelines.	All erosion controls should be inspected periodically to ensure proper function. If any evidence of erosion or sedimentation is evident, repairs should be made to existing controls or other methods should be used.
Inspection and monitoring	Monitoring should be performed as needed until a new, healthy vegetative cover is attained on the site. This applies to both temporary and permanent seeding.	Monitoring should be performed as needed to ensure proper stabilization and re-vegetation (both temporary and permanent). Starting in the spring following completion of the project, inspections should be performed until new, healthy vegetative cover is attained.

9.0 SITE RESTORATION STANDARDS

Following completion of the construction work, the contractor will be responsible for conducting site restoration work. The following guidelines will apply to all activities, including temporary and permanent roads, stream/wetland crossings, staging and work areas, and substation sites.

9.1 Procedure

At the completion of project construction in an area or at the end of the construction, CMP or their designated representative, the contractor, and any Third Party Inspector will review the project's restoration needs and prioritize the areas. This prioritization should consider time of year, ground conditions, re-vegetation probabilities, and equipment availability. A restoration "walk-through" is strongly recommended.

In many cases a site can and should be restored within hours of when the soil disturbance occurred. Often getting the equipment to a site that needs to be restored only creates more disturbed area to restore. It is important to "restore as you go" to reduce the equipment travel on temporary access roads. It can be particularly difficult to restore an area that was disturbed during winter construction activities in the spring or summer.

Likely areas of restoration include, but are not limited to:

- Around substation construction areas.
- Around pole and anchor pole placement.
- All wetland, stream, or brook crossings, particularly the approaches and any stream banks.
- Drainage ways or ditches.
- All temporary or permanent constructed roads, yarding, and staging areas.
- Cut banks.
- Steep slopes (over 8%).

9.2 Methods for Restoration

There are several methods of restoration for different areas.

1. All soil that is excavated, mounded, or deposited during construction will be re-graded or removed from the site as directed by CMP. All re-grading and redistribution of soil will be done to match existing grade. Wherever practicable, to facilitate the regeneration of natural vegetation within and adjacent to protected natural resources, during the construction of substations, pull sites, and roads that causes soil disturbance, topsoil will be separated from the mineral soil when excavating and stockpiled outside areas of concentrated flow and areas prone to flooding, and handled in accordance with Section 3.3 Construction in Wetlands of CMP's Environmental Guidelines for Construction and Maintenance Activities on Transmission Line and Substation Projects. The excavated topsoil will be replaced in close proximity to its origin and to a depth sufficient to support vegetative growth.
2. The banks and bottoms of brooks, streams, and rivers will be restored to natural

conditions. In general, any material or structure used at temporary crossings will be removed, and the bank and bottoms restored to their original depth and contour.

3. On permanent access roads, stream culverts and bridges will be left intact and in good repair to remain available for maintenance operations and/or public access (woods roads, camp roads, etc.).
4. On those construction roads to be closed to future vehicle traffic (as determined by CMP), bridges, culverts, and other temporary crossing or water diversion structures will be removed and the banks and bottoms restored to original conditions.
5. Previously installed water bars may remain or new ones will be installed at locations designated by CMP or their designated representative. To prevent accelerated soil erosion, such water bars will be installed on all access and construction roads to be closed to vehicle traffic and on steep sections of permanent roads. Permanent water bars will be constructed to a sufficient height and width to divert the amount of water anticipated at each location as well as to provide some post-project permanence to the site. Water bars on permanent roads will be constructed in such a manner that they will remain effective and require minimal maintenance, and will be permanently seeded to ensure their long-term stability.
6. All areas severely rutted by construction equipment will be re-graded and permanently revegetated.
7. Upon completion of the project, all disturbed areas will be permanently revegetated or otherwise permanently stabilized. This includes the restoration of all areas disturbed by pole installation efforts, temporary access roadways, permanent access roadways, substation construction efforts, and resource crossings. Restoration is generally assumed to be to a well-established vegetative cover. All cut and fill slopes must be revegetated, stabilized with riprap, or stabilized with erosion control mix, as appropriate to the slope conditions.
8. Liming, fertilizing, and seeding requirements for permanent re-vegetation will depend upon the soil type and drainage condition of the site. In the absence of soil tests, permanent seeding will generally be done in accordance with "Procedures for Permanent Seeding for Erosion Control" found in Table 6 on page 22.
9. The contractor will be responsible for the proper maintenance of all revegetated areas until the project has been completed and accepted. Where seed areas have become eroded or damaged by construction operations, the affected areas will be promptly re-graded, limed, fertilized, and re-seeded as originally required.
10. The contractor will perform all erosion control work to the complete satisfaction of Central Maine Power Company before the work is accepted. Central Maine Power Company will base acceptance of the erosion control and stabilization work on a final inspection.

APPENDIX A
DEFINITION OF TERMS

APPENDIX A
DEFINITION OF TERMS

Adjacent to a natural resource: Within 75 feet of, or in a position to wash into, a water resource (river, stream, brook, pond, wetland, or tidal area).
Annual seed mix: Seed mixture largely made up of plants that only persist one growing season.
Brook: Essentially the same as a stream, a water course that has a defined channel, a gravel, sand, rock or clay base, and flows at least part of the year. It may be a dry channel part of the year.
Corduroy: Logs greater than 3 inches in diameter at the small end and at least 18 feet long that are placed perpendicular to travel direction, on approaches to and in wetlands for crossings. The purpose of the logs is to prevent rutting and preserve vegetation root integrity in and adjacent to wetland areas. May also be used on approaches to mats or bridge stream crossings.
Crossing: Any activity extending from one side to the opposite side of a sensitive natural resource whether under, through, or over that resource. Such activities include, but are not limited to, roads, fords, bridges, culverts, utility lines, water lines, sewer lines, and cables, as well as maintenance work on these crossings. Crossings should be done to minimize impact. For example, crossing at a right angle to the resource and finding the driest or narrowest spot is one method for minimizing impact.
Cross-sectional area: The cross-sectional area of a stream channel is determined by multiplying the stream channel width by the average stream channel depth. The stream channel width is the straight-line distance from the normal high water line on one side of the channel to the normal high water line on the opposite side of the channel. The average stream channel depth is the average of the vertical distances from a straight line between the normal high water marks of the stream channel to the bottom of the channel.
Culvert: A pipe or box structure of wood, metal, plastic, or concrete used to convey water.
Erosion: Movement of earthen material by water or wind.
Erosion control blanket (matting): Manufactured material made out of natural or synthetic fiber designed to control movement of earthen material when installed properly.
Erosion control mix: Erosion control mix consists primarily of organic materials such as shredded bark, wood chips, stump grindings, composted bark, or similar materials. Ground construction debris or reprocessed wood products are not acceptable for use in erosion control mix. It contains a well-graded mix of particle sizes and may contain rocks up to 4 inches in diameter. Properly manufactured mix will have organic matter content between 80 and 100 percent (dry weight), 100 percent of particles must pass a 6-inch screen, the organic portion needs to be fibrous and elongated, it may contain only small proportions of silts, clays, or fine sand, and its pH should be between 5.0 and 8.0. Its applications include erosion control berms and mulch.
Erosion control plans: Written guidelines specific to a project or activity, describing various techniques and methods to control erosion for specific construction activities.
Fill: Any earth, rock, gravel, sand, silt, clay, peat, or debris that is put into or upon, supplied to, or allowed to enter a water body or wetland. Material, other than structures, placed in or adjacent to a water body or wetland.
Filter strip: Undisturbed areas of ground consisting of natural vegetation and natural litter such as leaves, brush, and branches, located between a water resource and access road, skid road or trail, or other area of disturbed soil.

Ford: A permanent crossing of a stream utilizing an area of existing, non-erodible substrate of the stream, such as ledge or cobble, or by placing non-erodible material such as stone or geotextile on the stream bottom.
Geotextile, Non-woven: Synthetic material made of spun polypropylene fiber used to support wetland fill or stabilize soils.
Geotextile, Woven: Synthetic material of woven polypropylene used to stabilize soils and make sediment barriers (silt fence).
Great pond: An inland water body which in a natural state has a surface area in excess of 10 acres, and any inland water body which is artificially formed or increased which has a surface area in excess of 30 acres.
Intermittent watercourse: Water course that has water in it only part of the year. It is still considered a natural resource.
Mats: Pre-constructed, portable, timber platforms used to support equipment or travel in or over wetlands or water bodies.
Mulch: Temporary erosion control such as hay, bark, or some similar natural material utilized to stabilize disturbed soil.
Perennial seed mix: Seed mixture made up of seeds from plants that persist for several years.
Perennial watercourse: A river, stream, or brook depicted as a solid blue line on the most recent edition of a United States Geological Survey 7.5 minute series topographic map. Typically has water in it year round.
Permanent access road: Project access road that is not restored after project construction completion. Permanent access roads should be designed and constructed so they are not an erosion problem.
Permanent stabilization: Establishment of a permanent vegetative cover on exposed soils where perennial vegetation is needed for long-term protection.
Permanent vegetative cover: Perennial seed stock, including but not limited to grasses and legumes that persist for more than several growing seasons.
Protected Natural Resource: Coastal sand dune system, coastal wetlands, significant wildlife habitat, fragile mountain areas, freshwater wetlands, community public water system primary protection areas, great ponds or rivers, streams, or brooks. (From the Maine Natural Resources Protection Act, 38 M.R.S.A. Section 480-B., revised 2007).
Riprap: Heavy, irregular-shaped rocks that are fit into place, usually without mortar, on a slope in order to stabilize and prevent soil erosion.
Sediment barrier: Staked hay bales, silt fence, or similar materials placed in a manner to intercept silt and sediment laden water runoff.
Sedimentation: Deposition of earthen material in a water body or wetland.
Sensitive Natural Resource: Area that deserves special attention because it is significant wildlife habitat, fisheries habitat, or has other natural resource values. These areas may require the use of minimum impact construction techniques such as use of mats, leaving vegetation intact for buffers, special timing of construction, or other specific techniques.
Settling basin (sediment/catch basin): Excavated pit placed to intercept water running off disturbed soils or dirt road bed. Usually used only where filter strip is inadequate to protect a stream, pond, or wetland from silt and sediment.
Silt fence: Woven geotextile sediment barrier. Proper installation requires placement on-contour and keying the fabric in at ground level.
Steep slopes: Slopes in excess of eight (8) percent.

Stone check dam: A small, temporary dam constructed across a swale or drainage ditch. The purpose is to reduce the velocity of concentrated flows, reducing erosion and trapping sediment generated in the ditch.
Stream: Generally, a channel between defined banks with a gravel, sand, rock, or clay base that flows at least part of the year. It may be a dry channel part of the year. The Maine Natural Resources Protection Act contains a more detailed definition.
Structure: Anything built for the support, shelter, or enclosure of persons, animals, goods, or property of any kind, together with anything constructed or erected with a fixed location on or in the ground. Examples of structures include buildings, utility lines, and roads.
Temporary access road: Road constructed solely for project access which is restored to original grade upon project completion, if not sooner. All areas disturbed by the access road's construction and use will be stabilized including the road's ditches, travel way, and slopes back to vegetated conditions. In most cases, any roadway ditches associated with the temporary access road should be refilled to re-establish the pre-development drainage conditions.
Temporary stabilization: Mulch, matting, or seed, or a combination thereof, utilized to stabilize soil. Soil stockpiles left in place longer than 14 days must have temporary stabilization.
Temporary vegetative cover: An annual seed mixture, typically annual rye and oats.
Topography: The contour and elevation of the surface of the ground.
Turn out: Water diversion that directs water out of a ditch or off a travel-way and into a vegetated buffer.
Upland edge: The area of uplands alongside a wetland, stream, or water body.
Wastes requiring special handling: Wastes generated from construction activity including engine oil, hydraulic oil, gear oil, diesel, gasoline, or coolants.
Water bar: Constructed bar across an access road or skid trail that directs surface water off the road or trail into a stable vegetated surface or filter strip. They are used as a temporary measure on active roads or when closing roads permanently to prevent erosion.
Water body: River, stream, brook, pond, wetland, or tidal area.
Water resource: River, stream, brook, pond, wetland, or tidal area.
Wetland: An area that is inundated or saturated by surface or groundwater at a frequency and for a duration sufficient to support, and which under normal circumstance do support, a prevalence of wetland vegetation typically adapted for life in saturated soils. The Maine Natural Resources Protection Act contains a more detailed definition.

APPENDIX B

CONSTRUCTION MATERIALS SOURCE LIST

APPENDIX B

CONSTRUCTION MATERIALS SOURCE LIST

The following list of vendors has been selected given the wide variety of construction materials they offer. The list is not meant to be all-inclusive or an indication of favored vendors.

W.H. Shurtleff Company (Culverts, Geotextiles)

One Runway Road
Suite 8
South Portland, Maine 04106-6169
1-800-633-6149
www.whshurtleff.com

A. H. Harris (Geotextiles, i.e. Curlex Excelsior Blankets)

22 Leighton Road
Augusta, Maine 04332
(207) 622-0821

585 Riverside Street
Portland, Maine 04103
(207) 775-5764

www.ahharris.com

North American Green (Erosion control materials)

Maine Distributor:
E.J. Prescott
P.O. Box 600
32 Prescott Street, Libby Hill Business Park
Gardiner, Maine 04345
(207) 582-1851
www.ejprescott.com

New England Organics (Erosion Control Mulch)

135 Presumpscot Street, Unit 1
Portland, ME 04103
1-800-933-6474
www.newenglandorganics.com

APPENDIX C
OTHER RECOMMENDED REFERENCE MANUALS

APPENDIX C

OTHER RECOMMENDED REFERENCE MANUALS

Maine Erosion and Sediment Control BMPs. Bureau of Land and Water Quality, Maine Department of Environmental Protection, Augusta, Maine. March 2003. DEPLW0588.

Best Management Practices for Forestry: Protecting Maine's Water Quality. Maine Forest Service, Augusta, Maine. 2004. www.maine.gov/doc/mfs/pubs/bmp_manual.htm

Forest Transportation Systems: Roads and Structures Manual. Seven Islands Land Company, Bangor, Maine. Third Edition, 1999.

APPENDIX D

CONSTRUCTION TECHNIQUE ILLUSTRATIONS

APPENDIX E

EROSION AND SEDIMENTATION CONTROL LAW* 38 M.R.S.A. § 420-C

APPENDIX E

EROSION AND SEDIMENTATION CONTROL LAW*

38 M.R.S.A. § 420-C

A person who conducts, or causes to be conducted, an activity that involves filling, displacing or exposing soil or other earthen materials shall take measures to prevent unreasonable erosion of soil or sediment beyond the project site or into a protected natural resource as defined in section 480-B. Erosion control measures must be in place before the activity begins. Measures must remain in place and functional until the site is permanently stabilized. Adequate and timely temporary and permanent stabilization measures must be taken and the site must be maintained to prevent unreasonable erosion and sedimentation.

This section applies to a project or any portion of a project located within and organized area of this State. This section does not apply to agriculture fields. Forest management activities, including associated road construction or maintenance, conducted in accordance with applicable standards of the Maine Land Use Regulation Commission, are deemed to comply with this section. This section may not be construed to limit a municipality's authority under home rule to adopt ordinances containing stricter standards than those contained in this section.

* The Erosion and Sedimentation Control Law is administered by the Maine Department of Environmental Protection (MDEP), Augusta, Maine. Please contact the MDEP with specific questions regarding this law.

APPENDIX F

MAINE SLASH LAW* 12 M.R.S.A. § 9333

APPENDIX F

MAINE SLASH LAW*

12 M.R.S.A § 9333

§9333. Disposal along railroad and utility lines

*1. **Stumpage owner**. A stumpage owner, operator, landowner or agent who cuts or causes or permits to be cut any forest growth on lands that are within or border the right-of-way of a railroad, a pipeline, or an electric power, telegraph, telephone or cable line may not place slash or allow it to remain on the ground within the right-of-way or within 25 feet of the nearer side of the right-of-way.*

*2. **Construction**. Slash accumulated by the construction and maintenance of a railroad, a highway, a pipeline or electric power, telegraph, telephone or cable line may not be left on the ground but must be hauled away, burned or chipped. Slash may not be left or place within the right-of-way or within 25 feet of the nearer side of the right-of-way. If a burning permit is denied or revoked under this chapter, the director may allow logs that are too large to be chipped to remain in the right-of-way until the director determines that their removal is economically feasible.*

*3. **Utility line maintenance**. Slash accumulated by the periodic maintenance of a pipeline or an electric power, telegraph, telephone or cable line may be disposed of in the following manner.*

- *A. Slash with a diameter of 3 inches or less may be left in piles on the ground within the maintained portion of the right-of-way. A pile may not be higher than 18 inches from the ground or longer than 50 feet and must be separated from other piles by a minimum of 25 feet in every direction. A buffer strip with a minimum width of 10% of the total width of the maintained right-of-way must be kept totally free of slash with a diameter of 3 inches or less.*
- *B. Slash with a diameter of more than 3 inches must be removed, chipped or limbed and placed on the ground surface. The pieces must be separated and may not be piled one piece over another. Slash of this size may be left within the maintained buffer strips.*
- *C. If a utility line right-of-way is adjacent to a road, slash that is 3 inches or less in diameter must be removed, burned or chipped. Slash with a diameter of more than 3 inches may be left on the ground within the right-of-way and must not be limbed and separated and may not be piled one piece over another. Usable timber products generated from the maintenance of a utility right-of-way may be piled within the right-of-way but must be removed within 30 days.*

* Note that this is an excerpt from the full text of the law. Please contact the Maine Forest Service, Augusta, Maine, for the full text of the law or with specific questions regarding the Slash Law.

APPENDIX G
CULVERT SIZES FOR STREAM CROSSINGS
(3X RULE)

CULVERT SIZES (ROUND) FOR STREAM CROSSINGS (3x RULE)

AVERAGE STREAM WIDTH

Take two measurements across the stream from bank to bank where you intend to place the culvert. Measurements should be taken at the normal high water line (NHWL). To find the NHWL during low flow periods look for water stains on rocks or a debris line along the bank. Add the first measurement to the second and divide this number by 2. This equals the average stream width.
Example: 36in. + 47 in. = 83in. 83÷2 = avg. stream width of 41.5 inches. (Round up to 42in.)

AVERAGE STREAM DEPTH

Take 3 measurements from the bottom of the stream to the NHWL.
Add the measurements together and divide this number by 3. This equals the avg. stream depth.
Example: 12in. + 16in. + 14in. = 42in. 42÷3 = average stream depth of 14 inches.

USING THE TABLE

Take the average width and depth figures and determine where they intersect on the table above.
*For example, for an average stream width of 42 inches (on the left side of the table), and an average stream depth of 14 inches (along the top of the table), the intersect shows a culvert diameter of 48 inches.

Average Stream Width		Average Stream Depth (Inches)														
Feet	Inches	2	4	6	8	10	12	14*	16	18	20	22	24	26	28	30
1	12	12	15	18	21	21	24	30	30	30	30	36	36	36	36	42
1.5	18	12	18	21	24	30	30	36	36	36	42	42	42	42	48	48
2	24	15	21	24	30	30	36	36	42	42	48	48	48	54	54	54
2.5	30	15	21	30	30	36	42	42	48	48	48	54	54	60	60	60
3	36	18	24	30	36	42	42	48	48	54	54	60	60	60	66	66
3.5	42*	18	30	36	36	42	48	48	54	54	60	60	66	66	72	72
4	48	21	30	36	42	48	48	54	54	60	66	66	66	72	72	78
4.5	54	21	30	36	42	48	54	54	60	66	66	72	72	78	78	84
5	60	21	30	42	48	48	54	60	66	66	72	72	78	78	84	84
5.5	66	24	36	42	48	54	60	60	66	72	72	78	78	84	84	90
6	72	24	36	42	48	54	60	66	66	72	78	78	84	90	90	96
6.0	78	24	36	42	54	60	60	66	72	78	78	84	90	90	96	96
7	84	30	36	48	54	60	66	72	72	78	84	84	90	96	96	102
7.5	90	30	42	48	54	60	66	72	78	84	84	90	96	96	102	102
8	96	30	42	48	54	66	66	72	78	84	90	90	96	102	102	108
8.5	102	30	42	48	60	66	72	78	84	84	90	96	102	102	108	108
9	108	30	42	54	60	66	72	78	84	90	96	96	102	108	108	114
9.5	114	30	42	54	60	66	72	78	84	90	96	102	102	108	114	114
10	120	30	48	54	66	72	78	84	90	96	96	102	108	114	114	120
10.5	126	36	48	54	66	72	78	84	90	96	102	108	108	114	120	120
11	132	36	48	60	66	72	78	84	90	96	102	108	114	114	120	126
11.5	138	36	48	60	66	78	84	90	96	102	108	108	114	120	126	126
12	144	36	48	60	66	78	84	90	96	102	108	114	120	120	126	132
12.5	150	36	48	60	72	78	84	90	96	102	108	114	120	126	132	132
13	156	36	54	60	72	78	90	96	102	108	114	114	120	126	132	138
13.5	162	36	54	66	72	84	90	96	102	108	114	120	126	132	132	138
14	168	36	54	66	72	84	90	96	102	108	114	120	126	132	138	144
14.5	174	36	54	66	78	84	90	96	108	114	120	126	126	132	138	144
15	180	42	54	66	78	84	96	102	108	114	120	126	132	138	144	144

EXHIBIT 6

Maine Department of Environmental Protection
Site Location of Development/Natural Resources Protection Act
Permit Conditions

Army Corps of Engineers Section 404 Clean Water Act
Permit Conditions

Maine Public Utilities Commission Certificate of Public Convenience and Necessity Conditions of Approval

Copies of the above permits and approvals have been provided to the Town Planner

Department of Environmental Protection

Site Location of Development/Natural Resource Protection Act

Permit Conditions

THEREFORE, the Department APPROVES the application of CENTRAL MAINE POWER COMPANY to construct the Maine Power Reliability Program project as described above, SUBJECT TO THE FOLLOWING CONDITIONS and all applicable standards and regulations:

1. The Standard Conditions of Approval, a copy attached.

2. In addition to any specific erosion control measures described in this or previous orders, the applicant shall take all necessary actions to ensure that its activities or those of its agents do not result in noticeable erosion of soils or fugitive dust emissions on the site during the construction and operation of the project covered by this approval.

3. Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

4. The applicant or other responsible party shall, within three months of the expiration of each five-year interval from the date of this Order, submit a report certifying that the items listed in Department Rules, Chapter 500, Appendix B(4) have been completed in accordance with the approved plans.

5. The applicant shall submit evidence to the Department that it obtained the PUC Certificate of Public Convenience and Necessity prior to implementation of eminent domain power.

6. Prior to construction on each segment, the applicant shall submit to the BLWQ a redacted copy of all deeds, leases, and easements for that segment. The applicant shall indicate, on a tax map, which properties it intends to apply eminent domain authority over and work may not begin on those properties or any other properties for which the applicant has not acquired ownership or usage rights, until the applicant has submitted proof that eminent domain authority has been applied or those rights have been obtained.

7. Within 60 days of the start of operation of each substation, that applicant must submit to the Department for review and approval as-built plans denoting the locations and dimensions of each constructed sound level barrier as discussed in Finding 5.

8. Within 60 days after the completion of each segment or by the end of the next spring or fall planting season, the applicant shall implement the roadside visual buffer planting plan as outlined in Finding 6.

9. Within 60 days of the completion of each substation, the applicant shall implement the visual buffer planting plan and construct all earthen berms as outlined in Finding 6.

10. Prior to the start of construction on Segments 15 or 15 Alt. the applicant shall submit a buffer plan for the Route 132 crossing in Wales, for review and approval, as described in Finding 6.

11. Prior to the start of project construction, the applicant shall submit payment of $1,557,809.00 to the ILF program administrator at 17 State House Station, Augusta, Maine 04333.

12. The applicant shall construct and maintain the project in accordance with the document entitled "Vegetation Management Practices: Maine Power Reliability Program" last revised March 2010 (Amended VMP) and attached to this order as Appendix B.

13. The applicant shall comply with the terms and conditions outlined in the MOA dated February 8, 2010 between U.S. Army Corps of Engineers, MHPC and the Advisory Council on Historic Preservation.

14. Within 60 days of the date of this Order, the applicant shall submit copies of individual SPCC plans for substations for review and approval. Any SPCC plan or equivalent document developed by a construction contractor due to the volume of petroleum or other material stored shall be submitted to the Department within seven days of its receipt by the applicant.

15. Prior to construction on any property containing existing water supply wells and waste water disposal systems, the applicant shall provide an inventory of all existing wells, disposal systems and similar on-site utilities on the affected properties , and a description of measures the applicant will take to abandon any well or wastewater disposal systems.

16. Within 60 days of the date of this Order, the applicant shall submit signed and recorded deed restrictions for each compensation parcel, with the exception of the Kennebec Gorge property for which the applicant shall submit signed and recorded deed restrictions within one year of the date of this Order.

17. All permanent stream crossings shall be constructed with the bottom of the culvert embedded six inches into the soil and a culvert diameter equal to 1.2 times the stream bank width.

18. The applicant shall install aviation marker balls or other line collision deterrents on shield wires at the transmission line crossings listed in Finding 7.

19. During project construction and in areas altered by the installation of poles, the applicant shall replace the topsoil, apply hay mulch and allow any disturbed wetland areas to revegetate naturally.

20. The applicant shall implement the restoration and enhancement plans at Hutchinson Pond, Nonesuch River and Wilmot Brook compensation properties prior to June 2011.

21. Annual monitoring of enhancement and restoration conditions at the Hutchinson Pond, Nonesuch River, Wilmot Brook and Runaround Brook sites shall be completed for five years, and shall include the submission of a post-construction report. Annual monitoring reports for the Hutchinson Pond, Nonesuch River Wilmot Brook and Runaround Brook sites shall be submitted no later than the end of December of each year.

22. Prior to the start of construction on each segment, the location of wetlands, streams, significant vernal pools, IWWH and DWAs along the transmission route and at each expanded or proposed substation shall be marked on the ground, and the contractors shall be given a plan that specifies the location of wetlands, streams, significant vernal pools, IWWH and DWAs in the work area. The applicant shall also maintain a GPS database indicating the location of all wetlands, streams, significant vernal pools, IWWH and DWAs for use during long term maintenance activities.

23. The applicant shall retain a minimum of four third-party inspectors to monitor erosion control and the protection of natural resources on the project site during construction. Each inspector will be responsible for no more than 100 linear miles of transmission line corridor and no more than four substation projects. Prior to the start of each transmission line segment and prior to the start of each substation construction or expansion, the applicant shall arrange to meet with the appropriate third-party inspector to discuss the construction sequence for each segment or substation and strategies for minimizing potential impacts to protected natural resources. The applicant shall develop its construction plan with input from the appropriate third-party inspector.

24. Prior the start of construction on any segment and at any substation, the applicant shall conduct a pre-construction meeting. This meeting shall be attended by the applicant's representative, Department staff, the design engineer, the contractor, and the third-party inspectors.

25. Prior to starting construction at the Surowiec Substation, the applicant shall hold a preconstruction
meeting on site with Department staff, its consultant and a fluvial hydrogeologist
to discuss the Runaround Brook stream restoration/relocation project.

26. Within 60 days of the date of this Order, the applicant shall execute and record all required deed restrictions, except for deed restrictions on compensation parcels described in Special Condition 16, including the appropriate buffer and stormwater deed restrictions. The applicant shall submit a copy of the recorded deed restriction, including the plot plan, to the Department within 60 days of its recording.

27. Prior to the start of construction at any substation or transmission line segment, the location of all buffers shall be permanently marked on the ground.

28. Prior to the start of construction on any individual segment or substation known to contain invasive species, the application shall develop an invasive species vegetation monitoring plan for the project and submit it to the Department for review and approval.

29. The application shall construct and maintain the project in accordance with MDIFW's document entitled "Maine Power Reliability Program: Conservation Management Standards for the Avoidance and Minimization of Take and Harassment of State Endangered and Threatened Species" last revised November 24, 2009 or the latest revision.

30. The applicant shall submit a copy of the MDIFW approved ITP for black racer snakes to the BLWQ prior to starting construction at the Maquire Road substation.

31. Prior to operating the wastewater systems at the Albion Road substation, Coopers Mill Road substation, Larrabee Road substation and the Raven Farm substation, the applicant shall submit a contract for routine pumping and maintenance of the proposed wastewater holding tanks.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED IN AUGUSTA, MAINE, THIS 5th DAY OF April, 2010.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAVID P. LITTELL, COMMISSIONER

FILED
APR - 5 2010
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES...

deh, mr, bc/l#24260anbncndncn/ats#70136, 70137, 70154, 70155, 70156

DEPARTMENT OF THE ARMY PERMIT

Permittee Central Maine Power Company, 83 Edison Drive, Augusta, Maine 04330

Permit No. NAE-2008-03017

Issuing Office New England District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description:

Discharge temporary and permanent fill in numerous inland waterways and adjacent freshwater wetlands in order to upgrade approximately 350 miles of existing electrical transmission corridor and construct an additional 6.4 miles of new corridor as well as to construct or expand 13 electrical substations. The project will result in approximately 13.6 acres of permanent wetland impact; 119 acres of temporary impact; 1,285 linear feet of a stream impact; and 345 acres of forested wetland cover type conversion.

This work is shown on the attached plans entitled "In accordance with the attached plans & tables entitled "MAINE POWER RELIABILITY PROGRAM" in 13 sheets undated and with the construction plans submitted with application and otherwise amended.

Project Location:

The project extends from Eliot to Orrington, Maine.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2020. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. The permittee shall ensure that a copy of this permit is at the work site whenever work is being performed and that all personnel performing work at the site of the work authorized by this permit are fully aware of the terms and conditions of the permit. This permit, including its drawings and any appendices and other attachments, shall be made a part of any and all contracts and sub-contracts for work which affects areas of Corps of Engineers jurisdiction at the site of the work authorized by this permit. This shall be done by including the entire permit in the specifications for work.

(Special Conditions continued on Page 4)

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

X Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

X Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above);

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

Douglas A. Harding — 7/21/2010

(PERMITTEE) *(DATE)*

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

Philip Feir — 7-21-2010

(DISTRICT ENGINEER) *(DATE)*

Philip T. Feir

for **Colonel, Corps of Engineers**

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEREE) *(DATE)*

☆U.S. GOVERNMENT PRINTING OFFICE: 1986 — 717-425

Special Conditions Continued from Page 2

If the permit is issued after the construction specifications but before receipt of bids or quotes, the entire permit shall be included as an addendum to the specifications. If the permit is issued after receipt of bids or quotes, the entire permit shall be included in the contract or sub-contract as a change order. The term "entire permit" includes permit amendments. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions of the entire permit, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps jurisdiction.

2. Adequate sedimentation and erosion control devices, such as geotextile silt fences or other devices capable of filtering the fines involved, shall be installed and properly maintained to minimize impacts during construction. These devices must be removed upon completion of work and stabilization of disturbed areas. The sediment collected by these devices must also be removed and placed upland, in a manner that will prevent its later erosion and transport to a waterway or wetland.

3. The permittee shall implement all terms and conditions contained in the attached water quality certification from the Maine Dept. of Environmental Protection dated "April 5, 2010". Copies of all required submittals shall also be provided to the Corps.

4. No temporary fill (e.g., access roads, cofferdams) may be placed in waters or wetlands unless specifically authorized by this permit. If temporary fill is used, it shall be disposed of at an upland site and suitably contained to prevent its subsequent erosion into a water of the U.S., and the area shall be restored to its original contours (but not higher) and character upon completion of the project. During use, such temporary fill must be stabilized to prevent erosion or, in the case of flowing water (rivers or streams), clean washed stone should be used.

5. The permittee shall complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work.

6. Except where stated otherwise, reports, drawings, correspondence and any other submittals required by this permit shall be marked with the words "Permit No. NAE-2008-03017" and shall be addressed to "Inspection Section, CENAE-R, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751." Documents which are not marked and addressed in this manner may not reach their intended destination and do not comply with the requirements of this permit. Copies of Construction Monitoring Reports submitted by third party inspectors in compliance with state permit requirements may be provided electronically to the Corps project manager at: jay.l.clement@usace.army.mil

7. Navigable waters in the State of Maine include any water subject to the ebb and flow of the tide, the Penobscot River to Medway, the Kennebec River to Moosehead Lake, and the portion of Lake Umbagog located in Maine. For any segment of the project that crosses a navigable waterway, the minimum sag height of any transmission cable above the mean high water line or ordinary high water line of the waterway shall be no lower than 30' above the clearance of the fixed bridge(s) in the vicinity of the crossing site.

Special Conditions Continued on Page 5

Special Conditions Continued from Page 4

8. In order to fulfill the requirements of Section 106 of the National Historic Preservation Act of 1966, the permittee shall implement the stipulations contained in the attached Memorandum of Agreement dated "April 1, 2010".

9. Any permanent or temporary stream crossing utilizing a culvert shall be constructed with the bottom of the culvert embedded a minimum of six inches into the soil and a culvert diameter equal to 1.2 times the stream bank width.

10. Mitigation shall consist of 13 preservation/enhancement sites totaling approximately 3,342 acres, and 1,800 linear feet of stream restoration to Rounaround Brook and Day Brook, and 2,100 linear feet of potential enhancement at Montsweag Brook. In addition, an in-lieu-fee ("ILF") contribution of $1,563,538 shall be made to the Maine Natural Resources Conservation Program. This work shall be performed in accordance with the attached mitigation plan entitled, "13.0 COMPENSATION PLAN, NATURAL RESOURCES PROTECTION ACT APPLICATION" and dated "April 2010."

11. In accordance with the attached mitigation plan and state permit/water quality certification, the ILF contribution shall consist of a cashier's check or bank draft, made out to "Treasurer, State of Maine", with the DEP and Corps permit numbers noted on the check. The check and an ILF Project Data Worksheet should be mailed to: Maine DEP, Attn: ILF Program Administrator, State House Station 17, Augusta, ME 04333. **This authorization is not valid until** the permittee provides the Corps with a copy of the check, with the permit number noted on the check. The ILF amount is only valid for a period of one year from the date on the authorization letter. After that time, the project would need to be reevaluated and a new amount determined.

12. Your responsibility to complete the required compensatory mitigation as set forth in Special Condition 10 will not be considered fulfilled until you have demonstrated mitigation success and have received written verification from the Corps of Engineers. The term "mitigation success" means success as defined in the mitigation plan this permit requires you to implement. Demonstration of success under this permit shall consist of the required mitigation monitoring, corrective measures, submittal of mitigation monitoring reports, and a final wetland assessment.

Permit Conditions Continued on Page 6

Permit Conditions Continued from Page 5

Corps of Engineers Permit No. NAE-2008-03017
Permit Special Conditions Resulting From
Informal Endangered Species Act Consultation
With US Fish & Wildlife Service
References: USFWS Biological Opinion ("BO") dated "July 18, 2010"; and
Corps/TRC Biological Assessment ("BA") dated "June 7, 2010"

1. Prior to construction of the transmission line, all riparian buffers adjacent to streams identified as having "restricted access" in the waterbody crossing table in Appendix A of the BA shall be flagged with distinctive flagging or other signage in order to avoid inadvertent and unintentional direct or indirect impacts to Atlantic salmon or its critical habitat.

2. **No instream work is authorized** in the streams identified as having "restricted access" on the attached waterbody crossing table in Appendix A of the BA.

3. Any span structures on streams identified as having "restricted access" shall be installed and maintained to prevent soil and other material from washing into the stream. This shall include cleaning the travel surface of the span to prevent accumulated material from washing into the stream. At each of these crossings, clearing of non-capable woody vegetation shall be minimized to the maximum extent practicable and the roots allowed to remain in order to reduce indirect impacts and to promote natural re-vegetation.

4. All areas of wetlands which are disturbed during construction shall be restored to their approximate original elevation (but not higher) and condition by careful protection, and/or removal and replacement, of existing soil and vegetation. In addition, if upland clearing, grubbing, or other construction activity results in, or may result in, soil erosion with transport and deposition into wetlands or waterways, devices such as geotextile silt fences, sediment trenches, etc., shall be installed and properly maintained to minimize such impacts during construction. These devices, with the exception of erosion control mix, must be removed upon completion of work but not before stabilization of disturbed areas. The sediment collected by these devices must also be removed and placed upland, in a manner that will prevent its later erosion and transport to waterway or wetland.

5. No temporary fill (e.g., access roads, cofferdams) may be placed in waters or wetlands unless specifically authorized by this permit. If temporary fill is used, it shall be disposed of at an upland site and suitably contained to prevent its subsequent erosion into a water of the U.S., and the area shall be restored to its original contours (but not higher) and character upon completion of the project. During use, such temporary fill must be stabilized to prevent erosion or, in the case of flowing water (rivers or streams), clean washed stone should be used.

6. All construction areas shall be open for inspection by the permitting agency(ies) as well as federal resource agency personnel during working hours.

Permit Conditions Continued on Page 7

Permit Conditions Continued from Page 6

7. The permittee shall implement all terms and conditions contained in the attached water quality certification from the Maine Dept. of Environmental Protection dated "April 5, 2010" and subsequent revisions. Copies of all required submittals shall also be provided to the Corps.

8. The permittee shall take all reasonable and prudent measures to minimize the risk of accidental spills of petroleum or other hazardous contaminants from construction equipment at waterway and wetland crossings. Minimum specific spill management measures are contained in the document entitled "Vegetation Management Practices: Maine Power Reliability Program" last revised "March 31, 2010" which is contained in the administrative record.

9. The permittee shall conduct all clearing operations, during both construction and long-term right-of-way maintenance, in accordance with the document contained in the administrative record entitled "Vegetation Management Practices: Maine Power Reliability Program" last revised "March 31, 2010".

10. In accordance with the document entitled "Vegetation Management Practices: Maine Power Reliability Program" last revised "March 31, 2010", application of herbicides within 25' of any waterbody is prohibited.

11. Prior to the start of construction, the permittee shall conduct environmental training for all contractors, sub-contractors, and inspectors. Federal and state resource and regulatory staff shall be invited to attend and/or assist in the presentations. At a minimum, this training shall include actions to be taken to avoid and minimize direct and indirect impacts to aquatic resources such as wetlands, streams, Atlantic salmon streams, and vernal pools.

12. The permittee shall take all reasonable and prudent measures to discourage post-construction recreational ATV use and destruction in sensitive aquatic habitats to include vernal pools, streams, and Atlantic salmon streams. The permittee shall be allowed to make periodic crossings of streams with ATVs for routine inspection and vegetation maintenance purposes. All efforts will be made to keep such stream crossings to the minimum necessary. ATV use may not cause any adverse effects to Atlantic salmon or their critical habitat or result in take of Atlantic salmon.

13. The following conditions are intended to minimize the risk of potential impacts to bald eagles during MPRP construction and maintenance activities.

a. Marker balls. At locations shown on the table on Pages 47-48 of the attached permit from the Maine DEP, the permittee shall install aviation marker balls or other industry-standard line collision deterrents to reduce the potential for eagle and other large bird strikes/entanglements with the existing/proposed transmission lines.

b. Clearing restrictions. In accordance with the table on Page 48 of the attached permit from the Maine DEP, the permittee shall avoid/minimize to the maximum extent practicable over story clearing proximate to four specific eagle nest sites or foraging perches located in close proximity to the existing transmission line right-of-way.

Permit Conditions Continued on Page 8

Permit Conditions Continued from Page 7

c. Time of year restriction. In accordance with the table on Page 49 of the attached permit from the Maine DEP, the permittee shall avoid clearing and construction operations within ¼ mile of identified eagle nests during breeding season, March 1 to Augusta 31, of each year. Should clearing and construction activities during the breeding season be unavoidable at these locations, they may only be authorized if the permittee resurveys for nesting eagles, determines they are not present, and Maine IF&W and USFWS concur.

d. Resurvey. For any of the segment(s) shown on the table on Page 49 of the attached permit from the DEP that is scheduled for construction in a given year, the permittee shall resurvey the segment(s) during the IF&W prescribed spring nesting survey period, generally April, in order to verify the existence of and nesting activity within known eagle nests and to identify the location of any new nests. For any new nests identified, the same protective measures noted above shall also apply.

14. In order to minimize the risk of potential impact to New England cottontails during MPRP construction and maintenance activities, the permittee shall comply with measures specified in the attached document entitled "Maine Power Reliability Program (MPRP), Conservation Management Standards for Avoidance and Minimization of Take and Harassment of State Endangered and Threatened Species" dated "April 6, 2010".

Maine Public Utilities Commission

Certificate of Public Convenience and Necessity

Stipulation

I. DESCRIPTION OF THE STIPULATION

A. Stipulated Transmission Solution

The parties to the Stipulation agree that a CPCN should be granted for all of the components of the MPRP discussed in section III above with the exception of:

1) The Mid-Coast Spur;

2) The Lewiston Loop;

3) The Auto Transformer at the Raven Farm Substation;

4) Those elements removed from the project by ISO-NE at the hearing.

A complete list of the MPRP components agreed to as part of the Stipulation (the Settlement MPRP), along with estimated costs for each component, is provided as part of the Stipulation. (See Appendix Three – Attachment A)

As discussed in Section IV (B) below, the parties propose to address the reliability needs in the Mid-Coast area through a Smart Grid/NTA Pilot Plan.

With respect to the Lewiston Loop, the Stipulation provides that while no CPCN should be issued at this time, the Commission should establish a schedule in this docket for the further evaluation of the need for those facilities and alternatives to address such needs, including both transmission and NTAs. The Stipulation calls upon the Commission to reach a decision on the Lewiston Loop proposal within three months of the date of approval of the Stipulation.

The parties agree that the transmission system facilities that were included in CMP's MPRP Petition but which are not part of the Settlement MPRP, nor otherwise addressed by the Stipulation, should not receive a CPCN at this time. CMP also agrees to seek a CPCN before proceeding with any such facilities (or facilities/projects that would address similar issues) including facilities for which a CPCN might not otherwise be required. Pursuant to the provisions of the Stipulation, CMP and PSNH will make an updated filing for Commission review and approval of terminating section 3022 at a new substation adjacent at the Three Rivers substation within 45 days of the Commission's approval of the Stipulation.

Beginning on July 1, 2010, and every three months thereafter until the Settlement MPRP is completed, CMP will file progress reports with the Commission summarizing any significant developments in the permitting and development of the Settlement MPRP, as well as providing an update on the actual costs incurred by CMP in developing and constructing the Settlement MPRP. Although the parties to the Stipulation agree that the Settlement MPRP will substantially improve the reliability of the power system in Maine and will likely eliminate the conditions that might otherwise contribute to the real or perceived need for a determination that one or more generation units is needed for reliability during the current ten-year planning horizon, the parties do not agree as to whether the transmission planning methods and assumptions used by

CMP and ISO-NE for the MPRP or in connection with the "Staff Analysis", are appropriate or required by NERC or the NPCC to assure reliability of the bulk power system.

B. Smart Electric Grid/Non-Transmission Alternatives

The parties to the Stipulation agree that upon approval of the Stipulation, CMP and GridSolar will enter into a contract to develop a Smart Grid/NTA Pilot Plan. Under the terms of the Stipulation and the draft contract (Attachment B to the Stipulation), the Pilot Plan will address the design, installation, ownership, control, cost and cost recovery of a Smart Grid Platform; the procurement, quantities and costs of the generation and demand resources for the Pilot Plan, access to the Smart Grid Platform by others; and a more detailed description of the two pilot projects to be developed (the Mid-Coast Pilot to address reliability associated with CMP's proposed Mid-Coast Spur and the Portland Pilot to address reliability needs in the Portland area). The Pilot Plan will also recommend that GridSolar be designated to serve as the Smart Grid Energy Services Operator (SGESO) within CMP's service territory for an initial term of ten years subject to two five-year renewals.

Under the terms of the Attachment B Agreement, CMP will pay GridSolar a consulting fee for work done to develop the Pilot Plan. CMP, GridSolar, IECG, the OPA and CLF agree that Smart Grid Platform costs should be recovered in transmission rates. The Pilot Plan, however, will address cost recovery issues in further detail, including the proposed ratemaking treatment of all costs associated with the implementation of the Pilot Plan in the event certain costs are deemed not recoverable through transmission rates. Other terms and conditions of the Smart Grid contract between CMP and Grid Solar are set forth in the Smart Grid Contract (Attachment C to the Stipulation).

The Stipulation calls for the Commission, upon the filing of the Pilot Plan, to promptly open an adjudicatory proceeding for reviewing all aspects of the Pilot Plan. This adjudicatory proceeding shall serve as the vehicle for review and approval of Grid Solar as the SGESO under 35-A M.R.S.A. § 3143(5), which is part of the recently enacted Smart Grid Policy Act.

C. Energy Efficiency

As part of the Stipulation, CMP and Bangor Hydro agree to publicly support, and not otherwise oppose, funding levels for electric energy efficiency programs that are adopted by the Efficiency Maine Trust's Board of Directors in its Triennial Plans, provided that the Trust has made a reasonable demonstration that the funding levels do not exceed an amount "necessary to realize all energy efficiency and demand reduction resources that are cost-effective, feasible and reliable" as per 35-A M.R.S.A. §10110(5). CMP and Bangor Hydro also agree to form a working group with the Commission Staff and interested parties to consider use of the utilities' billing systems for the purpose of billing non-residential customers for financings associated with programs adopted in the Triennial Plan of the Efficiency Maine Trust.

As part of its annual Chapter 330 § 8(A) report to the Commission, CMP agrees to provide load growth forecast information with respect to areas of its service territory where

load growth has the potential to cause the need for upgrades to portions of its transmission system that are operated at or above 34.5kV. CMP will strive to provide this information in such a manner, and with enough lead time, to allow for the possibility that demand side resources or distributed generation could meet the potential need in the given area. CMP further agrees to work with the Commission, the OPA and other stakeholders, to review demand side measures aimed at meeting any needs identified in these load forecast reports.

D. Land Use and Property Owner Issues

To ensure that timely and adequate attention is given to landowner issues during the construction phase of the Settlement MPRP, CMP agrees to hire a third party monitor/inspector (the "MPRP Ombudsman") to be selected in consultation with the OPA and Commission. The MPRP Ombudsman will file monthly reports to the Commission on CMP's landowner dispute resolution performance, including specific issues outstanding, their status, and an evaluation of the timeliness and adequacy of CMP's responses and efforts.

CMP agrees that it will attempt to resolve any issues or disputes with abutting landowners throughout the construction process, and fully report on these matters to the MPRP Ombudsman. If requested by an abutting landowner, CMP agrees to negotiate in good faith with the abutting landowner in order to mitigate aesthetic and property value impacts to the extent consistent with CMP's obligation to minimize the cost of transmission facilities for Maine customers.

To the extent that disputes or issues are not resolved, they will be referred to the Landowner Dispute Resolution Process established by the Commission in concept similar to the Commission's Competitive Local Exchange Carrier (CLEC) Rapid Response Process[1]. After completion of the Landowner Dispute Resolution Process, the landowner may petition the Commission for an order directing CMP to make the requested mitigation. In the event that CMP is ordered to make the requested mitigation, either in the Landowner Dispute Resolution Process or by the Commission, CMP (or Bangor Hydro to the extent applicable) shall be entitled to recover any and all costs related to such mitigation.

The parties agree that in determining the need to rebuild existing facilities as part of the Settlement MPRP, CMP's T-56 standards[2] should be followed as a general matter. However, CMP also agrees to apply those standards in a flexible manner, consistent with CMP's obligations concerning safety, and to use engineering judgment when applying these standards to help mitigate landowner and abutter issues related to property, right-of-way procurement, aesthetics, safety and other concerns. CMP agrees to develop and consider construction alternatives, including acceptable deviations from the T-56 standard, when dealing with these issues. CMP also agrees that in constructing the Settlement MPRP, existing facilities will not be rebuilt, relocated, or re-configured for the sole purpose of bringing them into

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[1] See www.maine.gov/mpuc/telecom/rapid-response.html.

[2] T-56 standards refer to CMP's transmission standards on clearance requirements between structures and adjacent circuits as well as the edge of the right-of-way.

compliance with the T-56 standard. CMP further agrees that it will clarify its definition of "hazardous trees" (or "danger trees," to the extent that term is applicable) in its vegetation management Field Operating Procedures and right-of-way easements, so that it will not include healthy trees that do not post any immediate or obvious threat to the transmission system under normally expected weather conditions.

CMP agrees to develop a cyclical vegetation side trimming program for its 115kV and 345kV transmission rights-of-way and have that program reviewed by Staff by December 31, 2010. CMP will take all reasonable steps to mitigate EMFs consistent with World Health Organization recommendations, including "reverse phasing" wherever practical.

As part of the Stipulation, the parties agree that the Commission should approve the Tax Increment Financing (TIFF) Agreement, which was entered into by CMP and the City of Lewiston on July 21, 2009 whereby CMP agreed to certain upgrades in the design of the new transmission facilities to be built in Lewiston as part of the MPRP in order to address concerns raised by several Lewiston abutter intervenors and the City of Lewiston agreed to reimburse CMP for the incremental costs of the upgrades through a tax increment financing agreement.

E. Transmission Planning

As part of the Stipulation, CMP and Bangor Hydro agree to work within the existing ISO-NE Planning Advisory Committee (PAC) processes or the tariff change process prescribed in the Participants Agreement, to seek to form with ISO-NE, a new working group which will be open to all interested stakeholders to consider and evaluate: (1) the methods and assumptions used in transmission planning studies; (2) changes that would require ISO-NE to employ lowest reasonable cost transmission planning and take a more active role in developing and analyzing NTAs as a response to identified needs; and (3) methods by which the cost of NTAs would be allocated throughout New England in the same manner as regional transmission costs. CMP, the OPA, IECG, CLF and GridSolar also agree to form a Maine state working group, open to all stakeholders, and to cooperate with the Commission to consider and evaluate a transmission planning process that integrates transmission, Smart Grid, non-transmission alternatives and energy efficiency. The product of this evaluation will provide the basis for the Maine Stakeholders participation in the regional working group.

As part of all future CPCN applications filed by CMP where the estimated total project investment exceeds $20,000,000, CMP agrees to retain a consultant to analyze NTAs, including demand response (DR) and energy efficiency (EE), and submit the analysis as part of its CPCN application. The consultant retained for this purpose will be jointly chosen by CMP, the OPA, the SGESO, the Efficiency Maine Trust and Commission Staff. In addition, within thirty (30) days of the issuance of a CPCN as described herein and the expiration of any applicable appeal periods, CMP agrees to make a grant in the amount of $1.5 million to allow non-utility parties to collectively hire expert assistance in order to participate in local, regional and possibly national arenas where transmission planning and cost allocation issues are being evaluated and adopted. Under the Stipulation, CMP shall be entitled to recovery of this amount in rates as an amount included in the annual ARP price adjustment in the year following the

payment. Under the terms of the Stipulation, the funds for this grant will be payable to the OPA, to be distributed consistent with Maine law.

F. Customer Benefits

Pursuant to the provisions of paragraph V(F) of the Stipulation, during the period of 2012-2023, CMP will pay out and not recover from ratepayers, $17 million in grants to fund energy conservation programs. The $17 million grant total is comprised of the following programs: Home Weatherization - $2.7 million; Transmission and Sub-Transmission Customer Energy Efficiency - $7.1 million; Efficiency Maine Trust (general) - $7.2 million.

G. Procedural Stipulations

In addition to the standard "boiler plate" procedural provisions, the Stipulation contains a "non-opposition" clause whereby the parties to the Stipulation agree not to oppose, directly or indirectly, the Settlement MPRP before any regulatory agency, permitting authority, municipality, court, or other entity with approval authority concerning any aspect of the MPRP. Finally, the parties to the Stipulation agree that the Joint Motion filed by BHE, CMP and PSNH on April 26, 2010, requesting that the CPCN issued in this proceeding for those portions of Sections 3023 and 254 in BHE's service territory, authorize BHE to cooperate with CMP in the construction of such facilities and to own and operate such facilities after construction is completed.

MAINE
Department of the Secretary of State
Bureau of Corporations, Elections and Commissions

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Mon Mar 01 2010 14:19:52. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
CENTRAL MAINE POWER COMPANY	19050014 D	BUSINESS CORPORATION	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
07/20/1905	N/A	MAINE

Other Names	(A=Assumed ; F=Former)
MAINEPOWER - CANCELLED	A
MAINE POWER, INC.- CANCELLED	A
COMBINED ENERGIES - CANCELLED	A
THE MESSALONSKEE ELECTRIC COMPANY	F

Clerk/Registered Agent

ERIC N. STINNEFORD
83 EDISON DRIVE
AUGUSTA, ME 04336