

STORMWATER

A. REVIEW CRITERIA

12 MRSA §685-B (*and 10.24 of the Commission's Land Use Districts and Standards*)

4. **Criteria for approval.** In approving applications submitted to it pursuant to this section, the commission may impose such reasonable terms and conditions as the commission may consider appropriate.

The commission may not approve an application, unless:

- A. Adequate technical and financial provision has been made for complying with the requirements of the State's air and water pollution control and other environmental laws, and those standards and regulations adopted with respect thereto, including without limitation the minimum lot size laws, sections 4807 to 4807-G, the site location of development laws, Title 38, sections 481 to 490, and the natural resource protection laws, Title 38, sections 480-A to 480-Z, and adequate provision has been made for solid waste and sewage disposal, for controlling of offensive odors and for the securing and maintenance of sufficient healthful water supplies;
- B. Adequate provision has been made for loading, parking and circulation of land, air and water traffic, in, on and from the site, and for assurance that the proposal will not cause congestion or unsafe conditions with respect to existing or proposed transportation arteries or methods;
- C. Adequate provision has been made for fitting the proposal harmoniously into the existing natural environment in order to ensure there will be no undue adverse effect on existing uses, scenic character, and natural and historic resources in the area likely to be affected by the proposal;
- D. The proposal will not cause unreasonable soil erosion or reduction in the capacity of the land to absorb and hold water and suitable soils are available for a sewage disposal system if sewage is to be disposed on-site;
- E. The proposal is otherwise in conformance with this chapter and the regulations, standards and plans adopted pursuant thereto; and

The burden is upon the applicant to demonstrate by substantial evidence that the criteria for approval are satisfied, and that the public's health, safety and general welfare will be adequately protected. Except as otherwise provided in Title 35-A, section 3454, the commission shall permit the applicant and other parties to provide evidence on the economic benefits of the proposal as well as the impact of the proposal on energy resources.

Chapter 10: Land Use Districts and Standards:

10.25 G. SOIL SUITABILITY

The standards set forth below must be met for all subdivisions and commercial, industrial and other non-residential development.

1. Soil types shall be determined by a site-specific soil survey, according to the "Guidelines for Maine Certified Soil Scientists for Soil Identification and Mapping" (Maine Association of Professional Soil Scientists, 2004). The soil survey class shall be determined as follows, unless the Commission finds that a lower or higher intensity soil survey class is needed:
 - a. For level 1 subdivisions, a Class A high intensity soil survey shall be used to identify soils within the proposed building envelopes, driveway locations and other disturbed areas. A Class B soil survey may be used to identify soils elsewhere within the project area.
 - b. For level 2 subdivisions, a Class B high intensity soil survey shall be used to identify soils within the proposed building envelopes, driveway locations and other disturbed areas. A Class C soil survey may be used to identify soils elsewhere within the project area.
 - c. For new commercial, industrial and other non-residential development, a Class A high intensity soil survey shall be used to identify soils within any proposed disturbed area. A Class C soil survey may be used to identify soils elsewhere within the project area.

The Commission may waive one or more of the provisions of a Class A or B high intensity soil survey, including but not limited to the contour mapping requirement, where such provision is considered by the Commission unnecessary for its review.

2. Determination of soil suitability shall be based on the Natural Resources Conservation Service's soils potential ratings for low density development. Soils with a low or very low development potential rating shall not be developed unless the Commission determines that adequate corrective measures will be used to overcome those limitations that resulted in a low or very low rating.
3. At least two test pits shall be dug within the boundaries of each subdivision lot proposed to be served by a combined septic system. At least one test pit shall be dug within the boundaries of each lot proposed to be served by a primitive septic system. The location of such test pits shall be shown on the subdivision plat.

10.25 K. SURFACE WATER QUALITY

1. A development, or reasonably foreseeable consequences of a development, shall not directly discharge any water pollutants to a surface water body which cause the surface water body to fail to meet its state classification (38 M.R.S.A. §464 et seq.); which impart toxicity and cause a surface water body to be unsuitable for the existing and designated uses of the water body; or which otherwise would result in a violation of state or federal water quality laws.
2. Appropriate best management practices of point and nonpoint sources of water pollutants shall be utilized, unless the Commission determines that alternative specifications will meet the needs of the activity and will cause no undue adverse impact to the surface water quality of the affected surface water body.

10. 25 L. PHOSPHORUS CONTROL**1. The standards set forth below must be met for:**

- a.** Subdivisions located within the direct watershed of a body of standing water 10 acres or greater in size; and
- b.** Commercial, industrial or other non-residential development that creates a disturbed area of one acre or more within the direct watershed of a body of standing water 10 acres or greater in size.

2. General Standards.

- a.** Provision shall be made to limit the export of phosphorus from the site following completion of the development or subdivision so that the project will not exceed the allowable per-acre phosphorus allocation for the water body, determined by the Commission according to "Phosphorus Control in Lake Watersheds: A Technical Guide to Evaluating New Development" (Maine Department of Environmental Protection, 2008), and hereafter cited as the Phosphorus Control Guide.
- b.** The phosphorus impact of a proposed subdivision or development on a water body shall be calculated using the Standard Method for Calculating Phosphorus Export, according to the procedures in the Phosphorus Control Guide.

3. Design and Maintenance Standards.

- a.** Phosphorus control measures and their maintenance shall meet the design criteria contained in the Phosphorus Control Guide.
- b.** High maintenance structural measures, such as wet ponds and runoff infiltration systems, shall not be used unless:
 - (1) Other measures, such as increasing the width of vegetated buffers, greater limits on clearing, reducing road lengths, and clustering of lots to achieve less disturbed area are clearly demonstrated to be insufficient to allow the proposed subdivision to meet the standards of this section; and
 - (2) The Commission finds that the applicant has the technical and financial capabilities to properly design, construct, and provide for the long-term inspection and maintenance of the facility in accordance with the procedures in the Phosphorus Control Guide.

10.25 M. EROSION AND SEDIMENTATION CONTROL

The standards set forth below must be met for all development that involves filling, grading, excavation or other similar activities which result in unstabilized soil conditions.

1. General Standards.

- a. Soil disturbance shall be kept to a practicable minimum. Development shall be accomplished in such a manner that the smallest area of soil is exposed for the shortest amount of time possible. Operations that result in soil disturbance shall be avoided or minimized in sensitive areas such as slopes exceeding 15% and areas that drain directly into water bodies, drainage systems, water crossings, or wetlands. If soil disturbance is unavoidable, it shall occur only if best management practices or other soil stabilization practices equally effective in overcoming the limitations of the site are implemented.
- b. Whenever sedimentation is caused by stripping of vegetation, regrading, or other construction-related activities, sediment shall be removed from runoff water before it leaves the site so that sediment does not enter water bodies, drainage systems, water crossings, wetlands, or adjacent properties.
- c. Soil disturbance shall be avoided or minimized when the ground is frozen or saturated. If soil disturbance during such times is unavoidable, additional measures shall be implemented to effectively stabilize disturbed areas, in accordance with an approved erosion and sedimentation control plan.

2. Design Standards.

- a. Permanent and temporary erosion and sedimentation control measures shall meet the standards and specifications of the "Maine Erosion and Sediment Control BMP's" (Maine Department of Environmental Protection, March 2003) or other equally effective practices. Areas of disturbed soil shall be stabilized according to the "Guidelines for Vegetative Stabilization" (Appendix B of this chapter) or by alternative measures that are equally effective in stabilizing disturbed areas.
- b. Clearing and construction activities, except those necessary to establish sedimentation control devices, shall not begin until all sedimentation control devices have been installed and stabilized.
- c. Existing catch basins and culverts on or adjacent to the site shall be protected from sediment by the use of hay bale check dams, silt fences or other effective sedimentation control measures.
- d. If streams will be crossed, special measures shall be undertaken to protect the stream, as set forth in Section 10.27, D.
- e. Topsoil shall not be removed from the site except for that necessary for the construction of roads, parking areas, building excavations and other construction-related activities. Topsoil shall be stockpiled at least 100 feet from any water body.

- f.** Effective, temporary stabilization of all disturbed and stockpiled soil shall be completed at the end of each workday.
- g.** Permanent soil stabilization shall be completed within one week of inactivity or completion of construction.
- h.** All temporary sedimentation and erosion control measures shall be removed after construction activity has ceased and a cover of healthy vegetation has established itself or other appropriate permanent control measures have been implemented.

3. Erosion and Sedimentation Control Plan.

- a.** For development that occurs when the ground is frozen or saturated or that creates a disturbed area of one acre or more, the applicant must submit an erosion and sedimentation control plan for Commission approval in accordance with the requirements of Section 10.25,M,3,b,(2).
- b.** A Commission approved erosion and sedimentation control plan in conformance with these standards shall be implemented throughout the course of the project, including site preparation, construction, cleanup, and final site stabilization. The erosion and sedimentation control plan shall include the following:
 - (1) For activities that create a disturbed area of less than one acre:
 - (a) A drawing illustrating general land cover, general slope and other important natural features such as drainage ditches and water bodies.
 - (b) A sequence of construction of the development site, including clearing, grading, construction, and landscaping.
 - (c) A general description of all temporary and permanent control measures.
 - (d) Provisions for the continued maintenance of all control devices or measures.
 - (2) For activities that create a disturbed area of one acre or more:
 - (a) A site plan identifying vegetation type and location, slopes, and other natural features such as streams, gullies, berms, and drainage ditches. Depending on the type of disturbance and the size and location of the disturbed area, the Commission may require a high intensity soil survey covering all or portions of the disturbed area.
 - (b) A sequence of construction of the development site, including stripping and clearing; rough grading; construction of utilities, infrastructure, and buildings; and final grading and landscaping. Sequencing shall identify the expected date on which clearing will begin, the estimated duration of exposure of cleared areas, areas of clearing, installation of temporary erosion and sediment control measures, and establishment of permanent vegetation.

- (c) A detailed description of all temporary and permanent erosion and sedimentation control measures, including, without limitation, seeding mixtures and rates, types of sod, method of seedbed preparation, expected seeding dates, type and rate of lime and fertilizer application, and kind and quantity of mulching for both temporary and permanent vegetative control measures.
- (d) Provisions for the continued maintenance and inspection of erosion and sedimentation control devices or measures, including estimates of the cost of maintenance and plans for meeting those expenses, and inspection schedules.

4. Inspection.

- a.** For subdivisions and commercial, industrial or other non-residential development that occurs when the ground is frozen or saturated or that creates a disturbed area of one acre or more, provision shall be made for the inspection of project facilities, in accordance with Section 10.25,M,4,a,(1) or (2) below:
 - (1) The applicant shall hire a contractor certified in erosion control practices by the Maine Department of Environmental Protection to install all control measures and conduct follow-up inspections; or
 - (2) The applicant shall hire a Maine Registered Professional Engineer to conduct follow-up inspections.
- b.** The purpose of such inspections shall be to determine the effectiveness of the erosion and sedimentation control plan and the need for additional control measures.
- c.** Inspections shall be conducted in accordance with a Commission approved erosion and sedimentation control plan and the following requirements.
 - (1) Inspections shall be conducted at least once a week and after each rainfall event accumulating more than ½ inch of precipitation, until all permanent control measures have been effectively implemented. Inspections shall also be conducted (a) at the start of construction or land-disturbing activity, (b) during the installation of sedimentation and erosion control measures, and (c) at the completion of final grading or close of the construction season.
 - (2) All inspections shall be documented in writing and made available to the Commission upon request. Such documentation shall be retained by the applicant for at least six months after all permanent control measures have been effectively implemented.
- d.** Notwithstanding Section 10.25,M,4,a, development may be exempt from inspection if the Commission finds that an alternative, equally effective method will be used to determine the overall effectiveness of the erosion and sedimentation control measures.

B. LIST OF KEY EVIDENCE

- Development Application DP4886; Narrative Section 6, 11, 16,14, 19, 20 and Exhibits 5A&B, 6, 7B&C, 11A&B, 12A, 16A&B, 20
- Applicant Testimony & Correspondence: Pre-filed and public hearing testimony and rebuttals
- DEP & State Soil Scientist Agency Review Comments, Correspondence, and hearing testimony
- Intervenor CCRHC Testimony: Pre-filed and public hearing testimony and rebuttals
- BSE - Applicant rebuttals to Intervenors and Public Comments
- Intervenor CCRHC rebuttal to pre-filed testimony
- Applicant BSE Final Brief
- Intervenor CCRHC Final Brief

C. STORMWATER ISSUES

Issue Summary:

The major site specific consideration on the Bull and Heifer Hills' ridges is the seasonal high water table resulting from restrictive soils layers and hydric soils that create numerous wetlands. The project is designed to avoid all wetland impacts, however the high water table also means that care must be taken during construction so as to minimize soil disturbance caused by equipment, stabilize disturbed soils to prevent erosion, employ dewatering techniques when pouring concrete footings, and minimize the impact of run-off caused by the presence of the installed turbines (both surface flow and subsurface footing drainage).

The final stormwater plan for this project is based upon input from the applicant, LURC staff, DEP engineers, the State Soils Scientist, and intervenor comments. The result of this review that included multiple agencies is a plan for construction and on-going maintenance of the project that minimizes impacts to stormwater quality and controls stormwater quantity. This plan incorporates:

- Typical Best Management Practices (BMPs) for Erosion & Sedimentation Control.
- De-watering techniques for specific construction practices that will handle the seasonally high water table.
- Road and turbine pad construction techniques that have been developed by the State Soil Scientist involving subsurface drainage measures such as the "rock sandwich", etc.
- On-site responsive construction measures, which have been commonly referred to as the 'Tool Box' approach, are available for use if needed but not anticipated for the Bull Hill project area because of the non-mountainous landscape. Any use of such measures would require Third-party Inspector approval.
- Qualified third Party Inspectors and Construction Engineers & foremen that have been advised of the requirements for reporting, authorized site work, and the thresholds for LURC notification or project amendment.
- Construction engineering plans used on-site that include the BMP's and typical and site specific details for the erosion and sedimentation control measures.
- A Spill Prevention Control and Containment Plan written for project construction and operations.

Staff summary of application narratives & correspondence:

Stormwater Plan Purpose

The construction of gravel roads, tower foundations, turbine pads, and an O&M building may create stormwater runoff in excess of what the project area presently generates. It is important to mitigate this increase in stormwater runoff to prevent erosion or damage to down gradient ecosystems. In general, the stormwater control plan is designed to minimize the concentration of stormwater flows off the project.

Stormwater Plan Components

The primary components of the plan include minimizing the permanently altered areas of the project site, and incorporating appropriate BMP's in the project design by use of:

- Appropriate stormwater management BMP's such as culverts with outlet protection and level spreaders.
- "Rock sandwich" road design, which allows water to flow unimpeded from up-gradient to down gradient under the road via a layer of coarse rock that allows a distributed flow instead of the concentrated flow typical of a ditch and culvert system, minimizing erosion potential.
- "Rock sandwich" road construction will be used as appropriate in areas where there are groundwater seeps or other hydrologic conditions that warrant their application.
- Culverts also will be installed as a back-up measure in the event that the rock sandwich areas clog or are obstructed by ice and snow.
- Culvert outlets will be protected by rip-rap aprons and level spreaders to dissipate concentrated flows.
- Third-Party Inspectors will be used during construction and to inspect clearing activities to assure conformance with construction BMP's and specified Erosion & Sedimentation Control measures, and as well as the application of the 'Tool Box' measures, if needed.

Phosphorus Control

- The applicant's design and layout for this project will adequately treat the stormwater runoff such that the project will meet the Phosphorus allocation standards.
- Phosphorus loading was analyzed using MDEP guidance documents, which assigned a phosphorus runoff coefficient of 1.75 pounds/acre/year for linear portions of the project, *i.e.* gravel or blast rock roadways. The Phosphorus calculations are included in Exhibit 11-B of the application.
- Treatment of Phosphorus will be accomplished by the use of extensive forested roadside buffering, ditch turnouts and stone-bermed level lip spreaders.

Third-Party Inspectors

Third-party inspectors are required by LURC on projects like the wind energy facilities to monitor compliance with permit conditions during construction of the project. Having details on the plans, like the Erosion and Sedimentation (E&S) Control Plan, and BMPs reviewed for specific site conditions like high seasonal groundwater, allow for efficiency and minimize environmental impact. Inspectors are qualified engineers suggested by the developer and approved by LURC that make scheduled site visits and monitor site conditions. Responsibilities include activities such as keeping a log of inspections, making field decisions for allowable changes, notifying LURC of the need for any significant alterations to the plan, filing monitoring reports, and keeping in close communication with the contractor and company engineers. The

inspector continues to monitor the E&S measures in place in the project area for one-year after construction to ensure proper site stabilization.

Stormwater Buffers

Buffers around the project development areas have been designed to minimize construction-related impacts to protected resources (*i.e.*, wetlands, streams, etc), with some minimum encroachment to these buffers required as part of the project.

- These buffers include general stormwater buffers, wetland and stream buffers, and Significant Vernal Pool buffers.
- Three measures for the use of stormwater buffers are proposed for this project:
 - 1) Maintain forested buffers in areas adjacent to the downhill side of the road, in which the runoff from the road will sheet directly into a buffer.
 - 2) Ditch turn-outs to divert ditch runoff to a 20-foot-wide level spreader, and then distributed to the buffer.
 - 3) Runoff is diverted to a stone bermed level lip spreader and distributed into the buffer. The level lip spreaders were sized according to BMP's.
- The project also incorporates 75-foot-wide forested buffers around delineated wetlands and streams within the project area, where practical.
- The MDEP's Natural Resource Protection Act (NRPA) standards serve as guidelines for the 100 foot and 250 foot setbacks, which serve as buffers to Significant Vernal Pools, allowing a percentage of the buffer area to be cleared.
- See the project plans, in Exhibit 1-A of the application, for stream and wetland locations in relation to the project components.

Summary Table of Project Clearing

| Table 1. Cleared Acreage for Bull Hill Wind Project | | |
|--|-------------------------------|---|
| Cleared Acreage | | |
| 19 Turbine Pads | 27.4 Acres | Total Clearing = Turbine pads and grading |
| Temporary clearing | 22.1 Acres | |
| Permanent clearing | 5.3 Acres | |
| New Crane Path Segments | 40.5 Acres | Total Clearing = Roadway, ditching, and grading |
| Temporary clearing | 23.5 Acres | |
| Permanent clearing | 17.0 Acres | |
| New Access Roads | | |
| Permanent clearing | 1.3 Acres | |
| Existing Roads, Widening | 0.2 Acres | |
| Temporary clearing | | |
| Lay down areas | | |
| Temporary clearing | 9.6 Acres | |
| Met Towers | | |
| Permanent clearing | 13.3 Acres | |
| Collector line corridor | | |
| Permanent clearing | 0.5 Acres | |
| | Temporary Clearing | 55.4 Acres |
| | Permanent Clearing | 37.4 Acres |
| | Total Project Clearing | 92.8 Acres |

SELECTED REVIEW COMMENTS:**DEP Engineer David Waddell:**Final Review Statement by Mr. Waddell 5/5/11 Memo to LURC:

'I have reviewed the additional information that was submitted by the applicant in response to my memo of 3/9/11. I have found that this response has addressed all of my concerns with this project at this time and that the project appears to meet the standards set forth in the Chapter 500 rules. I recommend approval of the project in its current form.'

3/9/11 Review comments from DEP Dave Waddell to LURC (summarized):

- All areas of instability and erosion must be repaired immediately during construction and need to be maintained until the site is fully stabilized or vegetation is established. Approval of this plan does not authorize discharges from the site. In addition, other measures may be necessary for winter construction.
- The applicant will retain the services of an approved site inspector to 1) inspect the erosion and sedimentation controls (E&S) during weekly visits to the site, 2) inspect site E&S measures from initial ground disturbance to final stabilization, 3) interpret the E&S plans and notes for the contractor, 4) notify the department in writing within 14 days of final stabilization after construction, 5) keep a log.
- Any changes in layout, grading, stormwater system, impervious area, or other changes that affect the stormwater quality must to be identified and the applicant must address how these changes have been treated and meet the general standard. Significant changes in the proposed project may trigger the need for review and approval by the Commission.
- The applicant and contractor will be responsible for the maintenance of all proposed stormwater management structures, i.e. ponds, swales, culverts and discharge outlets during construction. Thereafter, stormwater management structures should be cleaned of debris yearly at a minimum.

Maine State Soils Scientist David Rocque:

State Soil Scientist Dave Rocque spent considerable time reviewing the project construction engineering drawings and conferring with the Sewall engineers to modify the applicant's plans to meet stormwater criteria. The applicant incorporated Mr. Rocque's recommendations particularly on the typical details drawings and the dewatering measures added to the construction drawings. Dewatering measures apply to the water pumped out of the foundation holes during excavation, containing it on site for timed release and filtering it for sedimentation in order to protect nearby natural resources. Many of the 'tool box' construction techniques, such as the 'rock sandwich' used in road base construction as an alternative to culverts, was developed from his experience with the higher elevation mountainous wind projects. Bull Hill's landscape is lower, with terraced gentler slopes in the project area and will not require numerous 'tool box' construction on-site applications. LURC and Mr. Rocque have clarified with the applicant when to employ these techniques and the role of the third-party inspector in approving its design and implementation.

DEP Division of Environmental Assessment - John Hopeck:

John Hopeck reviewed the blasting plan and made some permitting suggestions on notifications and alerts. He also reviewed the suggestions by LURC staff on the Spill Prevention Containment and Control Plan, and provided assistance to the applicant with respect to developing a plan that meets the State law and industry standards. There were no adverse comments in reference to the O&M building subsurface wastewater disposal system, which was also approved by the DHHS Division of Health and Engineering.

The following is his comment on the acidic rock at the Bull Hill site:

'As noted in the application, the area of proposed construction is largely underlain by granite and other rocks of similar composition, so that the risk of encountering acid-generating rock is minimal. While no additional testing or other measures for assessment of this potential risk is required at this time, the applicant should be aware that unexpected rock types may be encountered, and the applicant should be able to recognize rocks with the potential for acid generation and respond properly in that event.'

CCRHC Intervenor Consultant Nancy O'Toole:

Excerpt from O'Toole pre-filed testimony:

'The applicant states there will be no impact to wetlands and vernal pools. Experience with other similar projects leads one to question the accuracy of that statement. It is necessary to address potential secondary impacts of draining water from the "perched" aquifers that will be penetrated or breached by the cuts called for at many turns and a few of the turbine pads themselves.'

'Soils in the area have a perched water table, or mini aquifer, which is formed above an impermeable clay or rock layer, separating it from its main groundwater table below. The layer can be deep or shallow, local or span out extensively. A perched water table can weaken the soil, making it unsuitable for certain development or at least require extensive engineering controls for drainage and maintenance during heavy storms or spring melt.'

'Building pads and roads that can support turbines and 90 to 100 ton trucks is difficult. Unstable soils can compound the problem, and because of the perched water table and these mini aquifers the drainage required to achieve soil stability will be significant. All of the necessary engineering, the cuts, fills, drainage works, and the pads and roads themselves will certainly result in significant changes to these wetlands.'

Excerpt from O'Toole rebuttal to pre-filed testimony:

'Buffer areas are zones between a roadway and the landscape below. This zone is designated either limited disturbance or no disturbance and are protected by deed restrictions or agreements. General Forest use means that the land must be maintained in with a majority forest cover with undisturbed soil, duff layer and ground cover vegetation, and understory vegetation.'

'The applicant submitted a Bull Hill Forested Buffer Restriction Plan that ignores the current condition of the zone immediately beside the existing road. The land adjacent to the existing road has been and is currently being logged. The structure of the soils has been completely disturbed and disrupted, in places it has been torn and ground into nothing more than rocks and a bit of mud. It is also saturated throughout the proposed forested buffer zone. (Stated by applicant in BSE_Knapp, Barnes Pre-filed testimony_DP 4866, page 10 of 28).'

Excerpt from BSE rebuttal of pre-filed testimony:

Sewall's Engineer Hart states 'Finally, the entire Project has been designed to protect against erosion and sedimentation from stormwater runoff. Erosion and sedimentation controls, per Maine DEP's Best Management Practices (BMP's), have been incorporated throughout the design to guard against negative impacts to these watersheds. This is in contrast to the minimal erosion control measures required for typical forestry activities that occur within these watersheds and throughout the State.'

'Sewall has provided civil engineering design services for several wind projects including Stetson I & II, Mars Hill, Bowers, Rollins, Kibby, and Record Hill. In our opinion, the steps taken to reduce overall impacts from this Project such as utilization of existing roadways, avoidance of impacts to protected natural resources, site specific erosion and sedimentation control measures, stormwater treatment measures, stormwater buffers, and proximity to the existing electrical infrastructure results in a project that provides for an efficient design while respecting and protecting the natural resources.'

Excerpt from BSE Post-hearing Brief:

Construction of the Project will include specific techniques and mitigation measures, proven at other projects and reviewed by state agencies, to ensure that construction will not result in any undue adverse effect to surface or groundwater supplies.

The Project will largely utilize existing permanent logging roads for access and is located immediately adjacent to an existing Bangor Hydro transmission line.⁴¹ In addition, the collector line will be located within the footprint of the existing and proposed roadways.⁴² This use of existing access ways, transmission lines, and co-location of Project components will substantially reduce the footprint of the Project and will minimize stormwater impacts, both during construction and operation.

C. ANALYSIS AND RECOMMENDATION

Blue Sky East LLC's application narrative and exhibits, amended construction plan sheets with both typical details sheets and modification for site specific measures, applicant correspondence that affirms the recommendations of the DEP and State Soil Scientist, and final concurring review comments by the review agencies provides adequate information to allow the Commission to make a determination as to whether the proposal meets the applicable standards for stormwater management.

With regard to Ms. O'Toole's concerns about buffers, the stormwater buffer locations and sizing indicated on the construction engineering plans have been reviewed and approved by the DEP as adequate. Details of that review included a discussion that wind energy projects with wide crane paths require a wider buffer area increased from 35 feet to 55 feet for a single lane, and 55 feet to 85 feet for a double lane path. Mr. Waddell's review also noted that Sewall Co. over-sized the buffer areas by not crediting the existing impervious road areas being re-used by the wind project in its calculations. Sewall Co. engineers explained that this was intentional to create a conservative analysis. LURC permit conditions and established DEP requirements for third-party engineering construction oversight set the standard for monitoring site conditions and implementation of stormwater protection measures. The inspectors review buffer conditions in the field, assessment of the engineering designs, adaptive decisions made on site, and oversight of adjacent construction activity all contribute to maximize the benefit of buffers as a stormwater treatment measure.

The DEP requires deed restrictions for the various stormwater buffers and has options advocating for 'limited disturbance' or 'no disturbance' in buffer areas. Buffers allowing general forest use would allow 40% logging during a ten-year period. Buffer areas recently logged would not reasonably be expected to be logged and thereby inactivity would contribute to reestablishing an undisturbed buffer in areas that have been recently logged. LURC staff is suggesting conditions be crafted that make sure project resource and stormwater buffer locations and restrictive conditions not only are registered as termed easements or deed restrictions of the project area on the parcel but are incorporated into any forest management plans for the lot as well.

LURC Staff recommends that based on the BSE application, revised plans, testimony and submittals the proposed project will not cause unreasonable soil erosion or resources impacts and will meet the applicable standards in LURC's Chapter 10 Rules for stormwater issues. Therefore appropriate conditions can be included in a permit, if granted, to ensure compliance with LURC's standards and the final stormwater management plant submitted by the applicant.