D1934.001
August 28, 2020

YELLOW CROWNED NIGHT HERON (Nyctanassa violacea) HABITAT EVALUATION & IMPACT ASSESSMENT

522 SOUTH RIVERSIDE DRIVE PROPERTY
BLOCK 5213 * LOT 1
NEPTUNE TOWNSHIP, MONMOUTH COUNTY, NJ

PREPARED FOR:

DYKEMAN ASSOCIATES
1 DYKEMAN PLACE
NEPTUNE, NJ 07753

PREPARED BY:

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I. INTRODUCTION

A. Perspective and Scope

DuBois & Associates, LLC (DuBois) was retained by Dykeman Associates (Dykeman) to perform an investigation, habitat/nest evaluation, and impact assessment for the yellow-crowned night heron (*Nyctanassa violacea*) on Block 5213, Lot 1 within Neptune Township, Monmouth County, New Jersey (the site). This evaluation has been based on review of New Jersey Department of Environmental Protection (NJDEP) Geographic Information Systems (GIS) digital mapping including aerial photography, freshwater wetlands, soil survey and Landscape Project Version 3.3 data, which depicts habitat patches based on documented occurrences of rare wildlife species. Results of the evaluation and assessment are derived from the experience of DuBois biologists and a literature search documenting the life history and habitat requirements of the subject species. A field investigation was performed on the site August 27, 2020. The assessment incorporated the evaluation of existing site conditions, identified nest structures, hydrology, freshwater wetlands, soil composition, vegetation assemblages, ecotone areas, as well as regional surrounding land uses in direct relation to the habitat use and property development impacts to the yellow-crowned night heron.

This evaluation and impact analysis has been conducted in response to information and comments received as part of a Variance application submitted to the Neptune Township Zoning Board for redevelopment of a single-family dwelling. This includes correspondence addressed to the Neptune Township Committee prepared by the American Littoral Society dated June 1, 2020 that provides information regarding documented yellow-crowned night heron rookeries throughout areas of the Shark River Hills residential development, which is the overall development inclusive of this project site. The correspondence as provided to this office was accompanied by 2020 surveyed/identified nesting locations and photographs identified on Google Maps. It is unknown what entity conducted these studies and prepared the nesting map and information.

The proposed project is for redevelopment of a single-family dwelling on a parcel located more than 450 feet from the mean high water line (MHWL) of the nearest tidal water (Shark River). The site is in the Coastal Area Facility Review Act (CAFRA) jurisdictional limits. The Coastal Zone Management Rules (CZM Rules) (N.J.A.C.7:7) state that a permit is required for development on a property between 150 feet and 500 feet of the MHWL of a tidal waterbody for a residential development that exceeds 25 proposed dwelling units. The project proposes redevelopment of one (1) previously existing dwelling. The project site is therefore not subject to compliance with the CZM Rules for the proposed development, and is outside of the NJDEP jurisdiction. The site is also absent of regulated wetlands and transition areas, and development is not subject to compliance with the Freshwater Wetlands Protection Act Rules (N.J.A.C.7:7A)

Although the proposed project does not require compliance with the CZM Rules, this evaluation and impact analysis have been prepared consistent with Subchapter 7 of the CZM Rules - *Standards for Conducting and Reporting the Results of an Endangered or Threatened Wildlife or Plant Species Habitat Impact Assessment and/or Endangered or Threatened Wildlife Species Habitat Evaluation*.

The following report summarizes DuBois's findings for whether the site exhibits documented yellow crowned night heron habitat (nesting and foraging), discussion of direct and indirect impact of the proposed redevelopment project on the target species based on results of the habitat study, minimization of impacts, and recommendations as applicable.

B. Site Characteristics

1. Location

The site is located within the Atlantic Coastal Landscape Region, as identified within the New Jersey Wildlife Action Plan (NJDEP 2017). The site is located with frontage along South Riverside Drive to the north, east of Route 18 (refer to *Figure 1: New Jersey Road Map*). The site is located on the Asbury Park U.S. Geological Survey Quadrangle with NAD 83 state plane coordinates at the center of the site E(x) 618,204 and N(y) 494,320 (refer to *Figure 2: Asbury Park USGS Quadrangle Map*). The site is located in the Monmouth Watershed Management Area (12), the Whale Pond/Shark River/Wreck Pond Bk watershed (12DA), and the Shark River (below Remson Mill gage) subwatershed (12DA06).

2. Existing/Surrounding Land Use/Land Coverage

Existing Land Use/Land Coverage

The project site is currently undeveloped and is characterized as an early successional/disturbed community in the area of the prior dwelling, and is a fragmented coniferous and deciduous forested upland in areas surrounding the prior dwelling location between surrounding residences and South Riverside Drive. The driveway entrance from South Riverside Drive does remain. The previous dwelling was present until 2017, and then was destroyed by a fire. Refer to *Figure 3: 2012 Aerial Map* which depicts the location of the prior dwelling. Representative photographs of the current site conditions are presented in *Appendix A* of this report.

Surrounding Land Use/Land Coverage

DuBois also analyzed surrounding land use/land coverage via ground inspection and aerial photography interpretation. Surrounding land use includes extensive single-family residential development and roadway networks that are associated with the overall Shark River Hills residential community. The Shark River waterway is located a minimum of approximately 470 feet to the south of the site. (refer to *Figure 4: Land Use Cover Map*).

3. Monmouth County Soil Survey

According to the SSURGO GIS data layer provided by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), one (1) soil type representing one (1) soil series is mapped at the project site (refer to *Figure 5: Monmouth County Soil Survey Map*). The following description is referenced directly from the USDA NRCS official soil series descriptions.

Map unit: EveD – Evesboro sand, 10 to 15 percent slopes
Component: Evesboro (95%)
The Evesboro component makes up 95 percent of the map unit. Slopes are 10 to 15 percent. This component is on coastal plains, dunes, low hills. The parent material consists of sandy eolian deposits and/or sandy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

4. Vegetation Communities

For each ecological community identified on-site, DuBois evaluated physiognomy, species composition with a list of most abundant plant species by strata, successional stage, slope degrees and aspect. Photographs of the project area and surrounding land use and biotic communities are presented in *Appendix A*.

The central section of the site in the vicinity of the prior dwelling and immediate surrounding area is characterized as an early successional community, and lacks any overstory trees or established subcanopy and understory vegetation. Species identified include Japanese stiltgrass (*Microstegium vimineum*), white snakeroot (*Ageratina altissima*), goldenrod species (*Solidago spp*.), wisteria (*Wisteria sp*.), mugwort (*Artemisia vulgaris*), garlic mustard (*Alliaria petiolata*), pokeweed (*Phytolacca americana*), and few black locust (*Robinia pseudoacacia*) saplings. This vegetation composition is largely composed of pioneer species that are common in disturbed communities.

Mature fragmented forested areas on the site surrounding the prior (and proposed) dwelling are characterized as a mixed hardwood and coniferous community. Overstory and subcanopy vegetation includes white pine (*Pinus strobus*), white oak (*Quercus alba*), black locust, tulip poplar (*Liriodendron tulipifera*), and sassafras (*Sassafras albidum*). Understory vegetation includes wineberry (*Rubus phoenicolasius*), barberry (*Berberis vulgaris*), and multiflora rose (*Rosa multiflora*). Herbaceous vegetation includes dense areas of English ivy (*Hedera helix*), wisteria, garlic mustard, and stiltgrass.

5. Freshwater Wetlands/Hydrology

According to the NJDEP freshwater wetland GIS mappings, there are no freshwater wetlands mapped on or in the vicinity of the site (refer to *Figure 6: NJDEP Freshwater Wetlands Map*). This was confirmed by DuBois during the referenced site inspection. The nearest mapped wetlands are along the Shark River approximately 360 feet south of the site, which are classified as saline high marsh wetlands.

According to the United States Fish and Wildlife Service's (USFWS) National Wetland Inventory, there are no wetlands on the site. The nearest mapped wetlands are identified as the Shark River waterway, which is classified as an Estuarine Deepwater Marine habitat (E1UBL). The USFWS mapping is also generally consistent with the NJDEP mapped wetlands and DuBois field investigation.

The site is therefore not impacted by regulated wetlands, transition areas, or waterways, and is not subject to regulatory jurisdiction of the Freshwater Wetlands Protection Act Rules (N.J.A.C.7:7A).

II. RECORDS SEARCH

A. Wildlife

1. Landscape Project Review

DuBois reviewed Landscape Project Version 3.3 data for threatened/endangered wildlife species potential in the area. The Landscape Project was developed by the NJDEP, Division of Fish and Wildlife, Endangered and Non-Game Species Program (ENSP) as a wildlife-habitat mapping program that is used to identify and map critical habitats for endangered, threatened, and special-concern wildlife. Version 3.3 applies a species-based habitat layer which identifies imperiled and special concern wildlife within each Landscape Region of New Jersey; Atlantic Coastal, Delaware Bay, Piedmont Plains, Pinelands, Skylands and Marine. The Landscape Project uses documented sightings of listed wildlife and, based on a species-

specific model, designates areas of suitable habitat contiguous to the sighting as critical habitat. Each species has a specific set of land use/land cover (LU/LC) classes that are combined into a potential layer relating to that species' habitat requirements. Version 3.3 also provides detailed information on the type of occurrence, called a feature label, which includes foraging and breeding, among others, as well as the last year of documented occurrence. The Landscape habitat patches are ranked based on the status of a species record, if present, within or near a polygon. The ranking system applied is as follows:

> Rank 1: assigned to species-specific habitat patches that meet habitat-specific suitability requirements such as minimum size or core area criteria for endangered, threatened or special concern wildlife species, but that do not intersect with any confirmed occurrences of such species.
>
> Rank 2: assigned to species-specific habitat patches containing one or more occurrences of species considered to be species of special concern.
>
> Rank 3: assigned to species-specific habitat patches with one or more occurrences of State threatened species.
>
> Rank 4: assigned to species-specific patches containing one or more occurrences of State endangered species.
>
> Rank 5: assigned to species-specific habitat patches containing one or more occurrences of wildlife listed as endangered and threatened pursuant to the Federal Endangered Species Act of 1973.

An endangered species is a species or subspecies of wildlife whose prospects for survival or recruitment are in jeopardy or are likely within the foreseeable future to become so due to any of the following factors: (1) the destruction, drastic modification, or severe curtailment of its habitat, or (2) its over-utilization for scientific, commercial or sporting purposes, or (3) the effect on it of disease, pollution, or predation, or (4) other natural or manmade factors affecting its prospects of survival or recruitment within the State, or (5) any combination of the foregoing factors. Threatened species are generally defined to be species that may become endangered if conditions surrounding them begin or continue to deteriorate. Species of special concern are species that warrant special attention by the NJDEP because of inherent vulnerability to environmental deterioration or habitat modification that would result in its becoming threatened if conditions surrounding the species begin or continue to deteriorate (N.J. Division of Fish and Wildlife 2012).

The site is not mapped with any Rank 3, 4 or 5 habitat for state or federally listed threatened or endangered species (refer to *Figure 7: NJ Landscape Project (v 3.3) Map*). The nearest Rank 4 mapped habitat is 170 feet to the south of the site associated with undeveloped forested communities, and identified as bald eagle *(Haliaeetus leucocephalus*). Further south along the river associated with the mapped saline marsh community and Shark River is mapped habitat for the black crowned night heron (*Nycticorax nycticorax*) and osprey (*Pandion haliaetus*). These mapped species habitats are not associated with developed areas of the Shark River Hills residential development. It should be noted that the most recent available Landscape Project mapping (version 3.3) is prepared based on land use/land cover data from 2012 (NJDEP, 2017). Therefore, any recent documentation of state listed threatened or endangered species occurrences may not be reflected in this mapping.

III. HABITAT ASSESSMENT

The species addressed in this assessment is derived from information provided to this office with regards to recent documentation of yellow crowned night heron rookeries within the Shark River Hills residential development, as documented by the American Littoral Society per the above referenced correspondence. A general description of suitable habitat requirements based on the scientific literature for the yellow crowned night heron subject of this assessment are presented below.

A. Subject Species

1. Yellow-crowned Night Heron (*Nyctanassa violacea*) ,State threatened

The yellow-crowned night heron range in eastern North America includes Florida north to Long Island, rarely in Connecticut and Massachusetts for the breeding population and typically Florida and south for the wintering population (Bull, 1974). The yellow-crowned night heron typically nests along the coast in New Jersey, the majority of the nest sites being found in Cape May and Ocean Counties (NJDEP, 2013). The yellow-crowned night heron is listed as threatened by the Division of Fish and Wildlife. The Natural Heritage Program has assigned a Global Rank of G5 to the species, which indicates that the species is demonstrably secure, although it may be rare near the periphery of its range (NJDEP, Office of Land Management, 2005). The State Rank is listed as S2B, which indicates that the species is imperiled in the state with 6 to 20 known occurrences for the breeding population (ibid).

The yellow-crowned night heron is typically associated with marshes, swamps, lakes tidal mudflats, and rocky shores. The yellow-crowned night heron is primarily associated with tidal communities in New Jersey, utilizing areas along tidal waterways that are dominated by *Spartina* (NJDEP, 2013). The species will utilize two (2) different ecological areas. In coastal areas this includes mixed heronries within dense areas of bayberry, sumac, poison ivy and greenbriar (Bull, 1974), similar to the black-crowned night heron. In wooded areas the species will nest in swamps or moist to dry woodland in trees including maple (*Acer*) species, oak (*Quercus*) species and cherry (*Prunus*) species. (ibid.). The NJDEP reports that recently yellow crowned night herons have increasingly been documented nesting in in close proximity to human activity like parks and residential areas (NJDEP, 2013).

This target species nests in colonies, ranging from six (6) to thirty (30) known pairs in New York State (Bull, 1974). The nests are generally situated in trees, ranging in height from as low as five (5) feet above ground in coastal thickets up to approximately sixty (60) feet in trees (ibid). Nests are built of sticks and lines with fine twigs, rootlets and leaves, and has an outside diameter of approximately 20-inches (Harrison, 1975). For comparison, black crowned night heron nests are identified as approximately 24-inches in diameter (ibid). Egg clutches typically include 3 to 6 eggs (ibid). The egg laying dates ranges from April 30 to June 10 and fledging dates from June 22 to July 4 (ibid). The species will migrate to the south from New Jersey by late October (NJDEP, 2013).

The yellow-crowned night heron prefers to forage along the shores and within the areas of saltmarsh cordgrass (*Spartina alterniflora*) (NJDEP, 2013). This species uses a stalk and strike method of feeding, as well as ground gleaning, at night and in the dim light (Ehrlich, et. al, 1988). This species has a variety of prey, but almost exclusively feeds on crustaceans (NJDEP, 2013). The yellow-crowned night heron may feed on crayfish in freshwater, but also includes insects, smaller vertebrates, fish, leeches and young birds (NJDEP, 2013; Ehrlich, et. al, 1988). Yellow-crowned night herons almost exclusively feed on crustaceans, feeding on crabs in saltwater and crayfish in freshwater (NJDEP, 2013) The NJDEP (2013) documents that the yellow-crowned night heron will specifically select foraging habitat based on the

presence of 'prey complexes', which have a large collection of desirable prey species. This species has a large bill, which permits larger prey, than most other heron species.

B. Field Evaluation

The subject site and surrounding areas were evaluated on August 27, 2020 by DuBois personnel for purposes of reviewing the documented nests, existing, and surrounding site conditions (refer to *Appendix C* for a Statement of Qualifications). The site, surrounding residential neighborhood, and Shark River (where feasible) was examined in an effort to identify suitable habitat characteristics for the yellow crowned night heron. The assessment incorporated the evaluation of the nest structures, existing land use on and in the vicinity of the site, hydrology, freshwater wetlands, soil composition, vegetation assemblages, and ecotone areas in direct relation to the habitat requirements of the yellow crowned night heron. Results of the habitat assessment addressing suitability for each target species are presented below.

C. Habitat Suitability and Nest Assessment Results

Suitable habitat characteristics and the documented nest structures were compared and evaluated in relation to the existing conditions present on and in the vicinity of the subject site, as presented in Section I.B.4 of this report. The following are results of the habitat suitability assessment.

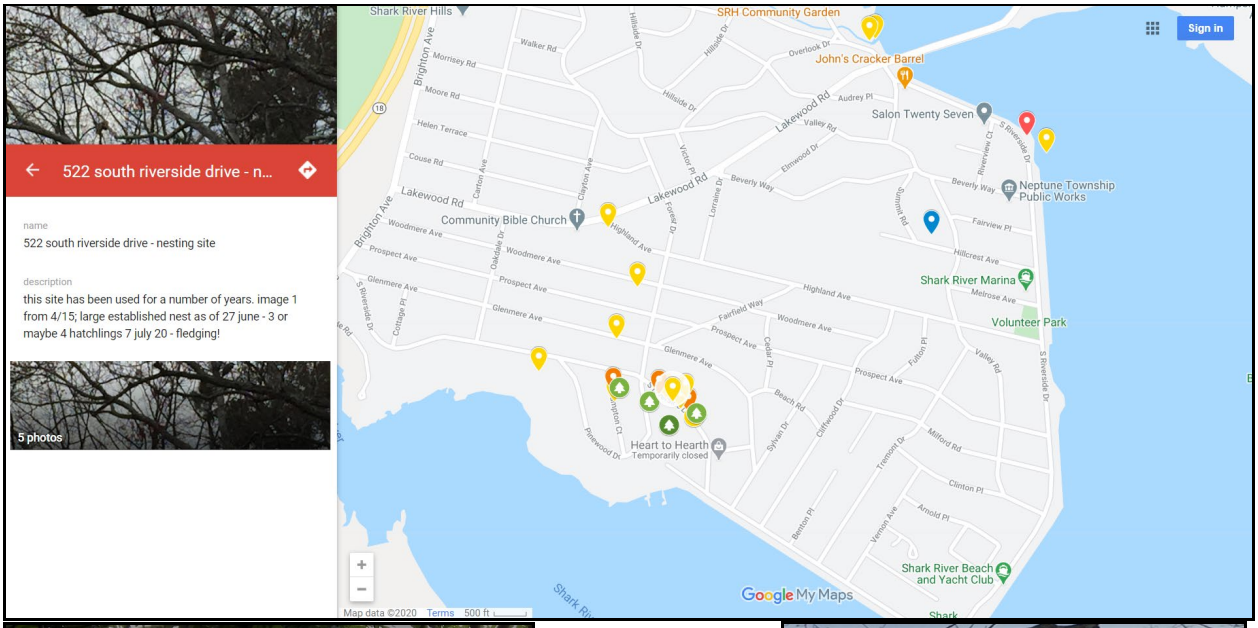
1. Yellow-crowned Night Heron

The yellow-crowned night heron is primarily associated with tidal communities in New Jersey, utilizing areas along tidal waterways that are dominated by *Spartina* (NJDEP, 2013). The species is a colonial nesting bird that utilizes a variety of habitats for nesting in the vicinity of foraging habitat. Colonies have been known to range anywhere from six (6) to thirty (30) nesting pair (Bull, 1974). Yellow-crowned night herons almost exclusively feed on crustaceans, feeding on crabs in saltwater and crayfish in freshwater (NJDEP, 2013). Additional prey includes various small reptile, amphibian and mammal species.

There are no wetlands on or in the vicinity of the site. As mapped by both NJDEP and USFWS, the nearest wetlands to the site are to the south more than 400 feet, which are associated with significant intervening development. This mapping and absence of wetland areas on or in the vicinity of the site was field confirmed by DuBois during the site inspection. This is also substantiated based on the Landscape Project mapping that identifies the saline marsh as suitable habitat for the black crowned night heron, which forages in similar habitats to the yellow crowned night heron. Field evaluation of surrounding habitats identified optimal foraging areas in low tidal marshes along the South River further to the west of the site in the vicinity of the Brighton Road bridge. Refer to *Figure 8: Yellow Crowned Night Heron Foraging Habitat* map for a depiction of suitable and optimal foraging habitat areas prepared based on regional aerial analysis and field investigation. Numerous egret, herons, and other waterbirds were observed foraging in these optimal tidal flats and open water areas at low tide. It is therefore the determination of DuBois that the site is absent of suitable foraging habitat, however the South River within 0.25 miles of the site does exhibit areas that are composed of adequate prey species and exhibit optimal characteristics suitable for yellow crowned night heron.

The site and surrounding communities are not identified as mapped documented critical habitat for the yellow crowned night heron based on the Landscape Project (v 3.3) mapping. However, as presented above the Landscape Project is based on the sighting occurrence data and land use/land cover information from 2012. Information provided per the American Littoral Society correspondence referenced above

indicates the yellow crowned night heron nests have been more recently been established and documented by the Shark River Clean-up Coalition (SRCC) throughout the Short Hills residential development. This Google Maps database references the nests at the project site as being utilized for numerous years, and is inclusive of photographs documenting nest use. The illustration below is a screenshot of this referenced data base illustrating the Google Maps documentation for the site, and two (2) of the five (5) photographs included.



Google Maps Reference:
https://www.google.com/maps/d/viewer?mid=11X3lFy764lmTZQnTGrlt6SUKDQNrmcyF&ll=40.19169616938533%2C-74.0453612&z=16

It is unknown the professional experience or qualifications of those performing the nesting surveys, and accuracy of photograph locations. However, DuBois has evaluated the provided photographs within the Google Maps nest location website, and the photographs and surrounding characteristics do appear to be of yellow crowned night herons, and are consistent with site features.

The site investigation was performed on August 27, 2020, based on information provided to this office immediately prior. Three (3) nest structures were observed in trees located at the edge of the site, and are on limbs/trunks that extend over South Riverside Road. Refer to *Figure 9: Yellow Crowned Night Heron Nesting Map* for a depiction of the approximate tree and nest locations in relation to the site and surrounding land use. The site investigation was conducted after young of the year have fledged and birds left the nesting area, which is typical of the breeding and nesting timeframes. No nest use was observed and no yellow crowned night herons were observed on or in the vicinity of the site during the field visit. The applicant has indicated that during the breeding season whitewash (droppings) was observed within the road under the nests, which demonstrates use of the nests during this past 2020 breeding/nesting season. Based on the identification of nest structures that meet the general criteria of the yellow crowned night heron based on structure and size, evidence provided in the Google Maps website, and based on information provided to this office, it is apparent these are actively used yellow crowned night heron nests that are part of this overall Shark River Hills residential development rookery. However, this nesting habitat is associated with large trees at the outer limits of the site and South Riverside Road right-of-way. The center of the site that is proposed to be redeveloped, the approximate limits of which are illustrated on *Figure 9*, is largely cleared and characterized as a successional biotic community as presented above, and is largely absent of large mature trees suitable for nesting.

IV. HABITAT IMPACT ASSESSMENT

This assessment has been prepared to also include a habitat impact evaluation of the proposed redevelopment of the previously existing single-family dwelling on identified documented nesting habitat for the yellow crowned night heron. As presented in Section III, it is the determination of DuBois that the identified three (3) nests extending over South Riverside Road are actively utilized by the yellow crowned night heron during the breeding season. The site and immediate vicinity are absent of foraging habitat, and therefore it is the opinion of DuBois that the species does not utilize the site and surrounding residential area outside of the immediate breeding timeframe. This is evidenced by the absence of any yellow crowned night herons observed on the site and in the surrounding Shark River Hills development during the August 27 field investigation.

The proposed site development is depicted on the site plan prepared by Nelson Engineering Associates, LLC (Nelson) entitled "Plot Plan – Tree Removal Plan; 522 South Riverside Drive; Tax Block 5213 Tax Lot 1; Township of Neptune, Monmouth County, New Jersey", dated 4/15/2020, which depicts the proposed development footprint in relation to the prior dwelling location. The area of disturbance is primarily within the same footprint. All trees along the roadway right-of way are to remain undisturbed, inclusive of the nest trees. The proposed area to remain undisturbed on the site is also illustrated on the colored plan prepared by Nelson entitled "Area of Disturbance Study; 522 Riverside Drive….", dated 7/24/2020. This plan also illustrates that the area of disturbance is outside of the nest locations, the approximate limit of which is also depicted on *Figure 9*.

The yellow crowned night herons have chosen to colonize a rookery in the center of an established residential development, which demonstrates the adaption to surrounding human disturbance for successful nesting. The Google Maps website documents that the nests at the site have been successfully used by yellow crowned night herons, which was likely prior to the damage and removal of the prior existing dwelling on the site in 2017. Based on this, as well as the fact that nests are over an actively used roadway and entirely surrounded by other existing inhabited dwellings, the herons that nest in these structures have demonstrated that they are not directly or indirectly adversely impacted by residential development and human use. Furthermore, minimal overall tree clearing is proposed for the site development, a majority of which is to the southeast of the dwelling on the site, and immediately surrounding the existing early successional area where the prior house was located. Based on information

provided to this office, pending approval the site preparation activities for development that will involve tree clearing activities will be completed prior to the start of the next breeding and nesting season in 2021. As a result, there should be no concern with regards to inadvertent removal of any new nest structures that may be constructed on the site.

Based on the proposed limit of disturbance as shown on the referenced plan prepared by Nelson, trees where the nests are located will not be cleared as part of the proposed redevelopment. These trees are adjacent to South Riverside Road, and appear to be within the roadway right-of-way. It is the determination that a new single-family dwelling, located on that portion of the site that was associated with the prior house that was present when herons were nesting here, will not adversely impact future nesting of the yellow crowned night heron on the three (3) nest structures at the project site.

It is the also the determination of DuBois that construction activities that may exceed the typical noise and activity of residential use of the overall development and rookery area, may result in indirect adverse impacts as a result of an increase in noise, surrounding tree removal, and truck use. Therefore, it is the recommendation of DuBois to the applicant that a timing restriction be implemented for all site preparation and construction work for the dwelling. This restriction will require that all of this work be completed outside of the breeding and nesting timeframe for the yellow crowned night heron, which extends from April 1 through August 15. This guideline and timeframe are directly from the NJDEP 2019 management guidelines for utility projects, which have been prepared in order to minimize impacts and avoiding a "take" of state and federally listed threatened and endangered species. All work completed outside of this timeframe will be conducted when yellow crowned night herons are not at the site and will not be impacted by construction activities. Based on this, all construction activities (not including interior work) should be completed between August 15 and April 1. It is also recommended that the limit of disturbance is demarcated in the field with silt fence to ensure that there is no clearing outside of the approved limit of disturbance, which will ensure no inadvertent clearing of trees outside of the approved tree clearing and area of disturbance plan.

It is the determination of DuBois that with the implementation of the timing restriction, demarcation of the limit of disturbance prior to site work, redevelopment of the single-family dwelling will have no indirect or direct adverse impacts on the yellow crowned night herons currently nesting in the residential development of Shark River Hills.

V. DISCUSSION

The goal of this habitat evaluation and impact assessment is to provide life history and habitat information on the yellow crowned night heron in relation to the site and surrounding existing land use characteristics, and nests identified at the site. Further assessment of the proposed project in relation to identified potentially suitable habitat and nest structures has been further reviewed to prepare an impact analysis of the proposed development on the yellow crowned night heron. The Landscape Project mapping, freshwater wetland mapping, and documentation with regards to yellow crowned night heron rookeries throughout Shark River Hills as prepared by others, was reviewed and utilized to support the species discussion, identification of suitable habitat areas, and impact assessment. Following is a summary of habitat suitability, nest evaluation results, and recommendations for the proposed development to ensure minimization of impacts on identified nesting yellow crowned night herons.

It is the determination and opinion of DuBois that the three (3) nest structures that extend over South Riverside Road at the site are yellow crowned night heron nests based on information provided to this office, review of prior documentation and photographs, and consistency of the nest structure characteristics at the site with the life history requirements of yellow crowned night heron. However, the site is not determined to be suitable foraging habitat, or in the immediate vicinity of foraging habitat, in

the opinion of DuBois. The site and surrounding residential development are absent of wetlands and areas that provide a suitable prey source. Foraging habitat for the yellow crowned night heron is over 400 feet to the south, and further west of the site, as is presented on *Figure 8*. The proposed project redevelopment will not result in any adverse impacts to suitable yellow crowned night heron foraging habitat.

The site is associated with three (3) identified yellow crowned night heron nests that have been documented by others as being active for numerous years, which was likely during the timeframe the prior dwelling on the site was habitable. Furthermore, the nests are located above a travelled roadway, and adjacent to numerous other currently habitable single-family dwellings. The yellow crowned night heron colony has chosen to construct the rookery in an active residential development, and therefore has adapted to human use and activity. Photographs on the referenced Google Maps survey website as prepared by others depicts yellow crowned night herons roosting/perching on the roof of a house and a car parked in a driveway.

Google Maps Reference:
https://www.google.com/maps/d/viewer?mid=11X3lFy764lmTZQnTGrlt6SUKDQNrmcyF&ll=40.19169616938533%2C-74.0453612&z=16
https://www.google.com/maps/d/viewer?mid=11X3lFy764lmTZQnTGrlt6SUKDQNrmcyF&ll=40.19169616938533%2C-74.0453612&z=16

Based on this, it is the determination of DuBois that the presence of a single-family dwelling on the site in the same location as previously existed will not directly or indirectly impact the nesting yellow crowned night herons.

The proposed project includes redevelopment of the previously existing dwelling, which is primarily within the early successional area of the prior footprint of the house that has burned down. Only those trees immediately around the perimeter of the prior and proposed dwelling footprint are proposed to be cleared. The nest structures are on trees within the roadway right-of-way that will not be cleared/removed for the proposed site redevelopment. It is the recommendation of DuBois that the limit of disturbance be demarcated in the field with silt fence prior to site preparation to also ensure only those trees within that footprint are cleared, and no earthwork or other site development occurs outside of the approved development area.

In an effort to further minimize impacts to the nesting yellow crowned night herons on the site, it is the recommendation of DuBois that a timing restriction be implemented for the proposed site preparation and construction activities for the dwelling. All construction activities and site clearing should be completed outside of the breeding timeframe of the yellow crowned night herons. As per standard NJDEP best management guidelines utilized for other development and utility projects, this breeding timeframe extends from April 1 through August 15, which is inclusive of the breeding, egg laying, nestling, and fledgling period. After August 15, the yellow crowned night herons leave the rookery site to suitable foraging habitat areas, which is not in the vicinity of the site. This is documented by DuBois based on the absence of yellow crowned night herons observed at the site and the Shark River Hills development during the August 27 field evaluation. The roadway was also absent of whitewash at that timeframe, indicating the rookery has not been used since young have fledged. NJDEP scientific literature further documents that yellow crowned night herons are typically fledged by middle to late July. Therefore, construction during the timeframe between August 15 and April 1 in the late summer, fall and winter will ensure no impacts to the nesting yellow crowned night heron.

It is the determination of DuBois that with implementation of the proposed management measures for the site redevelopment, inclusive of the timing restriction and clear demarcation of the limit of disturbance prior to tree clearing and site work, the proposed redevelopment of a single-family dwelling on the site will not adversely impact the yellow crowned night heron.

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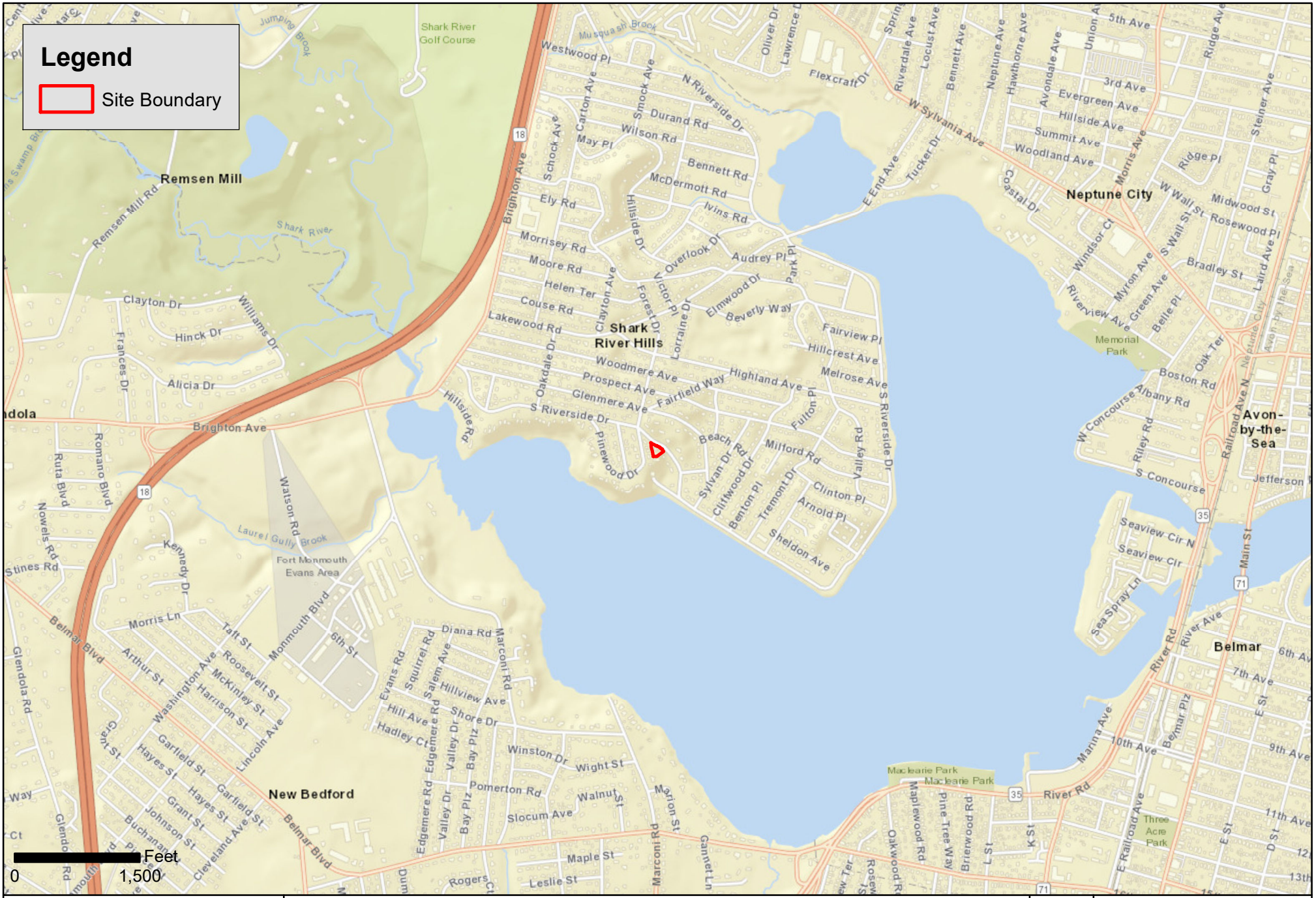
https://www.google.com/maps/d/viewer?mid=11X3lFy764lmTZQnTGrlt6SUKDQNrmcyF&ll=40.19169616938536%2C-74.0453612&z=15

FIGURES



DuBois & ASSOCIATES

New Jersey Road Map

Block 5213 * Lot 1
Neptune Township, Monmouth County, NJ

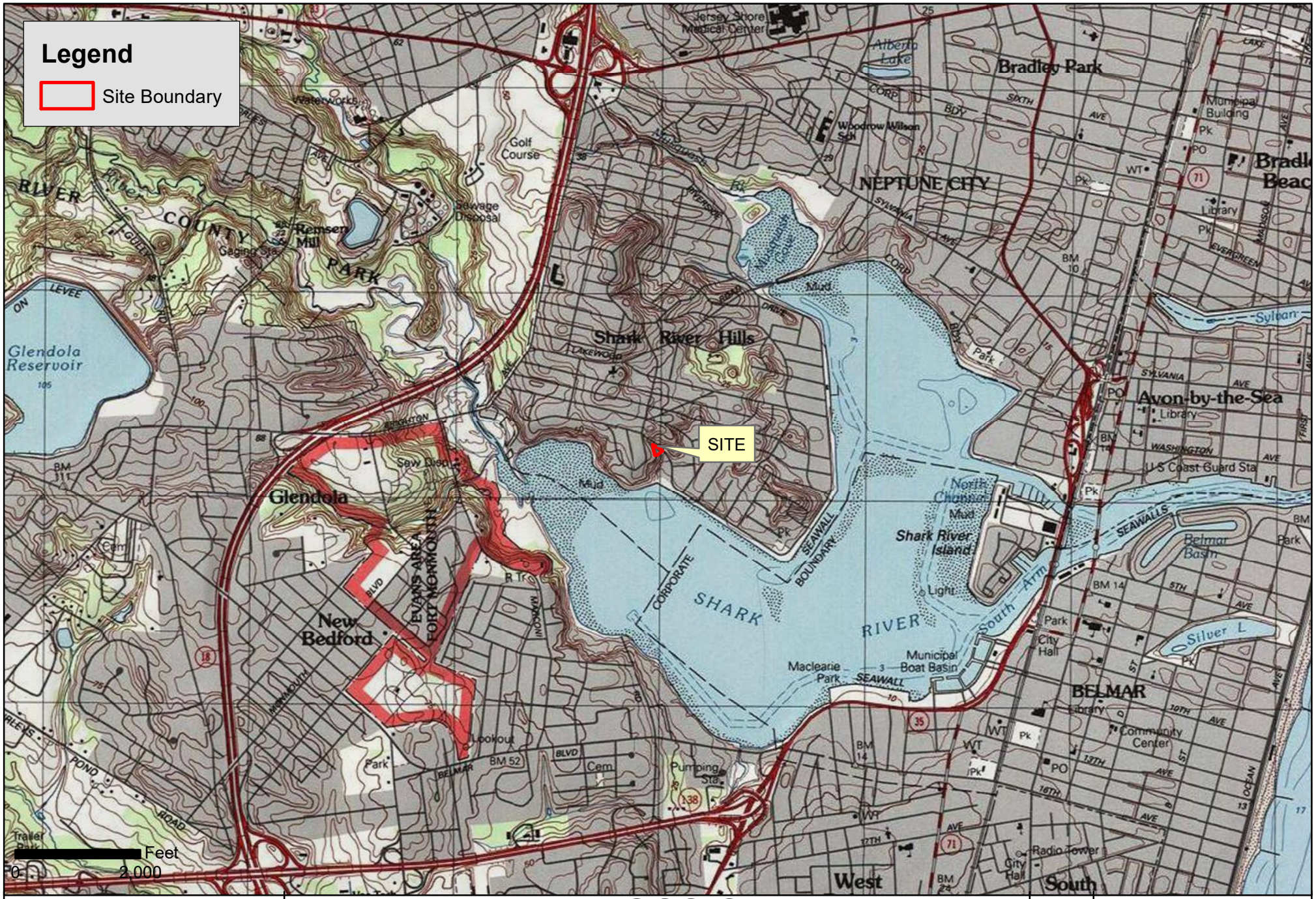
NORTH

Figure 1

Job No.: D1934.001
Scale: 1 in = 1,500 ft
Date: 8/25/2020
Drawn By: BG

Document Path: S:\JOBS NUMBERS\D1934.001\Road.mxd

This map was developed using Geographic Information Systems Digital Data. This map is for visual display purposes only and all locations are approximate.



NE Asbury Park USGS Quadrangle Map

Block 5213 * Lot 1
Neptune Township, Monmouth County, NJ

DuBois & ASSOCIATES

NORTH

Figure 2

Job No.: D1934.001	
Scale: 1 in = 2,000 ft	
Date: 8/27/2020	
Drawn By: BG	

Document Path: S:\JOBS NUMBERS\D1934.001\Quad.mxd

This map was developed using Geographic Information Systems Digital Data. This map is for visual display purposes only and all locations are approximate.

2012 Aerial Map

Block 5213 * Lot 1
Neptune Township, Monmouth County, NJ

NORTH

Figure 3

Job No.: D1934.001
Scale: 1 in = 63 ft
Date: 8/25/2020
Drawn By: BG

Document Path: S:\JOBS NUMBERS\D1934.001\Aerial.mxd

This map was developed using Geographic Information Systems Digital Data. This map is for visual display purposes only and all locations are approximate.

DuBois & ASSOCIATES

Land Use Cover Map

Block 5213 * Lot 1
Neptune Township, Monmouth County, NJ

NORTH

Figure 4

Job No.: D1934.001
Scale: 1 in = 150 ft
Date: 8/28/2020
Drawn By: BG

Document Path: S:\JOBS NUMBERS\D1934.001\Land Use.mxd

This map was developed using Geographic Information Systems Digital Data. This map is for visual display purposes only and all locations are approximate.

Monmouth County Soil Survey Map

Block 5213 * Lot 1
Neptune Township, Monmouth County, NJ

DuBois & ASSOCIATES

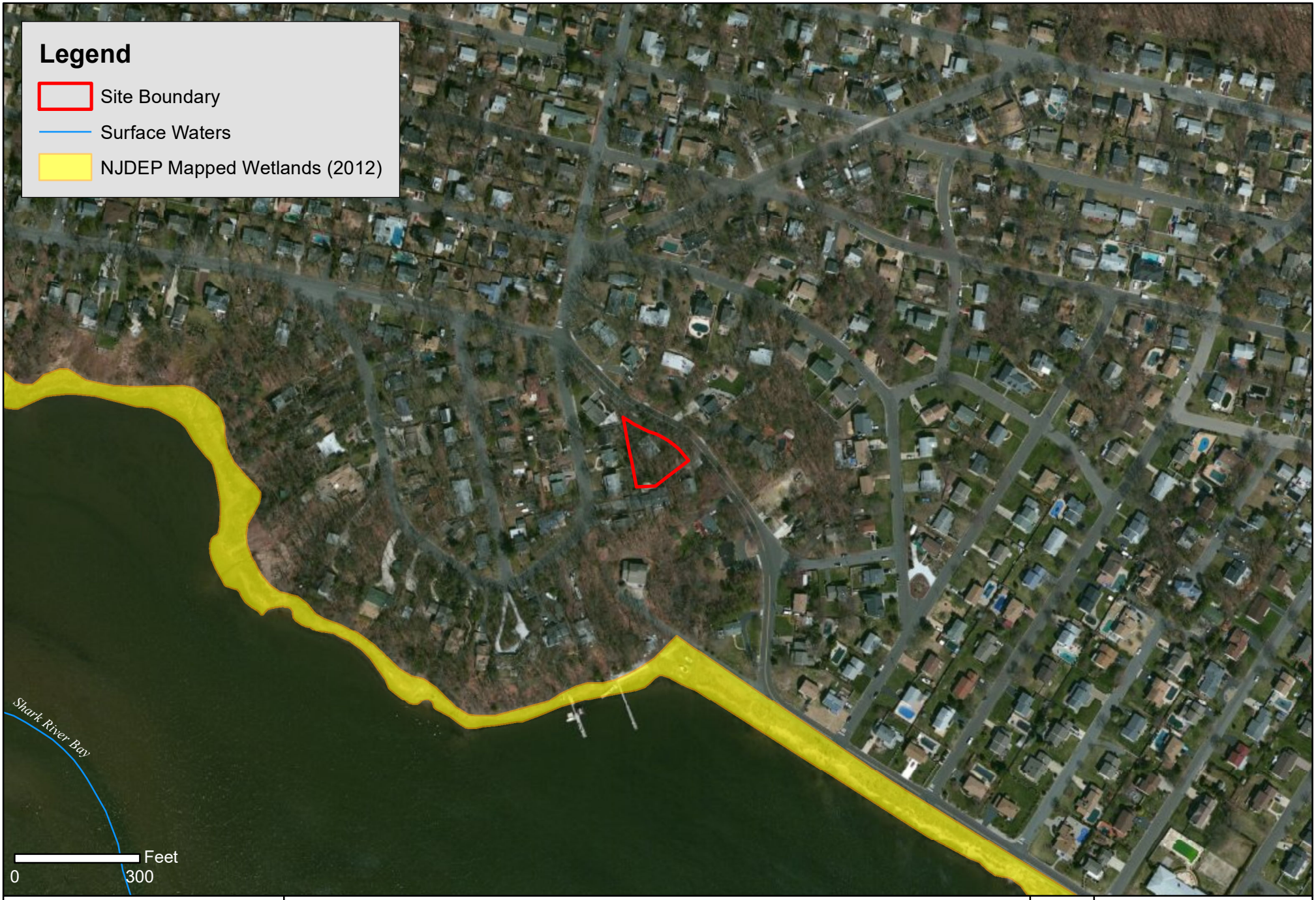
NORTH

Sheet No. 1 of 1

Job No.: D1934.001
Scale: 1 in = 50 ft
Date: 8/28/2020
Drawn By: BG

Document Path: S:\JOBS NUMBERS\D1934.001\Soil.mxd

This map was developed using Geographic Information Systems Digital Data. This map is for visual display purposes only and all locations are approximate.



NJDEP Freshwater Wetland Map

Block 5213 * Lot 1
Neptune Township, Monmouth County, NJ

DuBois & ASSOCIATES

NORTH

Figure 6

Job No.: D1934.001	
Scale: 1 in = 300 ft	
Date: 8/28/2020	
Drawn By: BG	

Document Path: S:\JOBS NUMBERS\D1934.001\Wet.mxd

This map was developed using Geographic Information Systems Digital Data. This map is for visual display purposes only and all locations are approximate.

NJ Landscape Project (v 3.3) Map

Block 5213 * Lot 1
Neptune Township, Monmouth County, NJ

DuBois & ASSOCIATES

NORTH

Figure 7

Job No.: D1934.001	
Scale: 1 in = 300 ft	
Date: 8/28/2020	
Drawn By: BG	

Document Path: S:\JOBS NUMBERS\D1934.001\Landscape.mxd

This map was developed using Geographic Information Systems Digital Data. This map is for visual display purposes only and all locations are approximate.

Yellow Crowned Night Heron Foraging Habitat

Block 5213 * Lot 1
Neptune Township, Monmouth County, NJ

NORTH

Figure 8

Job No.: D1934.001
Scale: 1 in = 400 ft
Date: 8/28/2020
Drawn By: AJ

Document Path: S:\JOBS NUMBERS\D1934.001\YCNH foraging.mxd

This map was developed using Geographic Information Systems Digital Data. This map is for visual display purposes only and all locations are approximate.

DuBois & ASSOCIATES

Yellow Crowned Night Heron Nesting Map

Block 5213 * Lot 1
Neptune Township, Monmouth County, NJ

NORTH

Figure 9

Job No.: D1934.001
Scale: 1 in = 50 ft
Date: 8/28/2020
Drawn By: AJ

Document Path: S:\JOBS NUMBERS\D1934.001\YCNH nest map.mxd

This map was developed using Geographic Information Systems Digital Data. This map is for visual display purposes only and all locations are approximate.

APPENDIX A

SITE PHOTOGRAPHS

522 South Riverside Drive
Block 5213 * Lot 1
Neptune Township, Monmouth County, NJ
Photographs: August 27, 2020

Photo 1: Representative view of the proposed area of disturbance for the reconstructed dwelling, which is characterized as the early successional community lacking overstory trees.

Photo 2: Representative view of the existing access driveway, which is also to be utilized for the reconstructed dwelling.

Photo 3: Overall view facing south along South Riverside Drive at the edge of the site illustrating the right of way and overhanding branches where yellow crowned night herons are nesting, illustrating trees to remain.

Photo 4: View of the northernmost nest in the vicinity of the driveway that is extending over the opposite travel lane from the site of South Riverside Drive.

Photo 5: View of the two (2) nest extending from the southern section of the site.

Photo 6: Closer view of the furthest southern nest extending from the site

Photo 7: View of the proposed house corner stake towards South Riverside Road, illustrating trees to remain.

8: Representative photograph of the Shark River south of the site, illustrating the mapped saline high marsh wetlands and area that exhibits suitable yellow crowned night heron foraging habitat.

APPENDIX B

AMERICAN LITTORAL SOCIETY

SANDY HOOK, HIGHLANDS, NJ 07732

Neptune Township Committee
25 Neptune Blvd
Neptune, NJ 07753

June 1, 2020

RE: American Littoral Society – Yellow Crowned Night Heron Rookeries Identified in Shark River Hills by Shark River Clean-up Coalition

Dear Mayor and Committee Members,

Recently, members of the Shark River Clean-up Coalition (SRCC) provided our organization with addresses and photographs that show existing residential upland wooded areas in Shark River Hills being used by the state threatened yellow crowned night heron (YCNH) for nesting. The area identified is located within the polygon whose perimeter starts at the intersection of Marvin Court and South Riverside Drive, heads west to Brighton Avenue, north northeast along Brighton Avenue to its intersection with Lakewood Road and then east to Forest Road, and ending at the intersection of Glenmere Road and Marvin Court. It is understood that the limits of this polygon may not fully represent all suitable nesting habitat available for YCNH and other locations within Shark River Hills may also be suitable or are currently being used.

The conservation of nesting habitat is imperative to the long-term survival of yellow-crowned night-herons in New Jersey. You are fortunate to have suitable habitat within your municipal borders but with that comes responsibility to protect such a resource. We feel strong enforcement and the revisiting and re-evaluation of existing ordinances is needed to protect YCNH rookeries from development, tree removal, and other forms of human disturbance.

We recommend that prior to upland tree removal or potential habitat disturbances associated with development, existing nesting colonies or areas of potentially suitable habitat within Shark River Hills be evaluated for their suitability by an outside state approved expert in both tree health and nesting needs for the YCNH. Surveys are necessary in order to locate breeding sites, check existing nesting areas, and determine whether the population might be decreasing, increasing, or migrating. Though this polygon is not yet designated as YCNH rookery habitat by the New Jersey Department of Environmental Protection (NJDEP), we understand that NJDEP representatives have been contacted and will be assessing the area soon. This may warrant future designations to improve the conservation and protection for the YCNH. It may also create future limitations on removal of trees if suitable habitat is identified on or near residential properties.

We hope local ordinances continue to be re-evaluated and re-visited to hopefully reflect the aforementioned and will consider the protection and sustainability of such a resource.

Thank you in advance for you progressive actions in re-evaluating current municipal regulations that will proactively protect and sustain existing YCNH populations within Shark River Hills.

Sincerely,

Tim Dillingham
Executive Director
American Littoral Society
732-291-0055

APPENDIX C

STATEMENT OF QUALIFICATIONS

Amy Jones
Senior Biologist/Project Manager
ajones@denviro.com

DuBois & ASSOCIATES

190 North Main Street
Manahawkin, NJ 08050
609-488-2857

Education:

B.S. Ecology
Juniata College – 2000

Certifications:

Professional Wetland Scientist-Society of Wetland Scientists

Qualified Specialist (Ecologist & Ornithologist) able to certify ESA Protection Plans

USFWS Recognized Qualified Bog Turtle Surveyor – NJ

NJDEP ENSP Recognized Qualified Venomous Snake Monitor

Continuing Education:

Rutgers University
Methodology for Delineating Wetland & Wetland Vegetation Identification

Threatened and Endangered Species of Northern and Southern New Jersey (field and classroom courses)

Richard Stockton College of NJ
Ornithology

Shepherd College
Shorebird Management & Ecology

Bowman's Hill Wildflower Preserve
Identification of Cool Season Grasses, Sedges and Rushes
Plant Stewardship Index (PSI)

Professional Affiliations:

The Wildlife Society
- -National Member
- -NJ Chapter Member
- -NJ Chapter Secretary 2007 – 2014
- -NJ Chapter Board Member 2014 – 2016
- -NJ Chapter Newsletter Editor 2017 – present

Fields of Competence:

Amy Jones has over 20 years of experience in the fields of biology, ecology, wetland science, and land use regulatory compliance. She conducts various environmental site assessments, development feasibility studies, wetland delineations, rare species habitat evaluations and population surveys. She has extensive experience in managing a variety of projects from the initial field study stage through various regulatory application and approval processes, including extensive coordination with regulatory personnel. Mrs. Jones has a respected professional relationship with various municipal and county agencies, NJDEP, USFWS and USDA NRCS personnel.

Professional Experience:

Mrs. Jones is a senior biologist and project manager with the firm of DuBois and Associates. She manages all aspects of a project and coordinates specifically with a variety of clients to organize projects and proposals. Mrs. Jones manages each individual project to ensure all appropriate and applicable regulations and tasks are implemented to facilitate successful completion/approval of the project.

Mrs. Jones is responsible for conducting development feasibilities, wetland delineations, natural resource inventories, threatened/endangered species habitat assessments and directed surveys, and monitoring activities. Mrs. Jones has extensive experience with the survey and sampling protocols required under the jurisdiction of the USFWS, NJDEP, PAFBC, and Pinelands Commission for threatened and endangered species surveys. This survey work includes experience in various snake and salamander species drift fence trapping, numerous raptor and woodpecker nest investigations and breeding vocalization broadcast surveys, shorebird and colonial waterbird nesting and monitoring surveys, opportunistic and visual encounter turtle surveys, amphibian monitoring and call detection/playback surveys, and bat studies. Mrs. Jones has received numerous scientific collection permits from regulatory agencies as both the primary permittee and sub-permittee.

Specific experience and responsibilities includes ecological and environmental monitoring activities for various linear development and improvement projects. This monitoring oversight and coordination ensures the construction activities are in compliance with county, state, and federal conditions and standards, and all best management practices are implemented as required. Monitoring activities also serve to ensure the construction activities will not result in adverse impacts to environmentally sensitive areas, or rare faunal or floral habitats and/or populations.

Mrs. Jones conducts vegetation inventories within a variety of biotic communities throughout New Jersey. These have included species specific surveys for numerous target plants considered rare or State and/or Federally listed. Mrs. Jones has conducted numerous botanical investigations for rare plant species within the jurisdiction of the Pinelands Commission and NJDEP. Specifically, these directed evaluations have included surveys for the Federally listed swamp pink, sea beach amaranth, and Knieskern's beaked rush plants, results of which have been accepted by all regulatory state agencies and the USFWS.

Mrs. Jones is responsible for performing wetland delineations under the jurisdiction of multiple agencies, which are conducted pursuant to the interagency evaluation procedures. This includes expertise in analyzing the vegetation and technical indicators of hydrology and soils. She authors Freshwater Wetland Delineation Reports and prepares Freshwater Wetland Letter of Interpretation applications for submittal to the NJDEP for verification of the delineated wetland limits.

Amy Jones
Senior Biologist/Project Manager
ajones@denviro.com

DuBois & ASSOCIATES

190 North Main Street
Manahawkin, NJ 08050
609-488-2857

NJ Builders Association
-Environmental Commission
2016 – present

The Society of Women Environmental Professionals
-Greater Philadelphia
2017 - present

Career Positions:

U.S. Fish & Wildlife Service
E.B. Forsythe NWR
Brigantine, NJ-
Wildlife Biologist
2000-2002

Habitat Management & Design, Inc.
Trenton, NJ-
Sr. Environmental Consultant
2002-2007

Water's Edge Environmental, LLC
Ocean City, NJ-
Senior Biologist
2007-2014

DuBois and Associates, LLC
Manahawkin, NJ –
Sr. Biologist/Environmental Scientist
2014 – Present

Mrs. Jones coordinates directly with professional engineers, attorneys, clients, and regulatory agencies to evaluate compliance and design of projects pursuant to various environmental regulations, inclusive of the Freshwater Wetlands Protection Act Rules, Flood Hazard Area Control Act Rules, and coastal/waterfront development regulations. Based on these permit analyses and project designs, she prepares the applicable permit applications pursuant to the NJDEP and USACOE regulations.

Mrs. Jones has also conducted numerous volunteer survey efforts in coordination with the NJDEP, NJ Audubon Society, and NJ Conserve Wildlife Foundation. These survey efforts include State directed Bog Turtle surveys, participation in grassland bird surveys as part of the Landowner Incentive Program, the Calling Amphibian Monitoring Program (CAMP), and regional Wood Turtle monitoring surveys.

Representative Projects of Relevance:

Burlington County Park Projects
Ecological and environmental work was completed to assist Burlington County in conducting environmental constraints evaluations and permit analyses for improvements on numerous County owned park and greenway projects. Mrs. Jones works directly with the landscape architects and engineers in assisting with design of the project to ensure compliance of proposed improvements pursuant to State waterfront development, freshwater wetlands, and flood hazard regulations. Mrs. Jones also coordinates with the NJDEP and USACOE with regard to permit requirements and to ensure no adverse impacts to documented state and federal threatened and endangered species habitat, including the bald eagle and bog turtle. Mrs. Jones prepared all necessary permit applications and ensured continued cooperative coordination with the regulatory agencies to ensure receipt of the applicable permit approvals for the park projects. Mrs. Jones has respected professional relationship with Burlington County and is involved in ongoing and future park improvement projects.

Holly Realty Project
Conducted red-headed woodpecker, barred owl, red-shouldered hawk, and northern long eared bat surveys in order to determine presence/absence and evaluate compliance with the New Jersey coastal regulations. These included nest cavity searches and call playback surveys for the red-headed woodpecker, barred owl, and red-shouldered hawk, and mist net surveys for the northern long-eared bat. These surveys were conducted pursuant to accepted state and federal survey methods. Survey methodology and results summaries have been prepared for the client and state agency review for continued impact and mitigation review.

New Jersey Department of Transportation Roadway Improvement Projects
Coordination with the NJDOT and project engineer to conduct the necessary field investigations and prepare full permit applications pursuant for various roadway and bridge improvement and development projects throughout the state. This has included wetland delineations, vegetation and wildlife inventories, and preparation and submission of state wetland and flood hazard permit and waiver applications, USACOE permit applications, and coastal and waterfront development permit applications.

Atlantic Cape Community College – Cape May Campus
Mrs. Jones conducted extensive monitoring of habitat mitigation measures implemented as part of CAFRA approval for construction the Cape May campus facilities. This included eastern tiger salamander trapping to evaluate success of the constructed breeding pond on the site. Monitoring resulted in the positive capture and identification of juvenile tiger salamanders, demonstrating success of the breeding pond. Additional monitoring and surveys included barred owl call playback surveys and long term avian point count surveys to evaluate impacts.