



Stantec

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Subject: Bingham Wind Project: Electrical Generator Lead Route Selection in DWA #084033 – Parkman, ME

Dear Doug:

Thank you for taking the time to meet on April 25, 2013 to discuss the Bingham Wind Project (project) at the Maine Department of Inland Fisheries (MDIFW) office in Augusta. At that meeting, you and Bob Stratton requested additional information on potential alternative routes to connect the project generator lead to the Central Maine Power Company (CMP) substation in Parkman that were reviewed by the applicant during the design phase of the project. We understand that this interconnection is of particular interest to MDIFW because this CMP substation is located at the edge of Deer Wintering Area (DWA) #084033, and as a result the Applicant has spent considerable effort exploring options to avoid and minimize impacts to that DWA.

Specifically, during the design phase of the project, the applicant spent considerable effort to avoid impacts to natural resource areas, including DWAs. After an extensive analysis of generator lead options, described in detail in the Alternatives Analysis (Section 1A; see Figure 1A-4 of Section 1A) of the combined Maine Department of Environmental Protection Natural Resource Protection Act/Site Location of Development Combined Application (application), the Parkman substation was found to be the most feasible and lowest overall impact alternative for the interconnection location for the Project.

The following details the alternative routes for connection to the Parkman substation that were reviewed during the design phase specifically to avoid and minimize impacts. In addition, a survey of the particular DWA in question was conducted in the winter of 2013, (Section 7 of the application) in order to better understand the unique composition of this DWA and poles were specifically sited and re-sited in order to avoid impacts to wetlands. Also, provided below is a summary of the project's vegetation management plan and construction methods for electrical corridors proposed within mapped DWAs as evidence of avoidance and minimization. The proposed vegetation management plan is intended to minimize degradation of the DWA habitat to the extent practicable. For additional details of the alternatives investigated for the project, please refer to Section 1A of the application. Section 10 of this application provides full details of vegetation management within DWAs.

Electrical Generator Lead Route Options to Parkman Substation

The existing CMP substation in Parkman is located south of the Guilford/Parkman town line and adjacent to the east side of Route 150. Five potential routes were evaluated to connect the electrical generator lead option from the project to this existing CMP substation (Figure 1). Of these five potential routes, Options 1 and 4 are primary routes. Options 2 and 3 are minor variations of Option 1, and Option 5 is a minor variation of Option 4. Because of the existing substation's proximity to State Route 150, route options were somewhat limited by the Maine Department of Transportation's (MDOT) Accommodation Policy, which regulates utility pole locations within the State road right-of-way (ROW). Specifically, MDOT

typically does not allow the installation of private utilities parallel to and within the limits of a State road ROW for distances in excess of 500 feet, and requests to do so for distances of less than 500 feet are reviewed on a case-by-case basis (17-229 CMR 210(5)(6)(C)). With the exception of the actual generator lead crossing of State Route 150, all alternatives are located outside of the State road ROW.

Substation Generator Lead Options 1-3

Route Option 1 originates near proposed structure 11, which would be located approximately 1,800 feet northeast of Davis Road and within DWA #084033. It would extend southeast approximately 1,000 feet through DWA #084033 and then parallel the northern edge of two agricultural fields. Option 1 would then turn north where it would again intersect DWA #084033. The corridor would parallel the western edge of State Route 150 for approximately 500 feet before crossing State Route 150 to connect to the southwest corner of the existing substation.

Options 2 and 3 vary from Option 1 only in that they cross State Route 150 further to the south and parallel the eastern side of the State Route 150 through a wetland complex before connecting to the existing substation.

After multiple requests over several years, the applicant has been unable to obtain land rights from the owner of Lot 16-32 and therefore options that include locating the line parallel to and along the western side of State Route 150 MDOT ROW are unavailable. For the reasons noted above, locating the line within the State Route 150 MDOT ROW to avoid crossing lot 16-32 is also not permitted due to MDOT restrictions. Finally, Options 2 and 3 cannot continue along or outside of the MDOT ROW because of the required setbacks from Line 85 – a 115kV line that runs south from the Parkman Substation. In addition, this line could not be placed in a manner meeting MDOT required setbacks from State Route 150.

Substation Generator Lead Option 4 and 5

Route Option 4, which is what is proposed in the application, originates near proposed structure 11, and would be located approximately 1,800 feet northeast of Davis Road and within DWA #084033. It would extend east approximately another 2,000 feet within the existing uncleared CMP ROW to proposed structure 6 and then turn southeast along the same CMP easement for approximately 1,500 feet southeast before crossing Route 150 to the existing substation.

Option 5 varies from Option 4, beginning at proposed structure 6. From proposed structure 6, Option 5 would extend approximately 1,000 feet northeast through DWA #084033 to an existing cleared CMP ROW (Lot 16-CMP) that contains an existing 34.5 kV transmission line. This option would then follow the cleared CMP transmission line ROW southeast approximately 750 feet to the existing CMP substation. During discussions with CMP, they indicated the applicant could not use this ROW for a 115 kV generator lead line. CMP does not allow other entities to co-locate facilities on their transmission lines therefore the generator lead could not be installed directly on CMP structures in this ROW. Additionally, there is not room within CMP's ROW in this location to locate a transmission line and maintain the minimum distances between lines that is required to comply with ISO-NE reliability standards. Finally, the owner of Lot 16-37, which is the parcel parallel to the CMP ROW in this location is the same as the owner of Lot 16-32 and would not allow the Applicant to locate facilities on this property. Option 5 was therefore eliminated because CMP would not allow a 115 kV line within the CMP transmission line ROW and the Applicant was unable to acquire the necessary land interests to locate the line adjacent to that ROW.

Because of the limitations on using the existing CMP transmission ROW, the inability to acquire rights from the owner of Lots 16-32 and 16-37, and MDOT's restrictions on locating public utilities longitudinally in public ROWs Route, Option 4 was the selected alternative to connect to the Parkman substation.

DWA Vegetation Management and Construction Methods

Because complete avoidance of impacts to DWA #084033 was not possible through micro-siting, extensive efforts to minimize disturbance have been addressed by the applicant through vegetation management and construction methods. During initial clearing activity prior to construction of the generator lead, only those trees capable of growing to a height within 15 feet from a conductor within the next 3 to 4 years will be topped or removed. Topping of trees is the preferred method of vegetation

maintenance, unless the tree is dead or dying, in which case topping will leave insufficient vegetation to sustain the tree. No other vegetation, other than dead or danger trees, will be removed unless necessary for construction access, pole placement, and temporary bridge crossings. Removal of capable species will be by hand-cutting or with low ground pressure tree harvesting equipment working from inside the DWA. Mats will be used as necessary to prevent excessive rutting. In addition, no refueling or maintenance of equipment, including chain saws, will be performed within the DWA.

Particular efforts will be made to retain softwood species, especially near the pole locations, as these species are the primary components of a functioning DWA. As described above, the maximum height of vegetation within the ROW is a function of conductor height. The conductors are at their highest closest to a structure, and they are at a low point midway between structures. Accordingly, the applicant will selectively clear deciduous, capable species near the utility poles within the DWAs, retaining the conifers and allowing for higher coniferous cover within 50 feet of each pole location in these areas. The minimal and selective clearing around the pole will result in taller coniferous vegetation surrounding each pole location with the intent of maintaining a winter travel corridor for deer across the cleared ROW and providing additional winter forage. Particular attention will be paid to maintaining the coniferous vegetation where the DWA intersects with Route 150. These travel corridors will allow deer to cross the cleared ROWs with greater ease and minimize impacts to the species during deep snow conditions. Note that an approximately 16-foot-wide access way will need to be entirely cleared near each structure to allow for construction but will be allowed to revegetate following construction.


The vegetation maintenance procedures and restrictions within mapped DWAs will be the same as those that apply during initial clearing. Maintenance procedures will aim to establish coniferous corridors around each pole location within the DWAs. Exhibit 10A of the application details the maintenance practices that will be implemented within the DWAs.

Summary

As detailed in the project application and summarized above, multiple alternatives and options for the project's electrical generator lead were investigated. The selection of the final alternative was based upon project need, minimization of environmental impacts, landowner considerations, and state regulations. The project has demonstrated avoidance and minimization of impacts to the greatest extent possible. Although the selected alternative will impact DWA #084033, efforts will be made through vegetation management and construction methods to minimize impacts to this habitat and to the extent practicable to maintain its current function. This route also utilizes an existing CMP ROW easement. In addition, mitigation is being proposed to compensate for the unavoidable impacts to DWA habitat.

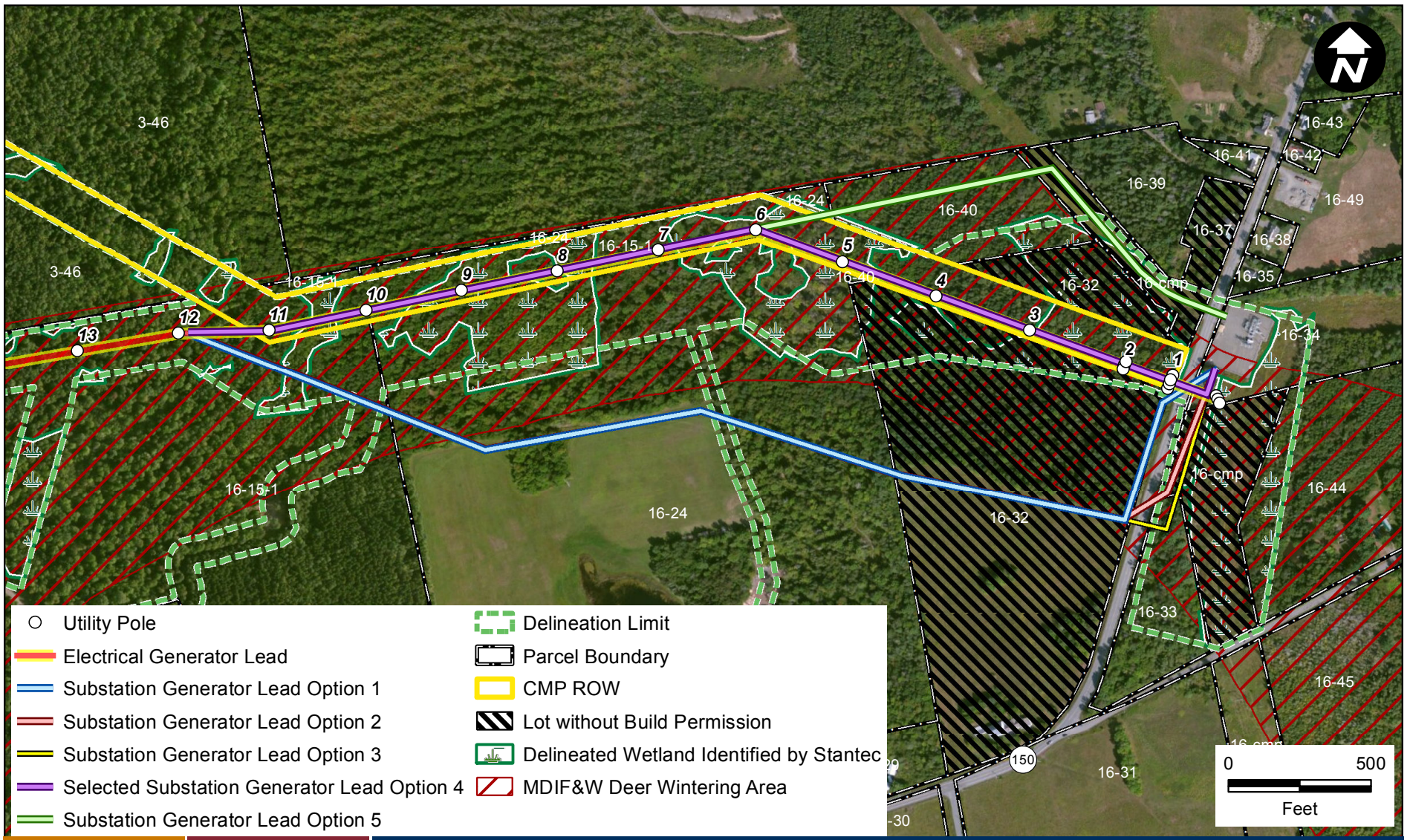
I trust this document provides evidence of the applicant's commitment to avoidance and minimization of impacts to DWA #084033. Please do not hesitate call me with questions on this provided information.

Sincerely,
STANTEC CONSULTING



Dale F. Knapp
Director, Water Resources Division

CC: Charles Todd, Maine Department of Inland Fisheries and Wildlife
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Client/Project

Bingham Wind Project

Figure No.

1

Title

**Electrical Generator Lead Parkman
Substation Connection Alternatives**

7/10/2013