



STATE OF MAINE  
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY  
LAND USE PLANNING COMMISSION  
191 MAIN STREET  
EAST MILLINOCKET, MAINE 04430

PAUL RICHARD LEPAGE  
GOVERNOR

WALTER E. WHITCOMB  
COMMISSIONER

# PERMIT

## DEVELOPMENT PERMIT DP 4991

The staff of the Maine Land Use Planning Commission, after reviewing the application and supporting documents submitted by Bay Communications II, LLC for Development Permit DP 4991, finds the following facts:

1. Applicant: Bay Communications II, LLC  
Attn: Mark Cook  
391 Oakland Street, 2nd Floor  
Mansfield, MA 02048
2. Date of Completed Application: January 7, 2016
3. Location of Proposal: T2 R6 WELS (Herseytown), Penobscot County  
Taxation Map PE004, Plan 01, Lot 31 (part of)  
Cell Tower Coordinates: 45° 46' 23.4" N; 068° 26' 02.6" W
4. Zoning: (M-GN) General Management Subdistrict
5. Lot Size: 1.01 acres (lease)
6. Proposed Structures: Approximately 195' AGL (199' including antennas) tall, self-supporting lattice telecommunications tower with a 6 ft. by 12 ft. by 8 ft. modular platform for equipment cabinets.

### Project Details

7. The applicant, Bay Communications II, LLC proposes to develop their 1.01 acre lease lot in T2 R6 WELS (Herseytown Township) with an approximately 195 foot AGL (199 foot including antennas) tall, self-supporting lattice telecommunications tower with a 6 foot by 12 foot by 8 foot platform for equipment cabinets and provisions for future equipment platforms and shelters within a 100 foot x 100 foot fenced area. The proposed tower would be located within the center of the 210 foot x 210 foot leased area. The tower base would be located more than 380 feet from the closest private access way, over 625 feet from the nearest public roadway, and at least 800 feet from property lines.
8. *Location, Access and Parking.* The 1.01 acre lease is located within the 22.95 acre parcel owned by Randy L. and Sheila D. Hosford. The land surrounding the leased area is partially cleared field and partially wooded with mature tree canopy. The proposed telecommunications facility would be accessed via a proposed 12 foot wide by 330 foot wide driveway extending from the existing private access roadway. Parking would be limited to one proposed 18 foot by 40 foot parking area located at least 370 feet from the private road and at least 800 feet from property lines.

9. *Public Utilities.* The proposed tower facility would be served by an electrical service drop approximately 300 feet in length along the proposed access right of way.
10. *Soil Suitability.* A soils report was prepared by David Marceau, CSS of Gartley & Dorsky Engineering & Surveying, Inc. on July 30, 2015. The soils at the project site have been characterized as loamy textured soils derived from dense basal till. Drainage ranges from moderately well drained to well drained. The moderately well drained Winnecook series occurred in the middle and lower part of the landscape, while the well drained Winnecook series occurred in the highest portion of the area mapped. The report notes that seasonally high water table is approximately 16 to 24 inches.
11. *Tower Aesthetics and Visibility.* The applicant's site selection process considered utilizing topography, tree lines, vegetation and distance to create separation and visual buffers from water bodies and other areas that might be visually impacted by the tower. Following consultation with the LUPC and Maine Historic Preservation Commission, EBI Consulting conducted a Visual Impacts Assessment (VIA) on behalf of the applicant. The VIA concluded that visibility of the proposed 199' high lattice-type tower structure would be limited. EBI Consultants used GIS spatial analysis to model the potential view shed of the proposed tower, accounting for elevation, existing vegetation, and land cover. The view shed mapping analysis identified locations within a 5 mile radius of the site that are likely to be impacted. EBI Consultants conducted a balloon test on site, flying balloons at the anticipated height of the proposed tower (199 feet & 189 feet). In pre-identified locations containing significant resources likely to be impacted, high resolution photographs were taken to determine whether or not the balloons were visible. Photo simulations were prepared to predict what the tower may look like from each location at locations where the balloons were visible. The balloons were only visible from the area in the vicinity of the tower site.
12. *Tower Design and Lighting.* The proposed tower would not be lighted and would be neutral in color. The applicant has provided an FAA determination letter dated June 23, 2015 verifying that the proposed tower does not require tower lighting. The proposed construction design is shown on plans prepared by Hudson Design Group, LLC (signed and stamped by Daniel P. Hamm, PE) in 12 sheets, entitled ME0034 Benedicta II.
13. *Co-location.* The applicant has identified a significant gap in the Northeast Wireless network. The proposed height and location of the telecommunication tower is designed to provide adequate coverage across this gap in the wireless network. The applicant analyzed all existing structures and determined there were none that meet the requirements of the Northeast Wireless network at this time. As a result, without the proposed cell tower they would not be able to provide coverage across the significant gap. Other FCC carriers will be allowed to collocate on the proposed tower in the future and the design will accommodate the needs of future carriers at this facility.
14. *Financial and Technical Capacity.* The estimated total cost of the proposed development is \$215,000. The development will be financed by Seaport Capital, an investment partner of Bay Communications II LLC that has committed to invest \$6.5 million in Bay Communications and to date has invested \$5.5 million. Bay Communications has retained Hudson design Group LLC., who has over ten years of experience in the telecommunications industry, for the architectural design and engineering of the project; and environmental consultant, EBI Consulting, Inc, with more than 20 years of experience. The applicant has also hired Lane H. Gray, PLC to conduct the land surveying and David L. Marceau, SSC to perform the soil analysis.

### **Agency Review Comments**

15. After reviewing the proposal, the Maine Department of Inland Fisheries and Wildlife noted that the tower would not be lighted and recommended only that the permittee construct the tower utilizing Guidelines For Minimizing Bird Mortality at Communication Towers, a document prepared by Partners In Flight, Northeast Working Group. A copy of this Document is attached to Development Permit DP 4991 as Attachment A.
16. After reviewing the proposal, the Maine Natural Areas Program commented that there were no rare botanical features that would be disturbed within the project site.
17. After reviewing the proposal, the Maine Historic Preservation Commission concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).
18. After reviewing the proposal, the Maine State Soil Scientist had no objections to the project.

### **Commission Review Criteria**

19. Under the Provisions of Section 10.02, Definition #213 of the Commission's Land Use Districts and Standards, Utility Facilities are structures normally associated with public utilities, including communication facilities; and towers and related equipment.
20. Under the Provisions of Section 10.23, N, 3, c(23) of the Commission's Land Use Districts and Standards, utility facilities may be allowed within a (M-GN) General Management Subdistrict upon issuance of a permit from the Commission pursuant to 12 M.R.S.A §685-B, and subject to the applicable requirement set forth in Sub-Chapter III.
21. Under the provisions of Sub-Chapter III, Section 10.24, C of the Commission's Land Use Districts and Standards, The Commission shall approve no application unless adequate provision has been made for fitting the proposal harmoniously into existing natural environment in order to assure 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. Pursuant to 12 M.R.S.A. §685-B,4,(C), the Commission may not approve an application, unless 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.
22. Under the provisions of Sub-Chapter III, Section 10.25, E, 1 of the Commission's Land Use Districts and Standards; the design of proposed development shall take into account the scenic character of the surrounding area. Structures shall be located, designed and landscaped to minimize their visual impact on the surrounding area, particularly when viewed from existing roadways or shorelines. To the extent practicable, proposed structures and other intrusive development shall be placed in locations least likely to block or interrupt scenic views as seen from traveled ways, water bodies or public property. If a site includes a ridge elevated above the surrounding areas, the design of the development shall preserve the natural character of the ridgeline.
23. Under the provisions of Sub-Chapter III, Section 10.26, A, 2 of the Commission's Land Use Districts and Standards; the minimum lot size required for commercial, industrial, and other non-residential uses involving one or more buildings is 40,000 square feet.

24. Under the provisions of Sub-Chapter III, Section 10.26, D, 2 of the Commission's Land Use Districts and Standards; the minimum setbacks for commercial structures, including parking areas is 75 feet from the traveled portion of the nearest roadway and 25 feet from the side and rear property lines.
25. Under the provisions of Sub-Chapter III, Section 10.26, E of the Commission's Land Use Districts and Standards; the maximum lot coverage shall be 30% for all uses involving one or more buildings. Coverage shall be calculated by determining the percent of the lot covered by all structures including paved driveways, sidewalks, parking lots and other impervious structures.
26. Under the Provisions of Sub-Chapter III, Section 10.26, F of the Commission's Land Use Districts and Standards, for a structure set back at least 500 feet from a great pond, the maximum building height shall be 100 feet for commercial, industrial, and other non-residential uses involving one or more structures. Features of structures which contain no floor area such as chimneys, towers, ventilators and spires, and free standing towers and turbines may exceed the maximum height with the Commission's approval.
27. Visual Impact Analysis: The applicant has provided substantial information with which to evaluate potential visual impacts. Because this is a 199' tower, and because there were potentially sensitive resources in the area, such as water bodies with high cultural and recreational ratings, a 5 mile radius was warranted, but in reviewing viewshed mapping, local information, and field testing, the applicant was able to rule out visibility from sensitive resources. According to the computer simulated viewshed maps and balloon test described in the VIA, the tower would be visible only from limited areas within the 5-mile radius, primarily limited to along the existing land management road and an existing recreational trail in the vicinity of the project site.
28. The facts are otherwise as represented in Development Permit application DP 4991, and supporting documents.

**Based upon the above Findings, the staff concludes that:**

1. In accordance with Sections 10.22, A, 3, c, (23) of the Commission's Land Use Districts and Standards, the proposed telecommunications tower with supporting equipment is an allowed use in an (M-GN) General Management Subdistrict.
2. In accordance with Sections 10.22, A, 3, d (9) of the Commission's Land Use Districts and Standards, the proposed telecommunications tower with supporting equipment is an allowed use by special exception in a (P-WL) Wetland Protection Subdistrict.
3. In accordance with Sub-Chapter III, Section 10.24, 3 and 12 M.R.S.A. §685-B, 4, (C), the erection of the proposed telecommunication tower would not be expected to have an undue adverse effect on existing uses, scenic character and natural and historic resources in the area likely to be affected by the proposal. Specifically:

VIA Materials Submitted

- a. The applicant has provided information with which to evaluate potential visual impacts of a proposed 195 foot tower with antennas extending up to 199 feet. This information includes computer-generated viewshed maps, the balloon test results, simulated photographs of the proposed tower, and local knowledge of the area's recreational destinations. Viewshed mapping

included areas within a 5 mile radius of the proposed tower location and identified areas of possible tower visibility based on topography and vegetation. The applicant submitted the results of balloon visibility testing for all identified potentially affected resources that were accessible within the viewshed map.

#### Efforts to Minimize Visual Impact

- b. Efforts to minimize the potential visual impact of the proposed tower include keeping the tower height below 200' therefore avoiding the need for lighting, locating the tower where it is not visible from sensitive resources, and painting the tower with a matte gray finish that will not reflect light.

#### Streams, Ponds and Lakes

- c. Within the 5 mile radius streams, ponds and lakes were identified as potentially affected resources. The following resources are located within the 5 mile radius: Salmon Stream Lake, Salmon Stream, Little Salmon Stream Lake, Rush Pond, Plunkett Pond, Flinn Pond, and the very southern tip of Davidson Pond. Viewshed mapping indicated that the proposed tower would not be visible from Davidson Pond, Plunkett Pond, or Flinn Pond. Based on an interview of a local resident and on the depths and physical characteristics of the waterbodies, the applicant concludes that, of the waterbodies within a 5 mile radius, only Plunkett Pond is noted for consistent recreational use, with the others tending to be shallow or with thick organic sediment and with limited fisheries resources. The applicant reports that field investigations confirmed that the proposed tower would not be visible from Plunkett Pond.
- d. Of the ponds, streams and lakes identified as potentially having views of the proposed tower, the applicant was only able to access the southernmost shoreline of Rush Pond. The viewshed mapping predicted no tower visibility in the southern part of Rush Pond and this was confirmed by the balloon test. Views from Salmon Stream, Salmon Stream Lake (an inaccessible, undeveloped, management class 7 lake with significant scenic and physical resources), Little Salmon Stream Lake (an inaccessible, undeveloped, management class 7 lake), and Rush Pond (an accessible, undeveloped, management class 7 lake with outstanding wildlife and significant physical resources) are predicted to be impacted by the proposed communications tower.
- e. Salmon Stream, Salmon Stream Lake, Little Salmon Stream Lake, and Rush Pond are located at significant distances from the proposed tower site (~0.6 miles, ~ 4 miles, >1 mile, >2 miles respectively) and near the I-95 corridor. Therefore, the visual impact of the proposed tower on views would be lessened due to intervening distance. Additionally, the proximity of I-95, the associated highway noise, and potential views of the highway mean that any recreational users would not expect a wilderness experience uninterrupted by the presence of infrastructure. For that reason, and because these waterbodies have not been reported by IF&W as home to important recreational fishing use, the proposed tower is unlikely to have undue adverse impacts on recreation.

#### Roadways, Trails, Scenic Areas, Historic Sites, and Village Center

- f. Balloon tests indicate that the tower will not be visible from Benedicta Village, National Register-eligible Grady Farmstead, or from the Info Center and Scenic Area on I-95 northbound. The applicant reports that potential views from snowmobile trail ITS-81 would be minimized by distance, vegetation and topography. The applicant consulted with the Benedicta Now Gang snowmobile club and reported that they had no concerns about the proposed tower. The proposed

tower would be clearly visible from portions of Gantnier Rd, Sweeny Rd. and Town Line Rd., and be minimally visible from Aroostook Rd. These roads are characterized by mixed rural land uses including: residential development, agricultural development, cleared agricultural fields, and timber harvesting. View of the proposed tower would not be unexpected in such a setting.

4. In accordance with Sub-Chapter III, Section 10.25,E,1 of the Commission's Land Use Districts and Standards, the proposed tower has been located and designed to minimize visual impacts from the adjacent roadways, recreational trails, and water bodies located within 5 miles of the project site. The proposed tower is not located on a ridgeline.
5. In accordance with Sub-Chapter III, Section 10.26, A, 2 of the Commission's Land Use Districts and Standards, the proposed lease area is at least 40,000 square feet.
6. In accordance with Sub-Chapter III, Section 10.26, D, 2 of the Commission's Land Use Districts and Standards; the proposed tower, accessory structures and parking area meet the minimum setbacks for commercial structures, including parking areas 75 feet from the traveled portion of the nearest roadway and 25 feet from the side and rear property lines.
7. In accordance with Sub-Chapter III, Section 10.26, E of the Commission's Land Use Districts and Standards; the proposed tower and accessory structures does not exceed the 30% maximum lot coverage.
8. In accordance with Section 10.26,F of the Commission's Land Use Districts and Standards, the telecommunication tower may exceed the Commission's maximum 100 foot height restriction for structures because the proposed structure does not contain floor area, and the proposed height of approximately 195 feet (199 feet with antennas) is necessary for telecommunication coverage.
9. If carried out in compliance with the Conditions below, the proposal will meet the Criteria for Approval, section 685-B(4) of the Commission's Statutes, 12 M.R.S.A.

**Therefore, the staff approves the application of Bay Communications II, LLC with the following Conditions:**

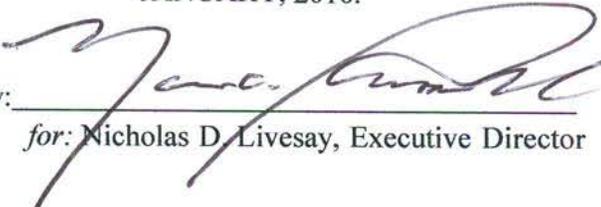
1. ***At least one week prior to commencing the permitted activities**, the permittee or the designated agent must contact the Commission staff and notify them of the estimated date construction work will start. Notice may be provided in writing, in person, by email, or by calling. If you leave or send a message, please include your full name, telephone number, permit number, and the date the work will start.*
2. The enclosed permit certificate must be posted in a visible location on your property immediately after receipt and during development of the site and construction of the structures and activities approved by this permit.
3. Construction activities authorized in this permit must be substantially started within 2 years of the effective date of this permit and substantially completed within 5 years of the effective date of this permit. If such construction activities are not started and completed within this time limitation, this permit shall lapse and no activities shall then occur unless and until a new permit has been granted by the Commission.
4. The permitted tower and associated structures must be centered within the leased lot and, along with the parking area, maintain a minimum set back of at least 50 feet from the access road and at least 25 feet from the leased property boundary lines.

5. Construction activities must be substantially in conformance with the Site Plan prepared by Hudson Design Group, LLC. and last revised on November 20, 2015.
6. The telecommunication tower shall be made available for co-location of other antenna (or compatible systems) in accordance with the design and load capacity of the tower structure.
7. The tower shall be dismantled and removed from the site when the tower is unused for an extended period of time.
8. The tower structure shall be installed and maintained an appropriate color for the structure to best blend with the skyline.
9. With the exception of signage required by the FAA or the FCC, no signage or advertisements shall be installed on the tower above 20 feet from ground elevation.
10. The permittee shall comply with all Federal Aviation Administration (FAA) requirements for the telecommunications tower authorized by this permit.
11. The driveway must be located and constructed so that (a) it will not erode or create any undue restriction or disruption of existing surface water drainage ways and (b) it will divert runoff to a vegetated buffer strip so as to prevent it from directly entering a water body, mapped P-WL1 wetland or roadway.
12. Temporary and permanent sedimentation control measures must be implemented to effectively stabilize all areas of disturbed soil and to catch sediment from runoff water before it leaves the construction site so that sediment does not enter water bodies, drainage systems, water crossings, wetlands or adjacent properties. Clearing and construction activities, except those necessary to establish sedimentation control devices, shall not begin until all erosion and sedimentation control devices (including ditches, culverts, sediment traps, settling basins, hay bales, silt fences, etc.) have been installed and stabilized. Once in place, such devices shall be maintained to ensure proper functioning.
13. Effective, temporary stabilization of all disturbed and stockpiled soil must be completed at the end of each work day. All temporary sedimentation and erosion control devices 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 effectively implemented. Permanent soil stabilization shall be completed within one week of inactivity or completion of construction.
14. Should any significant erosion or sedimentation occur during the construction or maintenance of the facility, including repairs to the access road network, the applicant shall contact the Land Use Planning Commission immediately, notifying it of the problem and describing all proposed corrective measures.
15. All exterior lighting must be located and installed so as to illuminate only the target area to the extent possible. Exterior lighting must not produce a strong, dazzling light or reflection beyond lot lines onto neighboring properties, water bodies, or roadway so as to impair driver vision or to create nuisance conditions.
16. All debris generated as a result of the permitted activities shall be removed from the lot and disposed of in a proper manner, in compliance with applicable state and federal solid waste laws and rules.
17. The scenic character and healthful condition of the area covered under this permit must be maintained. The area must be kept free of litter, trash, junk cars and other vehicles, and any other materials that may constitute a hazardous or nuisance condition.

18. The permittee shall secure and comply with all applicable licenses, permits, authorizations, and requirements of all federal, state, and local agencies including but not limited to: Air and Water Pollution Control Regulations; Subsurface Wastewater Disposal System approval from the Local Plumbing Inspector and/or Maine Department of Health and Human Services, Subsurface Wastewater Program; and the Maine Department of Transportation, Driveway Entrance Permit, a physical E-911 address from your County Commissioner's Office.
19. Upon completion of construction, the permittee shall submit a report from a licensed professional certifying that the cell tower facility has been constructed as approved by the terms and conditions of this permit.

This permit is approved upon the proposal as set forth in the application and supporting documents except as modified in the above stated conditions, and remains valid only if the permittee complies with all of these conditions. Any variation from the application or the conditions of approval is subject to prior Commission review and approval. Any variation undertaken without Commission approval constitutes a violation of Land Use Planning Commission law. In addition, any person aggrieved by this decision of the staff may, within 30 days, request that the Commission review the decision.

DONE AND DATED AT EAST MILLINOCKET, MAINE, THIS TWENTY SECOND DAY OF  
JANUARY, 2016.

By:   
for: Nicholas D. Livesay, Executive Director

ATTACHMENT A

## **COMMUNICATION TOWERS AND MIGRATING BIRDS: Guidelines for Minimizing Bird Mortality at Communication Towers**

*Prepared by*

Partners in Flight, Northeast Working Group

**Background:** The Northeast Working Group of Partners in Flight, a collection of bird conservationists from state and federal agencies and from private conservation organizations, seeks to improve awareness and encourage implementation of simple conservation measures designed to minimize avian mortality at communications facilities across the region. The following guidelines are a summary of a more detailed set of federal guidelines also designed to reduce frequency of birds striking communication towers. We recommend that the guidelines presented below be considered by agency personnel when conducting environmental permit reviews and by municipal officials attempting to balance the need for wireless communication and impacts to the local environment.

### **Statement of Problem:**

- ❖ Millions of songbirds migrate between the northern and southern hemispheres each spring and fall.
- ❖ These birds migrate in broad fronts (i.e., successive waves at the regional scale) not specifically along corridors. However, ridgelines, and waterbodies are important in funneling birds across certain landforms.
- ❖ Most songbirds migrate at night, typically embarking just after dusk and flying a few hundred miles or so before landing again within an hour or so of midnight. They generally feed and rest until the next evening, though short morning “corrections” are not uncommon.
- ❖ Spring migration occurs largely between late April and early June. In fall, however, it stretches from late July through November.
- ❖ Birds navigate largely by orientation of the stars, although many details of migration remain unknown.
- ❖ When birds encounter lighted structures, like tall buildings and communication towers, their nocturnal “navigation system” can become disoriented. This can result in collision with the structure itself or its guy wires.

- ❖ Mortality may be low at individual sites, but can reach catastrophic proportions under certain environmental conditions coupled with some tower designs and the numbers of towers now in place or under construction. Specifically, on foggy nights during migration the effective area lit by a beacon atop a communications tower, for example, is far greater than on clear nights. This results from the reflections of light by water particles in the atmosphere. When birds encounter this “halo” of light, many will not leave its area of influence, continually encircling the tower and often fatally striking the structure.

### Assumptions:

- ❖ Few empirical studies have focused on causes of bird mortality at communication facilities. In 2000, the U. S. Fish & Wildlife Service had a literature review prepared on this topic. That review is available on the World Wide Web at <http://migratorybirds.fws.gov/issues/towers/review.pdf>. The following guidelines draw from these and represent a common sense approach to minimizing bird mortality given our current limited state of knowledge.
- ❖ Some municipalities in the northeastern United States (e.g., Town of Caroline, Tompkins County, New York) have developed ordinances to guide communication tower development. These have addressed potential negative environmental and aesthetic issues as well as benefits to safety, security, and commerce.

### Guidelines:

- ❖ Keep towers under 200 ft whenever possible.
  - This should not require lighting, which is one of the key ingredients for causing bird mortality.
  - Any project proposed at just over 200 ft should be strongly urged to lower maximum height to 199 ft or less.
  - This will result in more towers in some locations, but is an acceptable trade off if towers are not lighted.
- ❖ Lighting considerations:
  - If lights are needed (e.g., structure must be greater than 200' for technical reasons, proximity to an airport, etc.), white strobes with the maximum permissible “off” interval (i.e., time between flashes) appear preferable to pulsating red beacons.
  - Lights at the base of towers (e.g., for security or service purposes) should be pointed downward or down-shielded to minimize upward illumination.
- ❖ Monopole designs are preferred over lattice-type towers.
  - Avoidance of guy wires is preferable, even if it requires a slightly larger footprint for the tower.
- ❖ Siting and design of towers:
  - Always consider co-locating on existing structures (e.g., water towers, power lines or other telecommunication structures) whenever technologically feasible.
  - New towers should be equipped to handle the maximum number of users on the same structure (provided this can be done below 200') which will avoid construction of multiple, single user towers in close proximity.
  - Keep towers off ridgelines to further reduce fatal encounters by migrating birds. This too could result in more towers in some locations, but is an acceptable trade off if towers are not lighted.