

**County of Loudoun**  
**Department of Planning**  
**MEMORANDUM**

**DATE:** October 6, 2009

**TO:** Nicole Steele, Project Manager  
Land Use Review

**FROM:** Pat Giglio, Planner  
Community Planning

**SUBJECT: SPEX 2009-0011, SPEX 2009-0029 and CMPT 2009-0002**  
**Potomac Radio**

**EXECUTIVE SUMMARY**

The applicant, Potomac Radio, LLC, is requesting two Special Exceptions and a Commission Permit to construct an AM Radio Transmitter on 7.5 acre leased area at the Broad Run Water Reclamation Facility owned by Loudoun Water. The subject property is located in the Ashburn Community of the Suburban Policy Area within an area planned for Keynote Employment uses. Plan policies do not support the location of the proposed communication facility within a Keynote Employment Area. Additionally the applicant is seeking a Special Exception to locate the facility within the Broad Run floodplain, which is not supported by Plan policies. Other outstanding visual impact and environmental issues exist with subject site that require further evaluation. Staff requests additional information to explain how the subject site was selected and/or why an alternative location within a planned industrial and/or employment area with more compatible surrounding land uses was not selected as outlined in the Plan.

**BACKGROUND**

The applicant, Potomac Radio, LLC, is requesting two Special Exceptions and a Commission Permit to construct an AM Radio Transmitter within a 7.5-acre leased area owned by Loudoun Water at their Broad Run Water Reclamation Facility. The proposed 7.5 acre lease area is located in the northern portion of the property within the floodplain of the Broad Run and is accessed by an existing private gravel road. The proposed facility will consist of three 195' radio lattice towers (self-supporting lattice towers), a buried wire grounding system, transmitter building, dish antennae and back-up generator. The 340-acre subject property is located in the northeast quadrant of the

intersection of Loudoun County Parkway (Route 607) and future Gloucester Parkway and is bordered to the east by the Broad Run.

The property is currently zoned PD-IP (Planned Development – Industrial Park) and governed under the provisions of the 1972 Zoning Ordinance. The proposed “public utility-communication and transmission use” is permitted within the zoning district by Special Exception. A Special Exception is required to locate the use within the floodplain. A Commission Permit is also required for all public facilities to determine if the general location, character, and extent of the use is in substantial accord with the Comprehensive Plan.

A review of County GIS records indicate that several elements of the County’s Green Infrastructure are present on the subject property and within proximity to the lease area, including historic resources, forested areas and significant stream corridor resources associated with the Broad Run. The property is also located with the Ldn 60 1-mile buffer noise contour of the Washington Dulles International Airport.

### **COMPLIANCE WITH THE COMPREHENSIVE PLAN**

The policies of the Revised General Plan, and the Dulles North Area Management Plan (DNAMP) govern the subject site. Being the newer of the two plans, the Revised General Plan supersedes the DNAMP when there is a policy conflict between the two (Revised General Plan, Chapter 1, Relationship to Other County Planning Documents, text). The subject property is located in the Ashburn Community of the Suburban Policy Area in an area planned for Keynote Employment uses (Revised General Plan, Planned Land Use Map, p. 7-23). The property is also located within the Route 28 Tax District.

The Keynote Employment Policies, Energy and Communication Facilities Policies and Environmental Policies of the Revised General Plan where used to evaluate the application. The policies of the Strategic Land Use Plan for Telecommunications Facilities (Telecommunications Plan) where also applied in the evaluation of the application.

### **ANALYSIS**

#### **A. LAND USE**

The subject site and proposed AM Radio Transmitter are located in an area planned for Keynote Employment uses (Revised General Plan, Chapter 7, Planned Land Use Map). Keynote Employment Centers are defined as large-scale regional office developments that feature high visual quality and high trip-generating uses, including office parks, research and development parks, corporate headquarters, and similar large scale uses that are generally 40,000 gross square feet or greater (Revised General Plan, Chapter 6, Keynote Employment Centers Policies, Policy 1). The proposed AM Radio Transmitter is not the type of use envisioned in a Keynote Employment Area, though staff notes that existing wastewater treatment facility on the subject site is not a

Keynote Employment use either. However, the four-story wastewater treatment facility has been constructed with materials and architectural features that are in keeping with the Plans vision for Keynote Employment uses. The Plan describes Keynote Employment Centers as areas with high visibility along major corridors, feature large scale buildings accented with heavily landscaped greens and tree-lined boulevards, which are designed to communicate a corporate image and reflect the County's growing prominence as a global crossroads for business (Revised General Plan, Chapter 6, Keynote Employment Centers, text). Keynote employment areas will also have some ancillary retail and employment services to support the predominate office use (Revised General Plan, Chapter 6, Keynote Employment Centers Policies, Policy 1). The proposed AM Radio Transmitter does not support the office uses in the area, unlike other uses, such as a telecommunications facility, which provides cellular and data services that enable daily business activities.

Specific guidance pertaining to the location of "commercial public telecommunication facilities", which are similar in design and appearance to the proposed AM Radio Transmitter, is provided within the policies of the Strategic Land Use Plan for Telecommunications Facilities (Telecommunications Plan). The policies of the Telecommunication Plan state that new monopoles and towers should locate within industrial and employment areas, within overhead transmission right-of-ways and on public sites where they are most compatible with the surrounding land uses (*Telecommunications Plan, Countywide Location Policies, text*). The application does not provide any supporting information as to why the subject site was chosen and/or why an alternative site within a planned industrial and/or employment area with more compatible surrounding land uses was not selected. The proposed construction of the AM Radio Transmitter within a Keynote Employment Area is not compatible with existing and future Keynote Employment use planned for the area. Plan policies do not support the location of the proposed communication facility within a Keynote Employment Area.

***Plan policies do not support the location of the proposed communication facility within a Keynote Employment Area. Staff requests additional information to explain how the subject site was selected and/or why an alternative location within a planned industrial and/or employment area with more compatible surrounding land uses was not selected as outlined in the Plan.***

***Should the applicant consider the subject site further evaluation of the visual and environmental impacts of the proposed use are required. These issues are discussed below.***

## **B. DESIGN AND VISUAL IMPACT**

The Telecommunications Plan calls for design standards to mitigate the visual impacts of commercial public telecommunication facilities so as to "blend with the natural and built environment of the surrounding area" (*Telecommunications Plan, Countywide Visual Impacts, Policy 1*). The Plan directs that specific attention be paid to the setting,

color, lighting, topography, materials, and architecture. Antennas and other communication devices should be neutral in color to blend with the background, unless specifically required by the FAA to be painted or lighted otherwise (*Telecommunications Plan, Countywide Visual Impacts, Policy 2*). Accessory structures and equipment buildings should also blend with the surrounding environment through the use of appropriate color, texture of materials, scale, landscaping and visual screening (*Telecommunications Plan, Countywide Visual Impacts, Policy 3*).

The proposed AM Radio Station on the subject site will consist of three (3) 195-foot self-supporting lattice towers with a buried grounding system extending in an overlapping 200 foot radius around each tower. A 20'x25' transmitter building, satellite dishes and auxiliary generator will be located in proximity to the proposed antenna arrays near an existing gravel road that provides access to the site. No information has been provided regarding the coloration or paint scheme of the proposed lattice towers or transmitter building. Staff recommends that the conditions of approval and general plat notes specify the color, texture, and materials of the proposed lattice towers and transmitter building to ensure that the proposed construction blends with the surrounding area. The applicant may wish to consider a paint color or paint scheme for the proposed lattice towers which better blends with the sky to mitigate the visual impact of the proposed structure on the surrounding area.

The application includes drawings and photo-simulations depicting how the three (3) proposed 195' lattice towers will appear from various vantage points surrounding the subject site to illustrate the anticipated visual impact. Based on the submitted photo-simulations and a reconnaissance survey of the area views of the upper portions of the proposed lattice towers above the existing buildings and tree line are anticipated from the north, south and west of the subject site. Views of the proposed lattice towers will be most pronounced from properties to the east where the relatively flat terrain and lack of trees will silhouette the structures on the horizon. It is anticipated that views of the proposed lattice towers from properties to the east along Route 28 will be partially screened by existing forest cover; however future development and the elimination of these forested areas may create new unobstructed sight lines whereby the proposed lattice towers will be visible.

Additionally, it is anticipated that all existing and future multi-story buildings within the vicinity of the subject site (University Center, One Loudoun, Ashby Pond, etc.) will have views of the proposed lattice towers and possibly the ground-mounted facilities depending on their final elevation once constructed. Based on the photo-simulations and a reconnaissance survey of the area, staff anticipates that the proposed lattice towers will be a prominent feature on the landscape and views of the proposed structures will be silhouetted on the horizon from most properties in the vicinity. Staff notes that other tall structures greater than 100' currently exist in the area; which

include the Lerner Building (105'), telecommunication monopoles (185') and high voltage transmission lines comprised of lattice towers and tubular poles (@125'). However, the anticipated visual impact of the three (3) proposed 195' lattice towers on the subject site have the potential of creating a much larger visual impact on the surround area and landscape than the existing individual monopole and tall buildings. Plan policies recommend that the visual impact of commercial public telecommunication facilities be mitigated through appropriate setbacks, screening and design so as to blend with the natural and built environment of the surrounding area (Telecommunication Plan, Countywide Visual Impacts, Policy 1).

***Staff notes that the three (3) 195-foot lattice towers proposed on the subject site have the potential of creating a significant visual impact on the surrounding properties and landscape. Staff requests additional information to explain how the subject site was selected and/or why an alternative site on another property with more extensive vegetation to screen the proposed communication facility was not selected in order to mitigate the visual impact on the surrounding area.***

***Staff recommends that the applicant consider alternative designs and/or color schemes to better camouflage and minimize the potential visual impact of the proposed communication facility on the surrounding area.***

#### **D. SAFETY AND HEALTH**

Plan policies state "an applicant or its successors shall remove all unused structures and facilities from a commercial public telecommunications site, including lattice towers and monopoles, within 90 days of cessation of commercial public telecommunications use or the expiration of the lease, whichever occurs first, and the site should be restored as closely as possible to its original condition" (*Telecommunications Plan, Safety and Health Policies, Policy 2*).

***Staff recommends that a condition of approval be included to require removal of the facility following cessation of use.***

#### **E. EXISTING CONDITIONS**

The Green Infrastructure is a collection of natural, cultural, heritage, environmental, protected, passive and active resources that will be integrated in a related system. It includes stream corridors, vegetative landscapes, wildlife and endangered species habitats, and heritage resources (*Revised General Plan, Chapter 5, Green Infrastructure Policies, Policy 1*). Development should take place around these elements, incorporating them into the design of the site. Such an approach places a priority on preserving both sensitive environmental and man-made features.

Elements of the Countywide Green Infrastructure can be found on the subject site, including stream corridor resources, forest cover, plant and wildlife habitat and historic resources. Detailed Plan guidance on the treatment of individual Green Infrastructure elements is outlined in the following sections.

## **1. Stream Corridor Resources**

The subject property is located within the Broad Run watershed and contains significant stream corridor resources associated with the Broad Run. The stream corridor elements on the subject property consist of major floodplain, minor floodplain, and riparian forest.

The Broad Run, adjoining floodplains, and adjacent steep slopes (slopes 25% or greater) within 50 feet of streams and floodplains, extending no farther than 100 feet beyond the originating stream or floodplain; along with the 50-foot management buffer surrounding the adjacent steep slopes, as called for in the Revised General Plan together constitute the river and stream corridor resource (Revised General Plan, Chapter 5, River and Stream Corridor Resources Policies, Policy 2). The Plan's intent for the 50-foot management buffer is to serve as protection for the river and stream corridor elements from upland disturbances and adjacent development (Revised General Plan, Chapter 5, River and Stream Corridor Resources Policies, Policy 4). The Plan permits a limited number of uses in the stream corridor, including passive and active recreation, road crossings, utility corridors, pervious paths and trails, and agricultural activities (Revised General Plan, Chapter 5, River and Stream Corridor Resources Policies, Policy 18). While the subject property is administered under the 1972 Zoning Ordinance and the proposed communication facility in the floodplain is permitted by approval of Special Exceptions within the PD-IP zoning district, the policies of the Revised General Plan do not support the construction of the proposed facility within the floodplain.

***The Plan does not support the construction of structures such as the proposed communication facility within the floodplain or the 50-foot management buffer of Broad Run. Staff recommends that the applicant consider alternative locations outside the floodplain and 50-foot management buffer in order to protect the stream corridor resources on the property.***

## **2. Forests, Trees, and Vegetation**

The Plan supports the conservation of forest resources and natural vegetation during the site development process for the various economic and environmental benefits that they provide (Revised General Plan, Chapter 5, Forest, Tree and Vegetation Policy 1). The County's forests and trees improve air and water quality, offer important habitat for birds, small mammals and other wildlife. Riparian forests along streams and rivers provide the greatest single protection of water quality by filtering pollutants from stormwater runoff, decreasing soil erosion and maintaining physical, chemical and biological condition to the stream environment (Revised General Plan, Chapter 5, Forest, Tree and Vegetation Policy, text). The construction of the proposed communication facility will require the removal of a portion of an existing forested area within the floodplain of Broad Run. The policies of the Revised General Plan do not support the construction of the proposed communication facility within the floodplain and supports the preservation of riparian forests for their environmental benefits.

***The policies of the Revised General Plan do not support the construction of proposed communication facility within the river and stream corridor resource and supports the preservation of the forested areas located in the floodplain for their environmental benefits. Staff recommends that the applicant consider alternative locations outside the river and stream corridor resource which avoids impacts to existing forested areas.***



View South of proposed 7.5 acre lease area from access road. Portion of forested area in background to be removed for proposed communication facility.

### **3. Plant and Wildlife Habitats**

The Plan states that “the County will use the Virginia Department of Conservation and Recreation, Division of Natural Heritage’s Biological and Conservation Data system to identify Loudoun County’s natural heritage resources. These resources include rare, threatened and endangered plant and animal species; exemplary natural communities, habitats, and ecosystems; and other natural features of the County. The County will apply this information in the evaluation of development proposals. For those development applications that have a likely presence of one or more natural heritage resources, the County will require the applicant to conduct a species assessment and develop a plan for impact avoidance in cases where the presence of the species is identified” (Revised General Plan, Chapter 5, *Plant and Wildlife Habitats Policies*, Policy 8).

The applicant has included an Environmental Assessment Report and Addendum prepared by blueskies environmental associates, inc. which determined there were no endangered or threatened species, rare plant species, or rare plant communities on the subject site. However, staff notes that during the processing of another legislative application (Kincora, ZMAP 2008-0021) a Heron Rookery was identified approximately 700 feet northeast of the subject site. It has been determined by state and federal agencies that communication towers and antennas may pose a hazard to birds in flight and may pose a threat to nesting birds attracted to them. Staff recommends that further evaluation of the potential impacts of the proposed construction of a communication facility on birds and the existing Heron Rockery within the vicinity of the subject site be provided. Consultation and review by the Virginia Department of Conservation and Recreation (DCR), Virginia Department of Game and Inland Fisheries (VDGIF) and the United States Department of Interior, Fish and Wildlife Service are recommended.

***Staff cannot support the proposed location while there is a potential impact on birds and the Heron Rockery. Staff recommends that the applicant consult with the appropriate state and federal agencies to identify mitigation options.***

#### **4. Historic Resources**

The Revised General Plan states the County will require an archaeological and historic resources survey as part of all development applications (Revised General Plan, Chapter 5, Historic and Archaeological Resources Policies, Policy 11). A series of Phase 1 and Phase 2 archaeological surveys were conducted on the subject property which identified several important historic and prehistoric archaeological sites. A prehistoric archaeological site (44LD0210) was identified on the subject site, which may be impacted by the proposed buried wire grounding system associated with the 195' lattice towers.

***Should the proposed communication facility be located on the subject site or relocated elsewhere, staff recommends avoidance of archaeological sites.***

#### **RECOMMENDATIONS**

Plan policies do not support the location of the proposed AM Radio Transmitter within a Keynote Employment Area. The proposed communication facility does not appear to service the surrounding office and employment uses; and thus far no compelling information has been provided to indicate why they must locate on the subject site. Staff requests additional information to explain how the subject site was selected and/or why an alternative location within a planned industrial and/or employment area with more compatible surrounding land uses was not selected as outlined in the Plan. The applicant is also seeking a Special Exception to locate the facility within the Broad Run floodplain on the subject site, which is not supported by Plan policies. Should the applicant consider locating on the subject site staff recommends that the application consider alternative locations outside the river and stream corridor resource which avoids impacts to existing forested areas, wildlife habitat and historic resources. Additionally staff recommends that the applicant consider alternative designs and/or

color schemes to better camouflage and minimize the potential visual impact of the proposed communication facility on the surrounding area. Staff cannot recommend approval of the Special Exceptions and Commission Permit request at this time.

As always, staff would be happy to meet with the applicant to discuss these issues.

cc: Julie Pastor, AICP, Planning Director  
Cindy Keegan, AICP, Division Manager, Community Planning-via email

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**County of Loudoun**

**Department of Planning**

**MEMORANDUM**

**DATE:** February 9, 2009

**TO:** File SPEX 2009-0011, SPEX 2009-0029 and CMPT 2009-0002

**FROM:** Pat Giglio, Planner  
Community Planning

**SUBJECT:** **SPEX 2009-0011, SPEX 2009-0029 and CMPT 2009-0002**  
**Potomac Radio, 2<sup>nd</sup> Referral**

**EXECUTIVE SUMMARY**

The applicant, Potomac Radio, LLC, is requesting two Special Exceptions and a Commission Permit to construct an AM Radio Transmitter on a 7.5 acre leased area at the Broad Run Water Reclamation Facility owned by Loudoun Water. The subject property is located in the Ashburn Community of the Suburban Policy Area within an area planned for Keynote Employment uses. The proposed AM Radio Transmitter is not consistent with the type of uses or land use mix envisioned for Keynote Employment Centers. Plan policies do not support the location of the proposed use within a Keynote Employment Area. Additionally the applicant is seeking a Special Exception to locate the facility within the Broad Run floodplain, which is also not supported by the Green Infrastructure policies of the Plan. Staff does not support approval of the applications due to conflicts with Plan policies.

**BACKGROUND**

The applicant, Potomac Radio, LLC, is requesting two Special Exceptions and a Commission Permit to construct an AM Radio Transmitter within a 7.5-acre leased area located within the floodplain at the Broad Run Water Reclamation Facility owned by Loudoun Water. The proposed facility will consist of three 195' radio lattice towers (self-supporting lattice towers), a buried wire grounding system, transmitter building, dish antennae and back-up generator. The proposed construction will require the ground disturbing activities within the floodplain as well as the removal of some forest cover. The property is currently zoned PD-IP (Planned Development – Industrial Park) and governed under the provisions of the 1972 Zoning Ordinance. The proposed “public utility-communication and transmission use” is permitted within the zoning district by Special Exception approval and a separate Special Exception approval is required to locate the use within the floodplain. A Commission Permit is also required for all public facilities to

determine if the general location, character, and extent of the use is in substantial accord with the Comprehensive Plan.

The applicant has responded to Community Planning's first referral dated October 6, 2009. While the applicant has responded to all of the issues, the main issues pertaining to the incompatibility of the proposed AM Radio Transmitter use within a Keynote Employment Area and its location within the floodplain of the Broad remains. Staff has outlined the outstanding issues below.

### **COMPLIANCE WITH THE COMPREHENSIVE PLAN**

The policies of the Revised General Plan, and the Dulles North Area Management Plan (DNAMP) govern the subject site. Being the newer of the two plans, the Revised General Plan supersedes the DNAMP when there is a policy conflict between the two (Revised General Plan, Chapter 1, Relationship to Other County Planning Documents, text). The subject property is located in the Ashburn Community of the Suburban Policy Area in an area planned for Keynote Employment uses (Revised General Plan, Planned Land Use Map, p. 7-23). The property is also located within the Route 28 Tax District.

The Keynote Employment Policies, Energy and Communication Facilities Policies and Environmental Policies of the Revised General Plan where used to evaluate the applications. The policies of the Strategic Land Use Plan for Telecommunications Facilities (Telecommunications Plan) were also applied in the evaluation of the applications.

### **OUTSTANDING ISSUES**

#### **A. LAND USE**

The subject site and proposed AM Radio Transmitter are located in an area planned for Keynote Employment uses (Revised General Plan, Chapter 7, Planned Land Use Map). Keynote Employment uses include office parks, research and development parks, corporate headquarters, and similar large scale uses that are generally 40,000 gross square feet or greater which are designed to communicate a corporate image and reflect the County's growing prominence as a global crossroads for business (Revised General Plan, Chapter 6, Keynote Employment Center Policies, Policy 1). Staff in the first referral noted that the proposed AM Radio Transmitter is not the type of use envisioned in a Keynote Employment Area by the Plan, and that the proposed facility may be better located within a planned Industrial Area with other more compatible uses.

In response the applicant has provided background information outlining their search for properties in the area and how the merits of the "physical size, geographic location, geometric dimensions, soil type, zoning classification and compatibility" of the subject site make it the only suitable location for the proposed AM Radio Transmitter in the County. The applicant states that the broadcast services provided by the proposed radio station directly serve the office and business uses located within the surrounding Keynote Employment Area and the County as a whole. While staff acknowledges these comments, it does not address the fundamental issue, which is that Keynote Employment areas are intended to be "100-percent premier office or research-and-development centers supported by ancillary retail and personal services for employees" (Revised General Plan, Chapter 6, Keynote

Employment Center, text). Staff reiterates that the proposed AM Radio Transmitter use is not an ancillary office or employee supportive use and should not be located within a designated Keynote Employment Area. The proposed AM Radio Transmitter use is not consistent with the type of uses or land use mix envisioned for Keynote Employment Centers, as defined in the Revised General Plan (Revised General Plan, Chapter 6, Keynote Employment Center Policies, Policy 1). Plan policies do not support the location of the proposed AM Radio Transmitter within a Keynote Employment Area.

***The proposed AM Radio Transmitter use is not consistent with the type of uses or land use mix envisioned for Keynote Employment Centers, as defined in the Revised General Plan. Plan policies do not support the location of the proposed AM Radio Transmitter within a Keynote Employment Area.***

### **B. DESIGN AND VISUAL IMPACT**

The Telecommunications Plan calls for design standards to mitigate the visual impacts of commercial public telecommunication facilities so as to “blend with the natural and built environment of the surrounding area” (*Telecommunications Plan, Countywide Visual Impacts, Policy 1*). The proposed AM Radio Transmitter on the subject site will consist of three (3) 195-foot self-supporting lattice towers with a buried grounding system extending in an overlapping 200 foot radius around each tower. A 20’x25’ transmitter building, satellite dishes and auxiliary generator will be located in proximity to the proposed antenna arrays near an existing gravel road that provides access to the site. In response to staff comments, the applicant has confirmed that the lattice towers will be constructed of galvanized steel and will be unpainted to blend with the gray sky. The applicant has also committed to a color scheme for the proposed transmitter building which is compatible with the existing buildings on the Loudoun Water Campus.

The applicant has submitted a photo-simulation (Exhibit A) which illustrates the differences between the appearance of a telecommunications monopole with its arrays of antennas and the tapering form of the self-supporting lattice towers of the proposed AM broadcast antennas. While staff acknowledges the thinner profile of the AM broadcast antenna is advantageous for the mitigation of visual impact, it still does not obscure the fact that the three (3) proposed 195-foot self-supporting lattice towers will have a significant visual impact on all the surrounding properties. The Applicant has submitted a series of photo simulations (Exhibit C) depicting the proposed lattice towers from various vantage points where views of the upper portions of the lattice towers will be silhouetted on the horizon from the majority of surrounding properties.

***The proposed construction of the three (3) 195-foot lattice towers and ground mounted facilities have the potential of creating a significant visual impact on the surrounding businesses and properties.***

### **C. GREEN INFRASTRUCTURE**

Construction of the proposed AM Radio Transmitter on the 7.5 acre subject site within the stream corridor of the Broad Run will impact elements of the Countywide Green

Infrastructure which include ground-disturbing activities within the minor and major floodplain and removal of forest cover. The County recognizes stream corridors as important natural systems and seeks to protect these corridors by preserving, conserving, and restoring their water quality, flood protection, aquatic and wildlife habitat and scenic value through the establishment Plan policies that buffer and effectively manage the water resource and its associated corridor (Revised General Plan, Chapter 5, River and Stream Corridor Resource text). The policies of the Revised General Plan permit only a limited number of uses within stream corridors, including passive and active recreation, road crossings and bridges, utility corridors, pervious paths and trails, and agricultural activities (Revised General Plan, Chapter 5, River and Stream Corridor Resources Policies, Policy 18). The proposed AM Radio Transmitter is not one of the types of uses envisioned by the Plan to be located within the stream corridor and more specifically the floodplain of Broad Run. In the first referral staff had recommended that the proposed AM Radio Transmitter be located outside the floodplain of the Broad Run in order to protect the stream corridor resources. In response the applicant states that the subject site is the only available location on the property.

The applicant has submitted a Planting Plan to mitigate the impacts of the proposed construction within the floodplain. The Planting Plan includes a proposal to plant loblolly pine seedlings and shrubs between the radials of the buried grounding system and to plant grasses and native plants on the remainder of the site. The layout of the radials as well as the Planting Plan, have also been designed to avoid impacts to an archaeological site on the property. The applicant has also provided commitments to limit the months of construction to avoid disruption of nesting activities to the Heron Rockery located on an adjacent property. While staff appreciates the applicant's commitment to the enhancement of the stream corridor and their plan to mitigate the potential environmental impacts associated with the proposed construction within the floodplain, the policies of the Revised General Plan do not support the construction of this type of use within the floodplain.

***The River and Stream Corridor Resources policies of the Revised General Plan do not support the construction of the proposed AM Radio Transmitter within the floodplain.***

## **RECOMMENDATIONS**

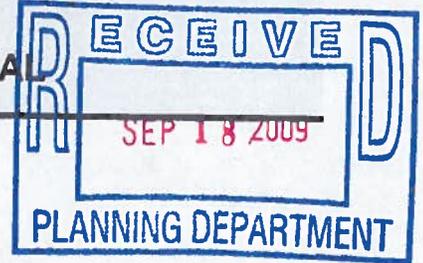
Plan policies do not support the location of the proposed AM Radio Transmitter within a Keynote Employment Area or the location the facility within floodplain of the Broad Run. Staff does not support approval of the requested applications due to conflicts with Plan policy.

cc: Julie Pastor, AICP, Planning Director  
Cindy Keegan, AICP, Division Manager, Community Planning-via email

**COUNTY OF LOUDOUN**

**DEPARTMENT OF BUILDING AND DEVELOPMENT**

**ZONING ADMINISTRATION REFERRAL**



**DATE:** September 18, 2009

**TO:** Nicole Steele, Project Manager

**THROUGH:** Marilee Seigfried, Deputy Zoning Administrator

**FROM:** Nita Bearer, Planner, Zoning Administration *nb*

**CASE NUMBER AND NAME:** SPEX-2009-0011, SPEX-2009-0029,  
and CMPT-2009-0002  
Potomac Radio

**LCTM/MCPI:** /80///4///A2/  
041-37-4022

**PLAN SUBMISSION NUMBER:** 1<sup>st</sup> Referral

**I. APPLICATION SUMMARY**

Zoning staff has reviewed the above-referenced special exception and commission permit application for conformance with the 1972 Loudoun County Zoning Ordinance. The parcel is zoned PD-IP and is located within the Floodplain Overlay District (FOD). In the 1972 Loudoun County Zoning Ordinance, the AM radio towers are classified as a "public utility, communications and transmission," which is a use permitted in the PD-IP zoning district by approval of a special exception. The towers and associated equipment are also permitted in the FOD as a public utility by approval of a special exception.

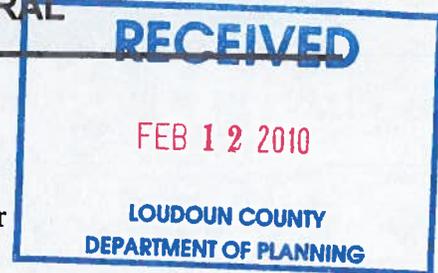
The materials submitted for review of the applications consist of the following:

1. Information Sheet
2. Vicinity Map
3. Statement of Justification dated February 27, 2009 and revised July 13, 2009, with exhibits A through D. Exhibit A – FCC Construction Permit, Exhibit B – Environmental Assessment report dated January 2007 with Addendum dated July 2008, Exhibit C – FAA Aeronautical Study, and Exhibit D – MWAA e-mail dated February 26, 2009
4. Superimposed photography/photo-simulations dated June 2006
5. Special Exception and Commission Permit plat dated February 2009

## II. ZONING COMMENTS

1. Zoning staff defers to the Environmental Review Team regarding comment on the impact of the towers and associated equipment to the floodplain. Please note that alterations to the floodplain must be approved at the time of site plan submission.
2. Pursuant to Section 555, at the time of site plan submission, the applicant must verify that, at maturity of 10 years, a tree canopy of 10% exists on the property
3. Clarify whether there will be a separate special exception plat submitted to allow the use in the floodplain. If not, the application number SPEX-2009-0029 should be included on Sheet 1.
4. Delete application "FPAL-1989-0150" from the list of approved applications in General Note #14 and add the following applications: SPAM-2004-0116, SPAM-2005-0033, SPAM-2006-0037, STPL-2003-0057, STPL-2005-0030, WAIV-2005-0008, ZCOR-2003-0427, FPAL-2002-0039, FPAL-2004-0005, and FPST-2004-0003.
5. In the "Site Zoning Tabulations," calculate the permitted FAR, lot coverage, landscaped open space and tree canopy based on the total acreage of the parcel. Include the minimum yard requirements found in Section 722.6.
6. Pursuant to Section 520.4.1, the height of the radio towers is exempt from the height limitations of Section 520 if the tower does not exceed in height the distance to the nearest lot line. In order to verify compliance with this section, provide the distance to the nearest property line for each tower on the special exception plat.
7. At the time of site plan, the applicant must provide a type 4 landscape buffer around the perimeter of the site. If a waiver or modification of the landscape buffer is to be requested, it must be requested at the time of site plan submission.

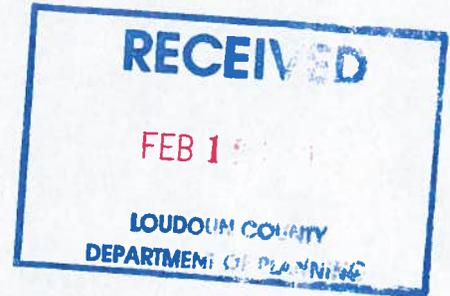
**COUNTY OF LOUDOUN**  
**DEPARTMENT OF BUILDING AND DEVELOPMENT**  
**ZONING ADMINISTRATION REFERRAL**



**DATE:** February 12, 2010  
**TO:** Pat Giglio, Project Manager  
**THROUGH:** Marilee Seigfried, Deputy Zoning Administrator  
**FROM:** Nita Bearer, Planner, Zoning Administration *nb*  
**CASE NUMBER AND NAME:** SPEX-2009-0011, SPEX-2009-0029,  
and CMPT-2009-0002  
Potomac Radio

**LCTM/MCPI:** /80///4///A2/  
041-37-4022

**PLAN SUBMISSION NUMBER:** Second Submission



**I. APPLICATION SUMMARY**

Zoning staff has reviewed the second submission of the above-referenced special exception and commission permit application for conformance with the 1972 Loudoun County Zoning Ordinance. The parcel is zoned PD-IP and is located within the Floodplain Overlay District (FOD). In the 1972 Loudoun County Zoning Ordinance, the AM radio towers are classified as a "public utility, communications and transmission," which is a use permitted in the PD-IP zoning district by approval of a special exception. The towers and associated equipment are also permitted in the FOD as a public utility by approval of a special exception.

**II. ZONING COMMENTS**

1. Figure 1, Proposed Antenna System Elevation Plan, on Sheet 3 is not readable. Indicate the maximum height of the proposed antennas on the plat.
2. Under "Yard Requirements" on Sheet 1, remove "Additional Yard Requirements on all Boundaries for 45' Building Height" as this does not pertain to the subject application since the height of the proposed building is 20'.

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**DEPARTMENT OF BUILDING AND DEVELOPMENT**

**COUNTY OF LOUDOUN**

**MEMORANDUM**

**DATE:** September 16, 2009

**TO:** Nicole Steele, Project Manager, Department of Planning

**FROM:** Todd Taylor, Environmental Review Team

**THROUGH:** Gary Clare, Chief Engineer  
William Marsh, Environmental Review Team Leader

**CC:** Nita Bearer, Zoning Planner  
Patrick Giglio, Community Planner, Department of Planning

**SUBJECT:** **SPEX-2009-0011, SPEX-2009-0029, & CMPT-2009-0002**  
**Potomac Radio**

The Environmental Review Team (ERT) reviewed the subject application during the September 14, 2009, ERT Meeting. Our comments pertaining to the current application are as follows:

1. Accounting for the installation of the buried grounding system, consisting of 120 equally spaced copper wire radials extending 200 feet from the center of each tower, the proposed towers result in significant impacts to the floodplain, including removal and/or alteration of mature hardwoods and the drainage corridor that drains to the large wetland system that parallels the sanitary sewer line. Attachment A shows the approximate limits of the grounding system. As stated on Page 5-32 of the RGP, "riparian forests along streams provide the greatest single protection of water quality by filtering pollutants from stormwater runoff, decreasing stream bank erosion, and maintaining the physical, chemical, and biological condition of the stream environment". To minimize impacts to the riparian corridor, staff recommends that the towers be relocated outside of the major floodplain.
2. The Plant and Wildlife Habitats policies of the Revised General Plan (RGP) indicate that "the County will seek to protect areas of natural biodiversity and rare species (Policy 1 on Page 5-33)." The proposed radio towers are located approximately 900 to 1,200 feet from a 50-nest heron rookery located in the Broad Run floodplain north of the subject property (see Attachment B for photographs). Herons nest in this location from March 15<sup>th</sup> to July 30<sup>th</sup> each year, resulting in a population of approximately 200 birds. Once the young birds can fly, they disperse to other locations. Waterbirds and their active nests are protected under state (VA Code

Section 29.1-521) and federal law (Migratory Bird Treaty Act). The Virginia Department of Game and Inland Fisheries (DGIF) considers waterbird nesting colonies to be a critical wildlife resource.

Nesting birds are sensitive to noise from surrounding activities that may disrupt their nesting habits and lead to flushing of active nests or abandonment of the nesting area. Therefore, staff recommends that consideration be given to noise associated with construction of the proposed use and operation of the auxiliary generator and the potential effect on the heron rookery. The proposed Kincora rezoning (ZMAP-2008-0021), on the adjacent property to the northeast, includes a commitment that prohibits uses within 700 feet of the rookery. The commitment also prohibits construction activity within 1,400 feet of the rookery or the 100-year floodplain boundary, whichever is less, during the heron nesting season. The closest floodplain boundary for the Kincora project is approximately 1,300 feet from the rookery. Attachment A depicts the 700-foot and 1,400-foot buffer in relationship to the proposed towers and grounding system.

Staff has consulted with DGIF on measures to protect the rookery in conjunction with previous applications for the property. Staff recommends that the application be submitted to DGIF for formal review and comment. In addition to noise impacts, staff would like input from DGIF on impacts of the towers and support wires on safe bird flight and nesting habits.

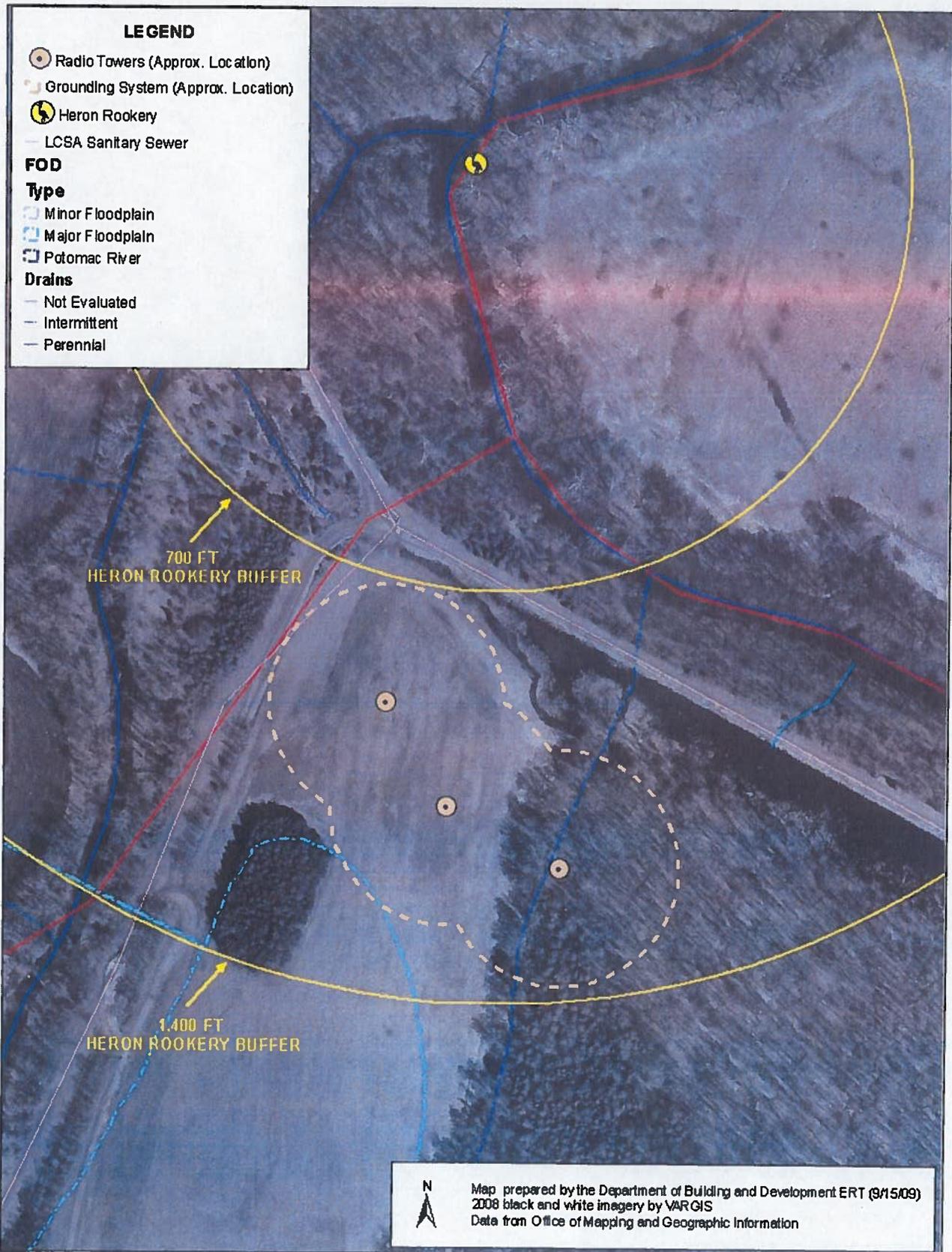
3. Per Section 740.8.4 of 1972 Loudoun County Zoning Ordinance (1972 LCZO), the proposed use or structure must be located and designed to limit its susceptibility to flood damage, and available alternative locations, not subject to flooding, for the proposed use must be considered. Please elaborate on the alternative locations that were considered and explain why they were not selected. Although the statement of justification states that the proposed location within the floodplain is appropriate due to the compatibility of the floodplain's ground conductivity with the electric grounding system, the County Soil Scientist has indicated the other soils in the area, outside of the floodplain, provide similar levels of conductivity.
4. Per Section 740.8.1 of the 1972 LCZO, the proposed use can not increase the danger to life and property due to increased flood heights or velocities caused by encroachments. Please describe the extent of grading and placement of fill required within the major floodplain to construct the towers and install the subsurface grounding system.
5. The proposed generator could be considered a stormwater hotspot, due to the potential for a fuel spill/leak resulting in higher concentrations of hydrocarbons in stormwater runoff. The concern is heightened due to its proposed location within the floodplain and short travel distance to Beaverdam Run and Broad Run. Staff recommends that the applicant address water quality protection related to the

proposed generator. Relocating the proposed use, as suggested above, will help to address this concern.

6. Staff recommends an analysis of the noise produced by the proposed generator to verify that adjacent parcels are not adversely affected, consistent with Section 535 of the 1972 LCZO. The noise analysis will also be helpful as part of DGIF's review in determining whether the generator noise could impact the heron rookery.
7. For clarity, please reference the source of the wetland information on the special exception plat. Staff recommends a note similar to the following: "Regulated waters and wetlands shown are based on a wetland delineation conducted by CH2M Hill and confirmed by Corps Jurisdictional Determination # 99-B0833, dated November 23, 1999".
8. Staff defers to the County Archeologist regarding the archeological sites depicted on the special exception plat. Relocation of the proposed use should account for archeological resources.

Please contact me if you need additional information or have questions.

### ATTACHMENT A: HERON ROOKERY BUFFER/GROUNDING SYSTEM



ATTACHMENT B: HERON ROOKERY PHOTOGRAPHS



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**DEPARTMENT OF BUILDING AND DEVELOPMENT**

**COUNTY OF LOUDOUN**

**MEMORANDUM**

**DATE:** February 10, 2010

**TO:** Patrick Giglio, Project Manager, Department of Planning

**FROM:** Todd Taylor, Environmental Review Team

**THROUGH:** William Marsh, Environmental Review Team Leader

**CC:** Dana Malone, County Urban Forester  
Nita Bearer, Zoning Planner

**SUBJECT:** **SPEX-2009-0011, SPEX-2009-0029, & CMPT-2009-0002**  
**Potomac Radio**  
**(2nd Submission)**

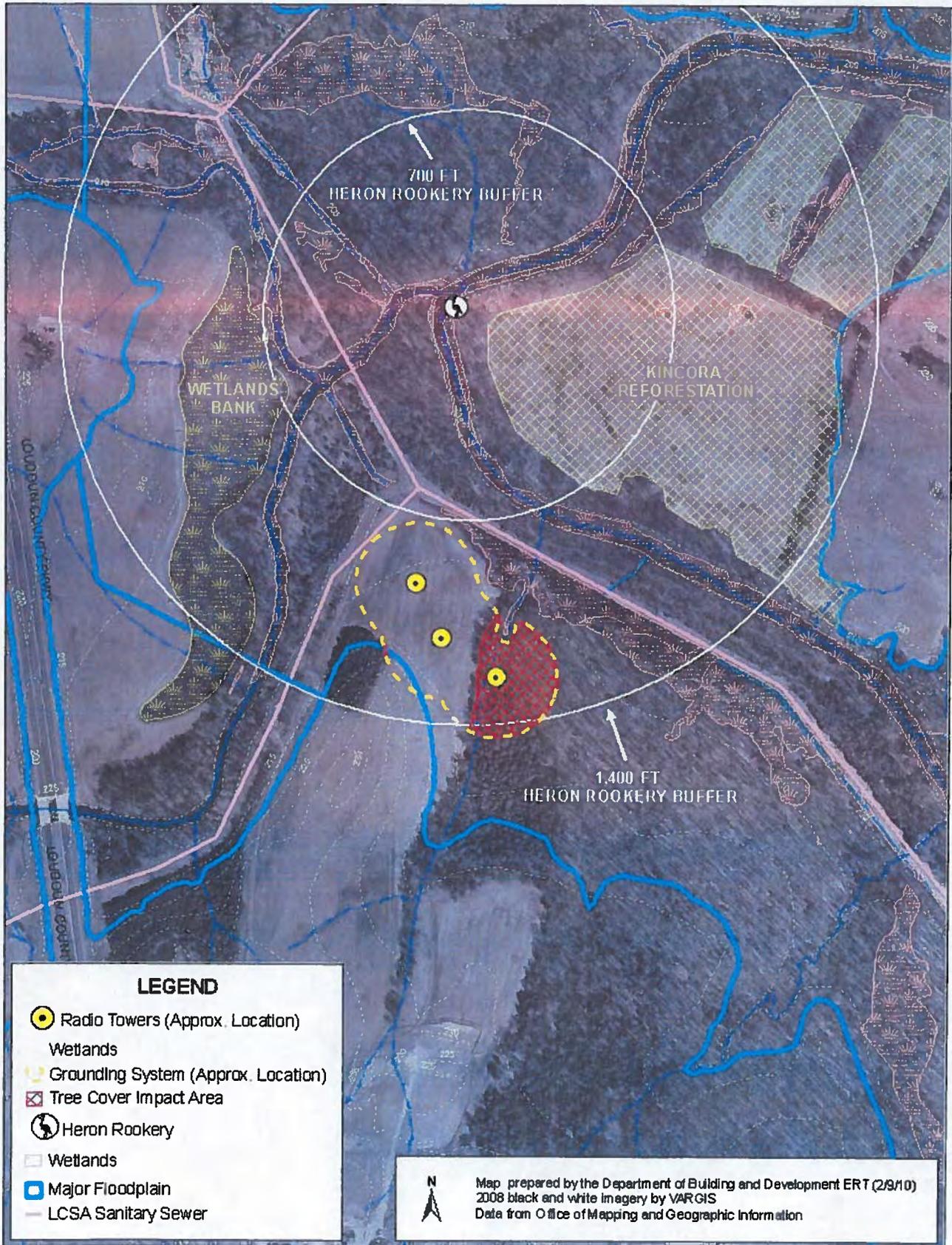
The Environmental Review Team (ERT) has reviewed the revised application and offers the following comments.

1. Staff appreciates the site selection explanation provided in the applicant's responses and the Riparian Planting Plan provided as Exhibit D, which includes elements recommended by the County Urban Forester. However, staff notes that Community Planning's first submission comments state that the Revised General Plan (RGP) does not support the proposed communication facility within the floodplain or 50-foot management buffer. Staff supports this comment and further notes that the proposed use and associated removal of approximately two acres of existing tree cover is inconsistent with riparian enhancement efforts in other recently approved projects in the vicinity of the subject property. In the floodplain to the northwest, the County approved an 8-acre wetland mitigation bank with grading permit X20070010001, dated July 16, 2009, which has been constructed. The County approved SPEX-0008-0054 Kincora Village on June 11, 2009, which includes the reforestation of approximately 55 acres of open floodplain, including approximately 30 acres adjacent to Broad Run, northeast of the subject property. Attachment A depicts the areas described above. To comply with RGP River and Stream Corridor Policies and to be more consistent with neighboring efforts, staff recommends that the towers be relocated outside of the major floodplain. If the Board of Supervisors chooses to approve the subject application, staff recommends: 1) the Riparian Planting Plan be included as a condition of approval; and 2) preserving tree canopy designated for reforestation located at the outer edges of the grounding system for the eastern most tower, which the applicant indicated as being feasible.

2. The application materials are being forwarded to the Virginia Department of Game and Inland Fisheries (DGIF) for review. Staff recommends that comments and recommendations from DGIF be incorporated within this application, as has been done with the adjacent Kincora special exception application. Particularly, due to the site being located approximately 700 to 1,400 feet from a 50-nest heron rookery, staff would like input from DGIF on noise impacts and impacts of the towers and support wires on safe bird flight and nesting habits. Furthermore, staff would like more information regarding the generator noise attenuation measures referenced in the applicant's responses and supports the applicant agreeing to no construction activity during the heron nesting season. Attachment A depicts the location of the heron rookery and Attachment B provides photographs.
3. The applicant's responses state that they will agree to use propane for fueling the generator and that the fuel tank can be enclosed in a container that will prevent leaks, providing ConVault as an example. However, according to the flyer provided as Exhibit I and ConVault representatives, their tanks are design only for liquid fuels. Please clarify this discrepancy. Staff supports the use of propane fuel, but recommends that the generator and associated fuel tank be located outside of the floodplain limits.
4. Although the applicant's responses state that the project will comply with Section 535 of the 1972 Loudoun County Zoning Ordinance, staff recommends providing an analysis of the noise produced by the proposed generator to verify that adjacent parcels are not adversely affected. The analysis should identify the proposed generator size and noise level at peak demand. The noise analysis will also be helpful as part of DGIF's review in determining whether the generator noise could impact the heron rookery.

Please contact me if you need additional information or have questions.

ATTACHMENT A: RADIO TOWERS – ADJACENT USES/HERON ROOKERY



ATTACHMENT B: HERON ROOKERY PHOTOGRAPHS



County of Loudoun

Office of Transportation Services

MEMORANDUM



**DATE:** October 16, 2009

**TO:** Nicole Steele, Project Manager  
Department of Planning

**FROM:** Marc Lewis-DeGrace, Transportation Planner *MLDG*

**SUBJECT:** SPEX 2009-0011, SPEX 2009-0024, CMPT 2009-0002 – Potomac Radio  
First Referral

**Background**

These Commission Permit (CMPT) and Special Exception (SPEX) applications propose AM radio station towers and associated equipment in the Planned Development - Industrial Park (PD-IP) zoning district. The site is located on the east side of Loudoun County Parkway north of Aquinary Way. Access to the site is via an existing entrance from Loudoun County Parkway. A vicinity map is provided as *Attachment 1*.

In its consideration of these applications, the Office of Transportation Services (OTS) reviewed materials received from the Department of Planning on August 20, 2009, including (1) a statement of justification, dated February 27, 2009 and revised through July 13, 2009, (2) a traffic impact letter, dated February 26, 2009, and (3) a Special Exception plat (plan set), dated February 2009, prepared by Patton Harris Rust & Associates.

**Existing, Planned and Programmed Transportation Facilities**

According to the Revised General Plan, the site is located within the Suburban Policy Area (Ashburn Community). Major roadways serving the site are described below. OTS' review of existing and planned transportation facilities is based on the 2001 Revised Countywide Transportation Plan (2001 Revised CTP) and the 2003 Bicycle & Pedestrian Mobility Master Plan (2003 Bike & Ped Plan).

**Loudoun County Parkway (Route 607)** (segment from Route 7 south to Route 625) is a controlled access minor arterial constructed for the most part as a four-lane median divided (U4M) facility within a 120-foot ROW (there is a short two-lane segment between Gloucester Parkway and Redskins Park Drive). Where constructed to a four-lane section, left- and right-turn lanes are in place at all intersections. A grade-separated interchange is under construction at Route 7. Per the 2001 Revised CTP, this segment of Loudoun County Parkway is will remain classified as a minor arterial when ultimately expanded to a six-lane divided (U6M) facility.

The 2003 Bike & Ped Plan categorizes this segment of roadway as a “baseline connecting roadway” along which bicycle and pedestrian facilities are envisioned. There are currently no bicycle or pedestrian facilities along this section of Loudoun County Parkway.

### **Review of Submitted Traffic Statement**

The Applicant's submitted traffic letter (dated February 26, 2009) reviewed current and future traffic conditions in the area. The site is vacant land north of the Loudoun Water facility located on Loudoun County Parkway. Vehicles accessing the site will use an existing truck entrance located approximately 900 feet north of Aquiry Way. There are left- and right-turn lanes at the truck entrance. The Applicant does not anticipate any significant trips generated during construction or use of the AM radio station towers. Relevant portions of the letter are summarized below.

### **Existing (2009) Traffic Volumes**

PM traffic counts were taken on Wednesday, February 18, 2009. The counts found that during the PM peak hour there were 51 vehicles per hour (vph) turning north and 53 vph turning south at Aquiry Way, and there was “very little” traffic observed using the truck entrance. The traffic counts also found that there were 407 vph traveling southbound and 731 vph traveling northbound along Loudoun County Parkway.

### **Summary**

Access to the site will be via an existing roadway. The proposed use will attract approximately one vehicle trip per month. The Applicant does not see any mitigation necessary based on this application.

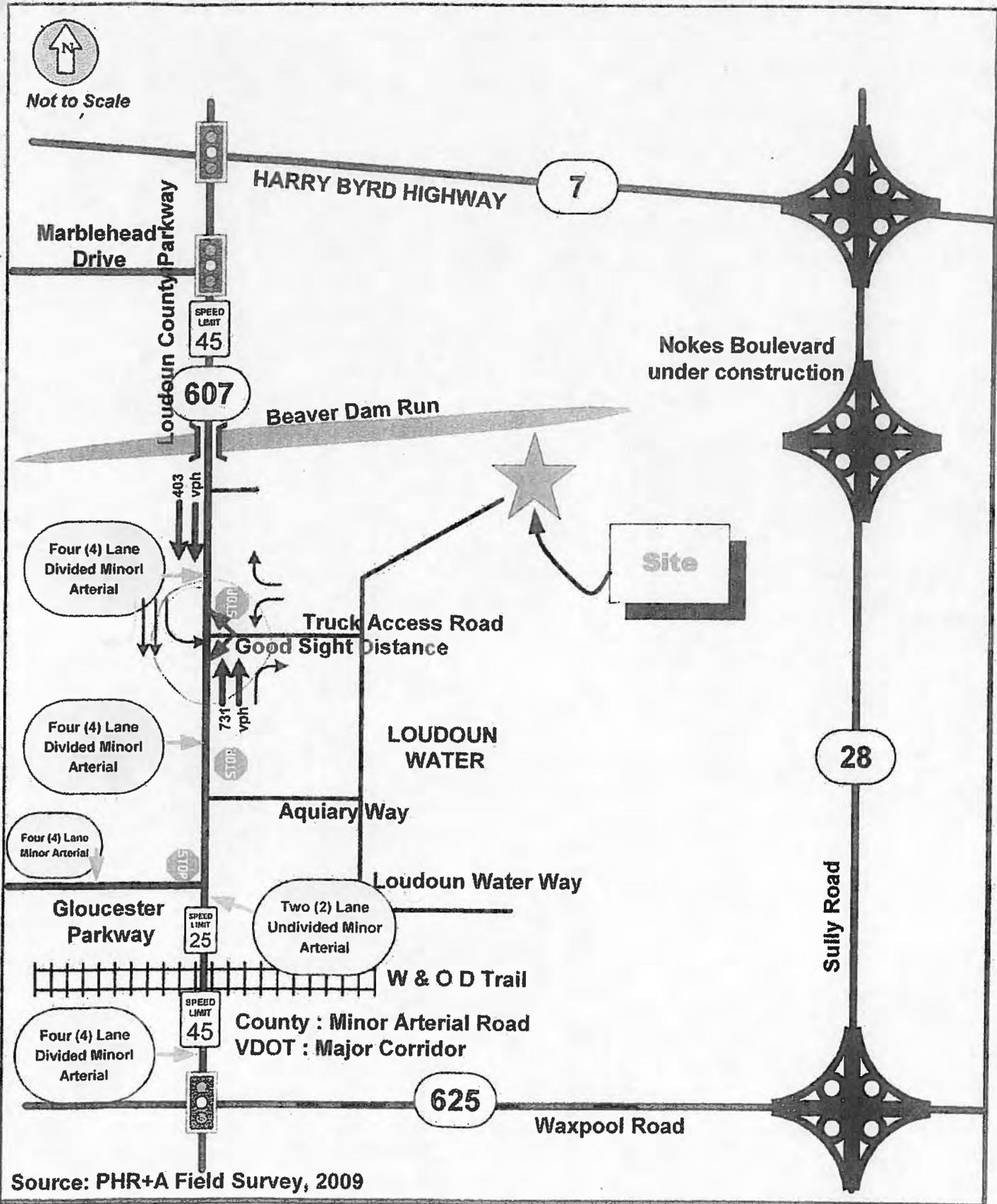
### **Conclusion**

**OTS has no objection to the approval of these applications.**

### **ATTACHMENT**

1. Site Vicinity Map

cc: Andrew Beacher, Assistant Director, OTS  
Lou Mosurak, Senior Coordinator, OTS



	Potomac Radio <i>February, 2009</i>	2009 Traffic Conditions 10347-4-0	<b>Figure B</b>
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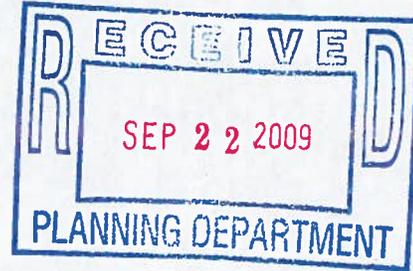
# COMMONWEALTH of VIRGINIA

DAVID S. EKERN, P.E.  
COMMISSIONER

## DEPARTMENT OF TRANSPORTATION

14685 Avion Parkway  
Chantilly, VA 20151  
(703) 383-VDOT (8368)

September 15, 2009



Ms. Nicole Steele  
County of Loudoun  
Department of Planning  
1 Harrison Street, S.E.  
P.O. Box 7000  
Leesburg, Virginia 20177-7000

Re: Potomac Radio  
(1<sup>st</sup> Submission)  
Loudoun County Application Numbers SPEX 2009-0011, SPEX 2009-0029 and CMPT  
2009-0002

Dear Ms. Steele:

We have reviewed the above noted application as requested in your August 19, 2009 transmittal.  
We have no objection to the approval of this application.

If you have any questions, please call me at (703) 383-2061.

Sincerely,

A handwritten signature in black ink, appearing to read "JB".

John Bassett, P.E.  
Transportation Engineer

cc: Imad Salous, P. E.

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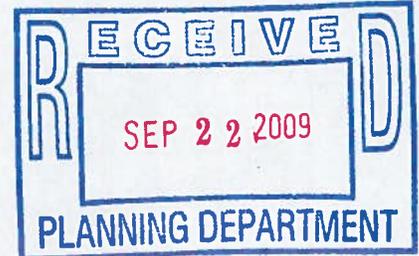


**LOUDOUN COUNTY, VIRGINIA**  
**Department of Fire, Rescue and Emergency Management**

803 Sycolin Road, Suite 104 Leesburg, VA 20175  
 Phone 703-777-0333 Fax 703-771-5359



## Memorandum



**To:** Nicole Steele, Project Manager  
**From:** Maria Figueroa Taylor, Fire-Rescue Planner  
**Date:** September 21, 2009  
**Subject:** Potomac Radio  
 SPEX 2009-0011, SPEX 2009-0029 & CMPT 2009-0002

Thank you for the opportunity to review the above captioned applications. The Fire and Rescue Planning Staff, in agreement with the Fire Marshal's Office, has no objection to the applications as presented.

The Fire-Rescue GIS and Mapping coordinator offered the following information regarding estimated response times:

PIN	Project name	LCFR Moorefield Station 23 Travel Time
041-37-4022	Potomac Radio	4 minutes (temp) 6 minutes, 19 seconds (perm)

The Travel Times for each project were calculated using ArcGIS and Network Analyst extension to calculate the travel time in minutes. To get the total response time another two minutes were added to account for dispatching and turnout. This assumes that the station is staffed at the time of the call. If the station is unoccupied another one to three minutes should be added.

Project name	LCFR Moorefield Station 23 Response Times
Potomac Radio	6 minutes (temp) 8 minutes, 19 seconds (perm)

If you have any questions or need additional information, please contact me at 703-777-0333.

c: Project file

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METROPOLITAN WASHINGTON AIRPORTS AUTHORITY



MEMORANDUM

September 18, 2009

Ms. Nicole Steele, Project Manager  
Loudoun County Department of Planning 1  
Harrison Street, S.E., 3rd Floor  
P.O. Box 7000  
Leesburg, VA 20177

RE: SPEX 2009-0011, SPEX 2009-0029 & CMPT 2009-0002, - Potomac Radio Dear

Ms. Steele:

We have reviewed the Special Exception and Commission Permit Application for the proposed Potomac Radio which is located within a portion of the Broad Run Water Reclamation Facility approximately five and one half miles north of Washington Dulles International Airport. The Metropolitan Washington Airports Authority takes no issue with the proposal and has no objection to the Special Exceptions and Commission Permit requested for this project.

Thank you for the opportunity to review the application.

Sincerely,

Mike Hines, CM  
Project Manager, Airport/Airspace

Planning

MH:dbc

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**Correspondence with  
Virginia Department of Game  
and Inland Fisheries (VDGIF)**

## Giglio, Patrick

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**From:** Ewing, Amy (DGIF) [Amy.Ewing@dgif.virginia.gov]  
**Sent:** Monday, March 08, 2010 9:37 AM  
**To:** Giglio, Patrick  
**Subject:** ESSLog# 30636\_Potomac Radio\_tower construction  
**Attachments:** USFWS tower recommendations.doc

Patrick,  
I have reviewed the subject project that proposes to install three telecommunications towers and associated infrastructure at a site in the Broad Run floodplain in Loudoun County, VA.

It appears the site for the proposed construction is located approximately 700 ft from the great blue heron colony located just north of the site. Assuming that activities to develop the proposed site do not encroach upon the 600 ft no-disturbance buffer around the colony we do not anticipate this project to result in primary impacts upon the colony. To avoid secondary impacts upon the birds in the colony resulting from disturbance during construction, we recommend that all construction and ground clearing activities within 1,400 feet of the colony adhere to a time of year restrictions from March 15 through July 31 of any year.

In addition, we document state Threatened upland sandpiper from the project area. It appears this project site contains suitable habitat for this species. Assuming adherence to the above-mentioned time of year restriction from March 15 through July 31 on all construction and ground clearing activities, we do not anticipate adverse impacts upon this species. If the applicant cannot adhere to the recommended time of year restriction, we recommend coordination with our agency to ensure protection of this listed species.

To minimize overall impacts to wildlife and our natural resources, we offer the following comments about development activities: We recommend that the applicant avoid and minimize impacts to undisturbed forest, wetlands, and streams to the fullest extent practicable. Avoidance and minimization of impact may include relocating stream channels as opposed to filling or channelizing as well as using, and incorporating into the development plan, a natural stream channel design and wooded buffers. We recommend maintaining undisturbed wooded buffers of at least 100 feet in width around all on-site wetlands and on both sides of all perennial and intermittent streams. We recommend maintaining wooded lots to the fullest extent possible. We generally do not support proposals to mitigate wetland impacts through the construction of stormwater management ponds, nor do we support the creation of in-stream stormwater management ponds. We are willing to assist the applicant in developing a plan that includes open-space, wildlife habitat, and natural stream channels which retain their wooded buffers.

We recommend that the stormwater controls for this project be designed to replicate and maintain the hydrographic condition of the site prior to the change in landscape. This should include, but not be limited to, utilizing bioretention areas, and minimizing the use of curb and gutter in favor of grassed swales. Bioretention areas (also called rain gardens) and grass swales are components of Low Impact Development (LID). They are designed to capture stormwater runoff as close to the source as possible and allow it to slowly infiltrate into the surrounding soil. They benefit natural resources by filtering pollutants and decreasing downstream runoff volumes.

We recommend that all tree removal and ground clearing adhere to a time of year restriction protective of resident and migratory songbird nesting from March 15 through August 15 of any year.

We recommend adherence to erosion and sediment controls during ground disturbance.

In addition, we recommend adherence to the attached USFWS communications tower guidance.

We appreciate the County's cooperation in protecting the great blue heron colony located in the Broad Run floodplain. If we can be of further assistance, please do not hesitate to contact us.

Thanks, Amy

Amy M. Ewing  
Environmental Services Biologist  
Virginia Dept. of Game and Inland Fisheries

## **RECOMMENDATIONS TO AVOID ADVERSE IMPACTS TO MIGRATORY BIRDS, FEDERALLY LISTED SPECIES, AND OTHER WILDLIFE FROM COMMUNICATION TOWERS AND ANTENNAE**

Wireless communication towers and antennae have greatly increased in number in recent years. Cumulatively, communication towers have a potentially significant impact on wildlife, especially migratory birds. All communication towers and antennae requiring authorization from the Federal Communications Commission (FCC) are subject to the environmental review procedures required by Section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) and by the National Environmental Policy Act (NEPA) of 1969 (83 Stat. 852; 42 U.S.C. 4321 *et seq.*). The U.S. Fish and Wildlife Service (Service) routinely reviews proposed communication projects and provides recommendations to project proponents and the FCC to avoid adverse impacts to federally listed or proposed endangered and threatened species, migratory birds, and other wildlife.

All native migratory birds (e.g., waterfowl, shorebirds, songbirds, hawks, owls, vultures, falcons) are afforded protection under the Migratory Bird Treaty Act (MBTA) of 1918 (40 Stat. 755; 16 U.S.C. 703-712). Migratory birds are a federal trust resource responsibility, and the Service considers migratory bird concentration areas environmentally significant. Bird concentration areas include traditional migratory flight corridors (e.g., ridges, shorelines, river valleys); rookeries and other bird breeding areas; stopover, staging, or resting areas (e.g., land bounding large bodies of water, wetlands, forests, and natural grasslands); wildlife preserves (e.g., National Wildlife Refuges; State Parks, Forests, Wildlife Management Areas, and Natural Areas; private sanctuaries); and seasonal flight paths (e.g., between feeding and nesting or roosting areas).

Communication towers pose a collision hazard to birds in flight, especially some 350 species of night-migrating birds. Cumulatively, communication towers kill an estimated four to five million birds per year nationwide (Manville 2000). The risk of bird collisions is related to tower height, design, lighting, and location relative to migratory bird concentration areas. Most documented bird kills at communication towers involve tall, lighted structures, and birds migrating at night during inclement weather. During these events, birds attracted by the lights congregate and circle around the tower, with mortality resulting from collisions with guy wires, other birds, and the ground, or from exhaustion. However, occurrences of bird collision mortality at communication towers have also been documented during daytime and fair-weather conditions.

The Service recommends the following steps to avoid or minimize adverse impacts to migratory birds, federally listed or proposed endangered and threatened species, and other wildlife from communication towers and antennae:

1. Collocate communication antennae and other equipment on existing structures whenever possible to avoid new tower construction. Antennae have been mounted on rooftops; flagpoles; bell, cross, and clock towers; road signs; silos; and water and power line towers. Where attachment to an existing non-tower structure is not feasible, collocate antennae on existing communication towers. Depending on tower load factors, multiple (6-10) providers may collocate on a single communication tower. Although usually a preferred option, collocation on certain structures may be restricted, such as historic sites, or silos on farms under State or county deed restriction for farm preservation, which may prohibit non-agricultural activities.

2. Construct new towers only if collocation is not feasible. Design new towers to allow for multiple transmitters to be collocated on a single new tower, no more than 199 feet above ground level (AGL), without lights or guy wires. (Towers taller than 199 feet are normally required by the Federal Aviation Administration [FAA] to employ aircraft warning lights.)
3. Consider the impacts of new towers to migratory birds, federally listed species, and other wildlife, cumulatively as well as individually when siting and designing networks of towers and antennae.
4. Site towers away from wetlands; areas with a known high incidence of fog, mist, and low cloud ceilings; and habitats supporting threatened or endangered species.
5. Construct taller (>200 feet AGL) towers only if collocation and shorter towers are not viable options. Use the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA. Use only white (preferable) or red strobe lights at night unless otherwise required by the FAA, and employ the minimum number, minimum intensity, and minimum number of flashes per minute (longest duration between flashes) permitted by the FAA. Avoid solid red or pulsating red warning lights at night. (Current research indicates that solid or pulsating (beacon) red lights attract night-migrating birds at a much higher rate than white strobe lights. Red strobe lights have not yet been studied.
6. Construct guyed towers only if other tower designs (e.g., monopoles, lattice towers) are not viable options. Locate guyed towers away from known raptor and waterbird concentration areas and daily movement routes, and away from major diurnal migratory bird movement routes and stopover sites. If a guyed tower must be located in or near such an area, employ daytime visual markers on the wires. Do not use artificial lighting to increase visibility of the structure or guy wires; instead use reflective paint or materials, large balls, or other available technology. (For guidance on markers, see Avian Power Line Interaction Committee 1994 and 1996.)
7. Avoid or minimize habitat loss within and adjacent to the "footprint" of new towers and associated facilities. (However, a larger tower footprint is preferable to the use of guy wires.) Minimize road access and fencing to reduce or prevent habitat fragmentation and disturbance, and to reduce above-ground obstacles to birds in flight.
8. Avoid siting towers in or near known bird concentration areas (discussed on page 1); known bird migration or daily movement flyways; and areas known to be used habitually by significant numbers of breeding, feeding, or roosting birds. If such areas cannot be avoided, avoid construction during seasons of high bird activity.
9. Design new towers structurally and electrically to accommodate the applicant's antennas and comparable antennas for at least two additional providers, for a minimum of three providers for each tower, to reduce the number of towers needed in the future (unless such a design would require the addition of lights or guy wires to an

otherwise unlighted and/or unguyed tower).

10. Down-shield security lighting for on-ground facilities and equipment to keep light within the boundaries of the site.
11. Allow Service personnel and affiliated researchers access to proposed and existing tower sites upon request to evaluate bird use; conduct dead-bird searches; place net catchments below the towers but above the ground; and place radar, Global Positioning System, infrared, thermal imagery, and acoustical monitoring equipment as necessary to assess and verify bird movements and to gain information on the impacts of various tower sizes, configurations, and lighting systems.
12. Provide for tower decommissioning, including removal, in any license application submitted to the FCC. Remove towers no longer in use or determined to be obsolete within 12 months of cessation of use.

### LITERATURE CITED

- Avian Power Line Interaction Committee. 1994. Mitigating bird collisions with power lines: The state of the art in 1994. Edison Electric Institute, Washington, D.C. 78 pp.
- \_\_\_\_\_. 1996. Suggested practices for raptor protection on power lines. Edison Electric Institute/Raptor Research Foundation, Washington, D.C. 128 pp.
- Manville, A.M. II. 2000. The ABCs of avoiding bird collisions at communication towers: the next steps. Proceedings of the Avian Interactions Workshop. Electric Power Research Institute. 15 pp.

### FURTHER INFORMATION

- Bibliography of bird kills: <http://migratorybirds.fws.gov/issues/towers/review>
- Federal Communications Commission, Wireless Telecommunication Branch - Siting Issues  
<http://www.fcc.gov/wtb/siting>
- Federal Communications Commission Telecommunications Act of 1996  
<http://www.fcc.gov/telecom.html>
- General Information: <http://migratorybirds.fws.gov/issues/towers/abcs.html>
- Ogden, L.J.E. 1996. Collision Course: The hazards of lighted structures and windows to migrating birds. World Wildlife Fund Canada and the Fatal Light Awareness Program. Toronto, Ontario, Canada. 46 pp.
- Towerkill.com. <http://www.towerkill.com>
- U.S. Fish and Wildlife Service Endangered Species Home Page. <http://endangered.fws.gov>
- U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Bird Issues.  
<http://migratorybirds.fws.gov/issues/tblconthtml>
- U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Service Guidelines.  
<http://migratorybirds.fws.gov/issues/towers/comtow.html>

## Giglio, Patrick

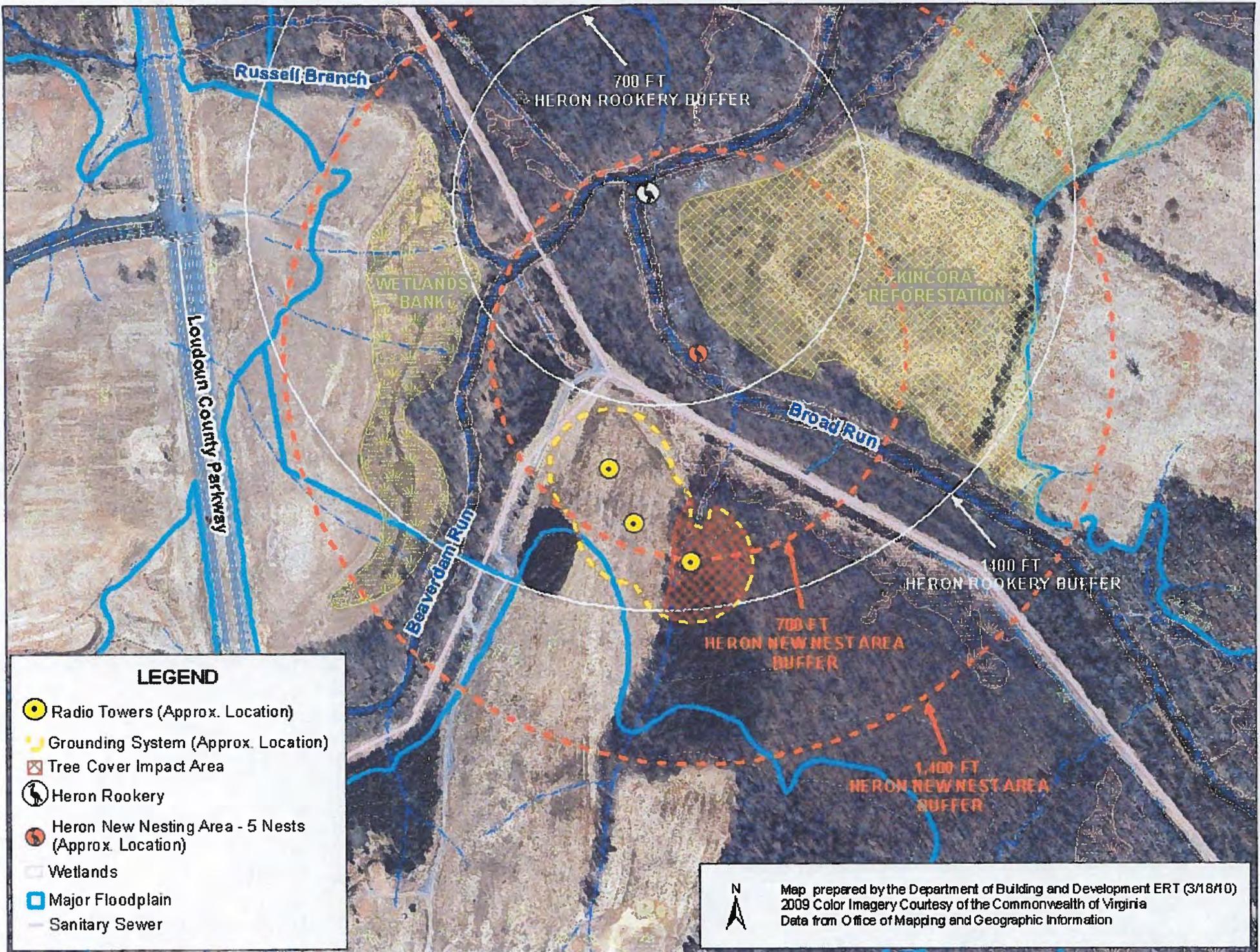
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**From:** Giglio, Patrick  
**Sent:** Thursday, March 18, 2010 4:15 PM  
**To:** 'Ewing, Amy (DGIF)'  
**Cc:** Taylor, Todd  
**Subject:** ESSLog# 30636\_Potomac Radio\_tower construction  
**Attachments:** Potomac\_Radio\_New\_Nest\_Area.JPG; Potomac Radio-Heron.pdf

Amy

Thank you for your response dated March 8, 2010. During a site visit this week we noted five occupied Blue Heron Nests on the east bank of the Broad Run in two sycamore trees in close proximity to the proposed radio tower site (see map & photos). These five nest are some distance from the main Rookery which is estimated to consist of 40+ nests located further to the north. We believe these nest may have been established during the 2008 or 2009 breeding seasons, so they were not considered by VDGIF during the review of the Kincora SPEX application. We note that other large sycamore trees exist in proximity to the five occupied Blue Heron Nests and may provide habit for other nesting birds in the future. Enlight of this new information regarding the proximity of the five nests to the proposed radio tower site can you provide additional input regarding potential impacts and mitigation strategies.

Pat Giglio, Planner III  
Loudoun County Department of Planning  
703-777-0246 (office)  
703-737-8563 (direct)



A-45

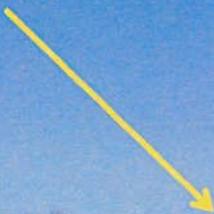
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POTOMC RADIO, CMPT 2009-0002 / SPEX 2009-0029

Heron  
Rookery



Heron Nesting Area

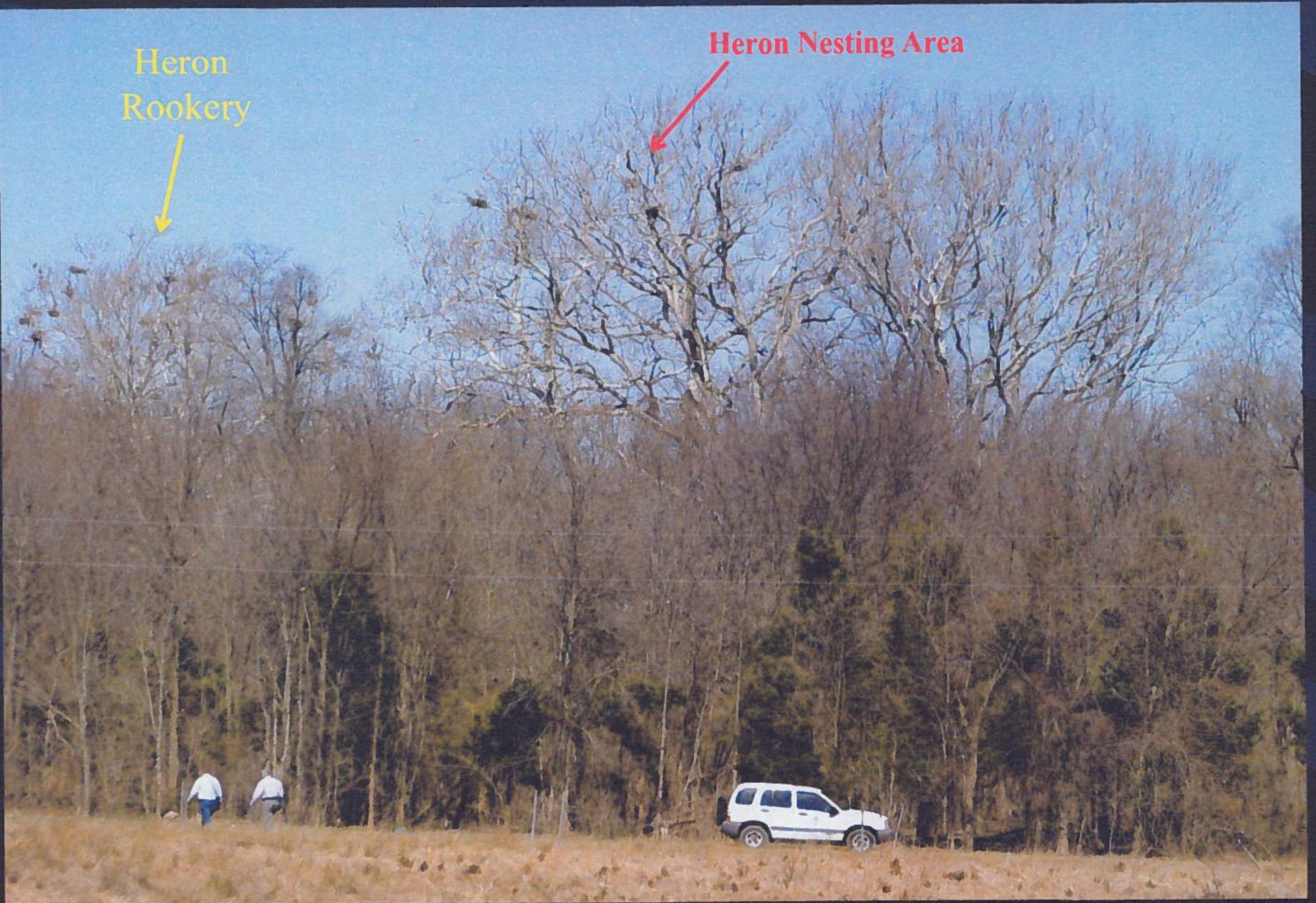


POTOMC RADIO, CMPT 2009-0002 / SPEX 2009-0029

Heron  
Rookery



Heron Nesting Area



## Giglio, Patrick

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**From:** Ewing, Amy (DGIF) [Amy.Ewing@dgif.virginia.gov]  
**Sent:** Friday, March 19, 2010 9:37 AM  
**To:** Giglio, Patrick  
**Cc:** Taylor, Todd; Harding, Sergio (DGIF); Cooper, Jeff (DGIF)  
**Subject:** RE: ESSLog# 30636\_Potomac Radio\_tower construction  
**Attachments:** ESSLog# 30636\_Potomac Radio\_tower construction

Hi Patrick,  
Thanks for the information and map. This is very helpful to us in updating our waterbird colony data. We will extend the boundaries of the colony to include the new nesting sites.

When it comes to protecting heron colonies, we recommend a two-step approach:

- **Maintain an undisturbed, naturally vegetated buffer of at least 500 ft\* around the colony:** It appears that between the new nesting sites and the project site, the vegetation has already been cleared. So, adherence to this recommendation is not possible. Although, we recommend removing as little additional vegetated buffer as possible and consideration of planting the buffer where possible.
- **Adhere to a time of year restriction from February 15 through July 31 for all construction activities within 0.25 mile\* of the rookery:** We recommend that all construction activities, including additional ground clearing, associated with the installation of the towers adhere to this time of year restriction. This serves to protect nesting birds from disturbance allowing them to brood their eggs, feed their young, etc. Once the young have successfully fledged, the construction activities are less likely to interrupt successful reproduction and rearing of young.

\*When Andy Zadnik first coordinated the protection of this colony with Loudoun County, I believe a 600 ft no-disturbance buffer was placed on the colony and a 1,400 ft time of year restriction buffer was also placed. It is fine to use those numbers to maintain consistency since that is what I recommended in my previous email (attached) about this project. They are just slightly more protective than what we typically recommend.

We continue to support all other comments and recommendations included in the attached email from March 8, 2010.

Thanks, Amy

Amy M. Ewing  
Environmental Services Biologist  
Virginia Dept. of Game and Inland Fisheries  
4010 West Broad Street  
Richmond, VA 23230  
804-367-2211  
[amy.ewing@dgif.virginia.gov](mailto:amy.ewing@dgif.virginia.gov)

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**From:** Giglio, Patrick [mailto:Patrick.Giglio@loudoun.gov]  
**Sent:** Thursday, March 18, 2010 4:15 PM  
**To:** Ewing, Amy (DGIF)  
**Cc:** Taylor, Todd  
**Subject:** ESSLog# 30636\_Potomac Radio\_tower construction

Amy  
Thank you for your response dated March 8, 2010. During a site visit this week we noted five occupied Blue Heron Nests on the east bank of the Broad Run in two sycamore trees in close proximity to the proposed radio tower site (see map &

photos). These five nest are some distance from the main Rookery which is estimated to consist of 40+ nests located further to the north. We believe these nest may have been established during the 2008 or 2009 breeding seasons, so they were not considered by VDGIF during the review of the Kincora SPEX application. We note that other large sycamore trees exist in proximity to the five occupied Blue Heron Nests and may provide habit for other nesting birds in the future. Enlight of this new information regarding the proximity of the five nests to the proposed radio tower site can you provide additional input regarding potential impacts and mitigation strategies.

Pat Giglio, Planner III  
Loudoun County Department of Planning  
703-777-0246 (office)  
703-737-8563 (direct)

## Giglio, Patrick

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**From:** Giglio, Patrick  
**Sent:** Wednesday, March 31, 2010 8:36 AM  
**To:** 'Ewing, Amy (DGIF)'  
**Subject:** Potomac Radio, PC Questions  
**Attachments:** PC Questions.docx; Potomac\_Radio\_Heron\_Map\_033010.JPG

Amy

Please find attached questions from the Loudoun County Planning Commission (PC) that were raised at their March 24, 2010 Public Hearing for Potomac Radio to be addressed at a future work session on the application. Your assistance and advice in answering these questions pertaining to the Heron Rookery would be gladly appreciated.

Attached is an updated map depicting the 500 feet undisturbed buffer and location of proposed emergency generator. Also I would like to note that as of last week there is now 11 nesting pairs located in the sycamores adjacent to the subject site. Give me a call if I can provide any additional information.

Pat Giglio, Planner III  
Loudoun County Department of Planning  
703-777-0246 (office)  
703-737-8563 (direct)

**Potomac Radio**

Questions from Planning Commission Public Hearing, Wednesday March 24, 2010

What type of activities can occur in the 500 ft. "do not disturb" area defined by VDGIF in proximity to the Heron Rookery?

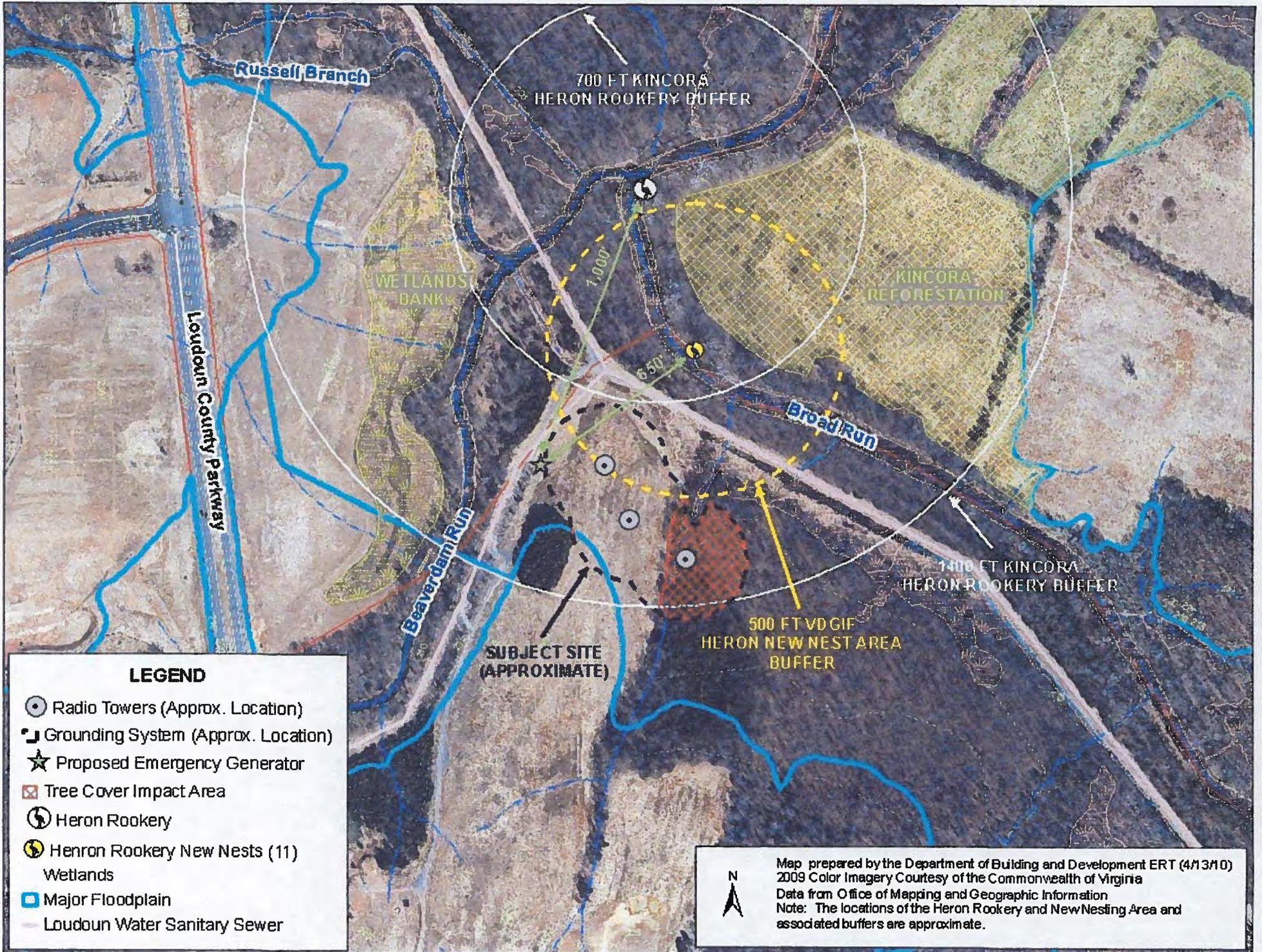
What is the effect of the construction and/or presence of tall structures in proximity to Heron Rookeries based on case studies?

What effect does noise (ie. emergency generator at 70 decibels) have on the Heron Rookery and what are acceptable levels?

What is the life style habit and nesting time frame for Herons?

What provides the best riparian buffer on the subject site the existing tree cover or the proposed Planting Plan?

What trees species provides the best survivability and growth rates within the floodplain on the subject site and would it be advantageous to add hardwoods into the mix of trees species in addition to the loblollies proposed with the Planting Plan?



## Giglio, Patrick

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**From:** Ewing, Amy (DGIF) [Amy.Ewing@dgif.virginia.gov]  
**Sent:** Thursday, April 01, 2010 11:46 AM  
**To:** Giglio, Patrick  
**Subject:** RE: Potomac Radio, PC Questions  
**Attachments:** PC Questions\_dgif.docx

Hi Patrick,  
Please see our responses in blue in the attached document.

Let me know if you need anything further.

Amy

Amy M. Ewing  
Environmental Services Biologist  
Virginia Dept. of Game and Inland Fisheries  
4010 West Broad Street  
Richmond, VA 23230  
804-367-2211  
[amy.ewing@dgif.virginia.gov](mailto:amy.ewing@dgif.virginia.gov)

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**From:** Giglio, Patrick [mailto:Patrick.Giglio@loudoun.gov]  
**Sent:** Wednesday, March 31, 2010 8:36 AM  
**To:** Ewing, Amy (DGIF)  
**Subject:** Potomac Radio, PC Questions

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Attached is an updated map depicting the 500 feet undisturbed buffer and location of proposed emergency generator. Also I would like to note that as of last week there is now 11 nesting pairs located in the sycamores adjacent to the subject site. Give me a call if I can provide any additional information.

Pat Giglio, Planner III  
Loudoun County Department of Planning  
703-777-0246 (office)  
703-737-8563 (direct)

## Potomac Radio

Questions from Planning Commission Public Hearing, Wednesday March 24, 2010

What type of activities can occur in the 500 ft. "do not disturb" area defined by VDGIF in proximity to the Heron Rookery? We recommend that a 500-ft undisturbed, naturally vegetated buffer be maintained on the nest. We recommend no disturbance within this buffer during the nesting season and no alterations to this vegetated buffer at any time. The purpose of the buffer is to provide line of sight protection as well as a physical barrier from human disturbance. In addition, it allows for some expanse of the colony if needed.

What is the effect of the construction and/or presence of tall structures in proximity to Heron Rookeries based on case studies? Based on the experience of our bird experts, Jeff Cooper and Sergio Harding, we do not anticipate the presence of the radio towers to negatively impact the heronry. They may actually provide additional substrate for the birds to nest on. More impactful than anything is simply increased urbanization in the area.

What effect does noise (ie. emergency generator at 70 decibels) have on the Heron Rookery and what are acceptable levels? We do not believe the noise from the generator will adversely impact the birds. The level of the noise is really rather small (same as a typical vacuum cleaner or TV) and it will be periodic.

What is the life style habit and nesting time frame for Herons? The nesting season for great blue heron is typically February 15 through July 31.

What provides the best riparian buffer on the subject site the existing tree cover or the proposed Planting Plan? With respect to riparian buffers, we typically recommend undisturbed, naturally vegetated riparian buffers of at least 100-feet on both sides of streams and up to 300-ft if the stream is known to support sensitive species. The larger the buffer, the better the protection of the water quality and wildlife habitat. We recommend maintaining mature woody vegetation (trees), not mowed grass or other regularly maintained landscapes along streams and wetlands. In any situation, we recommend the use of native species for all plantings.

What tree species provides the best survivability and growth rates within the floodplain on the subject site and would it be advantageous to add hardwoods into the mix of tree species in addition to the loblollies proposed with the Planting Plan? We cannot speak to tree survivability, you would need to contact someone that performs stream buffer plantings/restoration to speak to that. There are certainly trees that thrive in floodplain environs. In terms of wildlife habitat, a mix of tree species (soft and hardwoods) is best and we typically recommend that native hardwoods which provide hard and soft mast be included in the planting mix.

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