

AEC NOMINATIONS FORM

This form has been designed to obtain essential information on the natural or cultural area being nominated pursuant to 15A NCAC 07H .0503. If you have additional information not specifically requested by this form, please include it under Section V.C.

Please return completed form to:
Director
Division of Coastal Management
400 Commerce Avenue
Morehead City, NC 28557
(252) 515-5400

Parcel 731609153648000 West, Pearl G. Trustee, 231 Pinners Point Road, Beaufort, NC 28516_____

B. Current Use of Site Vacant_____

C. Local Zoning Classification (Available from local government planning office)

R-20 Residential Single-Family District_____

D. Land Use Plan Classification (Available from local government planning office)

The Town of Beaufort Comprehensive & CAMA Land Use Plan, Future Land Use Map identifies the site's Land Use Character Area as "Conservation, Open Space, Parks, Environmental and Recreational" and "Rural/Working Lands"_____

E. Ecological, Archeological, Geological and/or Historical Significance (Why is the area important)

The watershed we are nominating for consideration as an Area of Environmental Concern (AEC) is the upland draining watershed of a tributary tidal creek, Gibbs Creek, located on the North River Estuary (**See Figure 1**).

The Gibbs Creek watershed meets the qualifications of a Natural and Cultural Resource Area AEC specified in **15A NCAC 07H Section .5000**. The Gibbs Creek watershed is the last remaining mostly undeveloped watershed and tidal creek in the territorial jurisdiction of Beaufort, NC classified as SA High Quality Waters (HQW) by the North Carolina Dept. of Environmental Quality and open to shellfish harvest. This tidal creek watershed with its associated salt marshes, 404 wetlands, streams, small ponds, and elevated sub-surface water table is the interface between the local upland landscape and the North River estuary where freshwater from the land, tributary streams, and the soil water table mixes with saline tidal water from the estuary. The resulting tidal creek-stream-wetland watershed networks like Gibbs Creek are renowned locally and regionally for their ecological complexity, pollutant retention and processing, nursery functions, biological productivity, and seafood production (Kneib 1997; Sanger et al. 1999a, 1999b; Lerberg et al. 2000; Mallin et al. 2000; Holland et al. 2004; Bost et al. 2023). Tidal creek watersheds are also fragile natural areas when exposed to non-point source pollution loading associated with incompatible land development. Pollution attributed to land development is impairing the natural functions of tidal creek watersheds with chemical contamination of groundwater and sediments, increased sediment loads, pathogens, harmful chemicals and nutrients, altered salinities, decreased biological productivity, of food webs, and increased risk of flooding (Sanger et al. 2015).

In addition to qualifying as an Estuarine and Ocean System, the Gibbs Creek watershed also qualifies as a **Coastal Complex Natural Area** as specified in **15a NCAC 07H .0506**. The watershed is an ecologically significant landscape that contains extensive native plant and animal communities and their vegetation and soil habitats which are mostly undisturbed and hydrologically and biologically connected to the tidal creek making the upland portion of the watershed a key physical and biological component of the natural coastal system. Evidence of

this complexity includes the topography, a network of perennial and intermittent streams, freshwater pools, multiple drainage areas leading to the tidal creek, and extensive and ecologically important 404 and coastal wetlands. The maximum elevation of the watershed is approximately 10ft above the North American Vertical Datum (NAVD) with seven drainage areas that flow directly into Gibbs Creek. Preservation of the natural undeveloped characteristics of this watershed will ensure that the tidal creek retains excellent water quality, ecological complexity and sustains its functions as habitat for wildlife and valuable commercial and recreational fisheries.



Figure 1. Gibbs Creek Watershed

Examples of native animal communities observed in the watershed include whitetail deer, eastern wild turkey, black bear, bobcat, rare reptile species including the spotted turtle, otters, bald eagles, ospreys, kingfishers, barred, eastern screech and great horned owls, coopers, red tailed and red shouldered hawks, and a wide diversity of shorebirds and waterfowl. The intertidal characteristics of the shoreline and especially the isolation of the creek from surrounding development outside the watershed supports a diverse year-round community of shorebirds, wading birds and waterfowl that utilize the watershed for food and shelter. Within the tidal creek

there are extensive populations of shellfish and other invertebrate communities typically reported in healthy coastal ecosystems and primary nursery areas including commercially and recreationally harvested blue crabs, shellfish like the American oyster and the hard clam, all species of commercially and recreationally harvested shrimp, red drum, spotted sea trout, southern and summer flounder, and mullet. Diamondback terrapins are common in the creek. The terminus of the creek drains into a semi-enclosed lagoon occupied by state and federally protected species of submerged aquatic vegetation (SAV) and four shellfish leases (ID #s 850, 1888908, 21-047B1 and 22-059BL) permitted by the North Carolina Department of Environmental Quality.

1. Vegetation (Briefly describe the dominant types of vegetation and if applicable, their significant to the nomination.

Most of the vegetation within the upland portions of the watershed is a mixed pine-hardwood forest community dominated by; white oak (*Quercus alba*), eastern black oak (*Quercus velutina*), longleaf pine (*Pinus palustris*), American holly (*Hex opaca*), and Mountain laurel (*Kalmia latifolia*). Some portions of the watershed were historically utilized for silviculture; however, since 1993 the forest has remained relatively undisturbed and has begun to ecologically succeed to a community of vegetation typical of the local soil properties and climate of the North Carolina coastal plain. The 30-year long transition from prior silviculture activity to forest has created high quality successional habitat especially suitable for native wildlife as well as restoring the function of the forest in the watershed for capturing and sequestering moisture and carbon, recycling and storing nutrients and controlling the hydrological properties of surface and sub-surface waters. All of these features of the vegetated watershed protect the high-quality waters of the tributary tidal creek.

The forest has a well-developed understory and shrub layers characterized by mesophytic canopy species such as American beech, tulip poplar, sweetgum, bitternut hickory, shagbark hickory, American elm, black walnut, swamp chestnut oak, red oak, tree ferns, small palms, shrubs, and a several species of herbaceous plants. Based on the watershed's topography, a preliminary determination of waters of the United States by the U.S. Army Corps of Engineers, and direct evidence from a recently conducted stream survey indicate that there are several potential intermittent and perennial streams in the watershed. The low-lying water saturated soils and microtopography associated with the tributary streams are features that support coastal plain small stream swamp communities with forests that include a mix of species with different moisture tolerances from very wet to mesic, because of fine-scale elevational variation and high water tables.

According to Bledsoe (1993) coastal plain small stream swamps in NC are unique and rare forests with extremely variable composition and generally a mix of species with different moisture tolerances. Generally, no single species dominates. Common species include Liquidambar styraciflua, Quercus nigra, Quercus laurifolia, Acer rubrum var. trilobum, Pinus taeda, Liriodendron tulipifera, and Nyssa biflora. Also fairly frequent are Quercus michauxii, Taxodium distichum, Quercus alba, Carya cordiformis, and Fagus grandifolia. The understory may be dominated by Carpinus caroliniana, Ilex opaca, Persea palustris, or Magnolia virginiana, as well as canopy species. The shrub layer is usually moderate in density. The most constant shrubs include Arundinaria tecta, Euonymus americanus, Cyrilla racemiflora, and

Viburnum nudum. Also fairly frequent are *Clethra alnifolia*, *Eubotrys racemosa*, *Morella cerifera*, *Lyonia lucida*, *Leucothoe axillaris*, and *Cornus stricta*. Less frequent species but sometimes notable are *Sabal minor*, *Vaccinium fuscatum*, *Vaccinium formosum*, *Hamamelis virginiana*, and *Lindera benzoin*. A wide range of woody vines may occur, including *Toxicodendron radicans*, *Smilax rotundifolia*, *Bignonia capreolata*, *Hydrangea (Decumaria) barbara*, *Muscadinia rotundifolia*, *Parthenocissus quinquefolia*, *Smilax glauca*, *Smilax bonanox*, *Smilax walteri*, *Campsis radicans*, *Gelsemium sempervirens*, and *Berchemia scandens*. The herb layer may range from sparse to dense and may be quite variable among microsites within the community. The most constant species in plot data are *Mitchella repens*, *Lorinseria areolata*, and *Osmunda spectabilis*, but additional species that are fairly frequent include *Boehmeria cylindrica*, *Osmundastrum cinnamomeum*, *Athyrium asplenioides*, *Dioscorea villosa*, *Carex debilis*, *Carex gigantea*, *Leersia virginica*, *Chasmanthium laxum*, *Dichantherium boscii*, *Hypericum walteri*, *Hexastylis arifolia*, *Impatiens capensis*, and *Lycopus virginicus*. Clumps of *Sphagnum* spp. may be present locally.

Based on state and federal determinations recently conducted in the Gibbs Creek watershed, healthy and abundant wetland plant communities protected by Section 404 of the Clean Water Act are thriving in the locations where the AEC is proposed. At least eight of the wetland plant species commonly known to occur in the coastal region of NC are present in the proposed AEC including; smooth cordgrass *Spartina alterniflora*; salt meadow cordgrass, *Spartina patens*; black needlerush *Juncus roemerianus*; glasswort or pickleweed, *Salicornia* spp.; salt grass, *Distichlis spicata*; sea lavender, *Limonium* spp.; bulrush, *Scirpus* spp. and; salt meadow cordgrass, *Spartina patens*.

2. Animals (List animals known to occur in the area and if applicable, their significance to the nomination.

The following list of ecologically significant species observed in the Gibbs Creek watershed by Dr. W. Judson Kenworthy, 109 Holly Ln., Beaufort, NC 28516 over a period of 22 years. By no means can this be considered a complete list of surveyed species. For a complete list of species that commonly occur in relatively undisturbed coastal tidal creek watersheds and wetlands in Carteret County, North Carolina please refer to Fussell and Wilson 1983 (<https://www.govinfo.gov/content/pkg/CZIC-qh87-3-t33-1984/html/CZIC-qh87-3-t33-1984.htm>). The status of several of the species was derived from the Natural Heritage Program List of Rare Animal Species of North Carolina, 2020, compiled by Judith Ratcliffe, North Carolina Natural Heritage Program, NC Dept. of Natural and Cultural Resources, 1651 MSC, Raleigh, NC 27699-1651 and the North Carolina Wildlife Resources Commission, 1701 MSC, Raleigh, NC 27699-1701. (<file:///C:/Users/Owner/Downloads/2020%20Rare%20Animal%20List%20Spotted%20Turtle.pdf>) While this list is not complete, it does complement the North Carolina Natural Heritage Program, Division of Land and Water Stewardship, NC Dept. of Natural and Cultural Resources, Biodiversity and Wildlife Assessment #254 which scored the Gibbs Creek watershed as a 7 for biodiversity and wildlife (<https://ncnhde.natureserve.org/content/map>).

<u>Common Name</u>	<u>Scientific Name</u>	<u>Status</u>
<u>REPTILES</u>		
Spotted turtle	<i>Clemmys guttata</i>	Protected Species (SB 825)
Diamondback terrapin	<i>Malaclemys terrapin</i>	Special concern
Snapping turtle	<i>Chelydra serpentina</i>	
Loggerhead sea turtle	<i>Caretta caretta</i>	Threatened
Green Sea turtle	<i>Chelonia mydas</i>	Threatened

MAMMALS

Black bear	<i>Ursus americanus</i>	
Bobcat	<i>Lynx rufus</i>	
River otter	<i>Lutra canadensis</i>	
Whitetail deer	<i>Odocoileus virginianus</i>	
Grey fox	<i>Urocyon cinereoargentes</i>	
Red fox	<i>Vulpes vulpes</i>	
Eastern cottontail	<i>Sylvilagus floridanus</i>	
Raccoon	<i>Procyon lotor</i>	
Eastern grey squirrel	<i>Sciurus carolinensis</i>	
Marsh rabbit	<i>Sylvilagus palustris</i>	
Virginia opossum	<i>Didelphis virginiana</i>	
Atlantic bottlenose dolphin	<i>Tursiops truncatus</i>	Protected Species

FISH

Spotted sea trout	<i>Cynoscion nebulosus</i>	Overfished
Red drum	<i>Sciaenops ocellatus</i>	Overfished
Atlantic Croaker	<i>Micropogonias undulatus</i>	
Pigfish	<i>Orthopristis chrysoptera</i>	
Spot	<i>Leiostomus xanthurus</i>	
Pinfish	<i>Lagodon rhomboides</i>	
Southern flounder	<i>Paralichthys lethostigma</i>	Overfished
Summer flounder	<i>Paralichthys dentatus</i>	Overfished
Black drum	<i>Pogonias cromis</i>	
Sheepshead	<i>Archosargus probatocephalus</i>	
Silver perch	<i>Bairdiella chrysoura</i>	
Striped mullet	<i>Mugil cephalus</i>	Overfished

CRUSTACEANS

Blue crab	<i>Callinectes sapidus</i>	Overfished
Brown shrimp	<i>Farfantepenaeus aztecus</i>	
White shrimp	<i>Litopenaeus setiferus</i>	
Pink shrimp	<i>Farfantepenaeus duorarum</i>	

MARINE MOLLUSCS

Eastern oyster	<i>Crasostrea virginica</i>
Atlantic ribbed mussel	<i>Gaukensia demissa</i>
Hard clam	<i>Mercinaria mercinaria</i>

BIRDS

Bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened
Eastern wild turkey	<i>Meleagris gallopavo</i>	
Osprey	<i>Pandion haliaetus</i>	
Belted Kingfisher	<i>Megaceryle alcyon</i>	
Common tern	<i>Sterna hirundo</i>	Endangered
Least tern	<i>Sternula antillarum</i>	Special concern
Little Blue Heron	<i>Egretta caerulea</i>	Special concern
Great Blue Heron	<i>Ardea herodias</i>	Special concern
Great Egret	<i>GasmeroJius albus</i>	Special concern
Snowy Egret	<i>Egretta thula</i>	Special concern
Louisiana Heron	<i>Hydranassa tricolor</i>	Special concern
Tricolored Heron	<i>Egretta tricolor</i>	Special Concern
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	Special concern
Yellow-crowned Night Heron	<i>Nyetanassa violacea</i>	Special concern
Little Blue Heron	<i>Egretta caerulea</i>	Special concern
Least Bittern	<i>Ixobrychus exilis exilis</i>	Threatened
American Bittern	<i>Botourus lentiginosus</i>	Rare Species
American oystercatcher	<i>Haematopus palliates</i>	Special concern
Brown pelican	<i>Pelecanus occidentalis</i>	Rare species
Double-crested Cormorant	<i>Phalacrocorax auratus</i>	Rare species
Glossy Ibis	<i>Plegadis falcinellus</i>	Special concern
Black skimmer	<i>Rynchops niger</i>	Special concern
Yellow-rumped Warbler	<i>Setophaga coronate</i>	Rare species

IV. MANAGEMENT OBJECTIVE

A. State your reason for seeking this AEC designation.

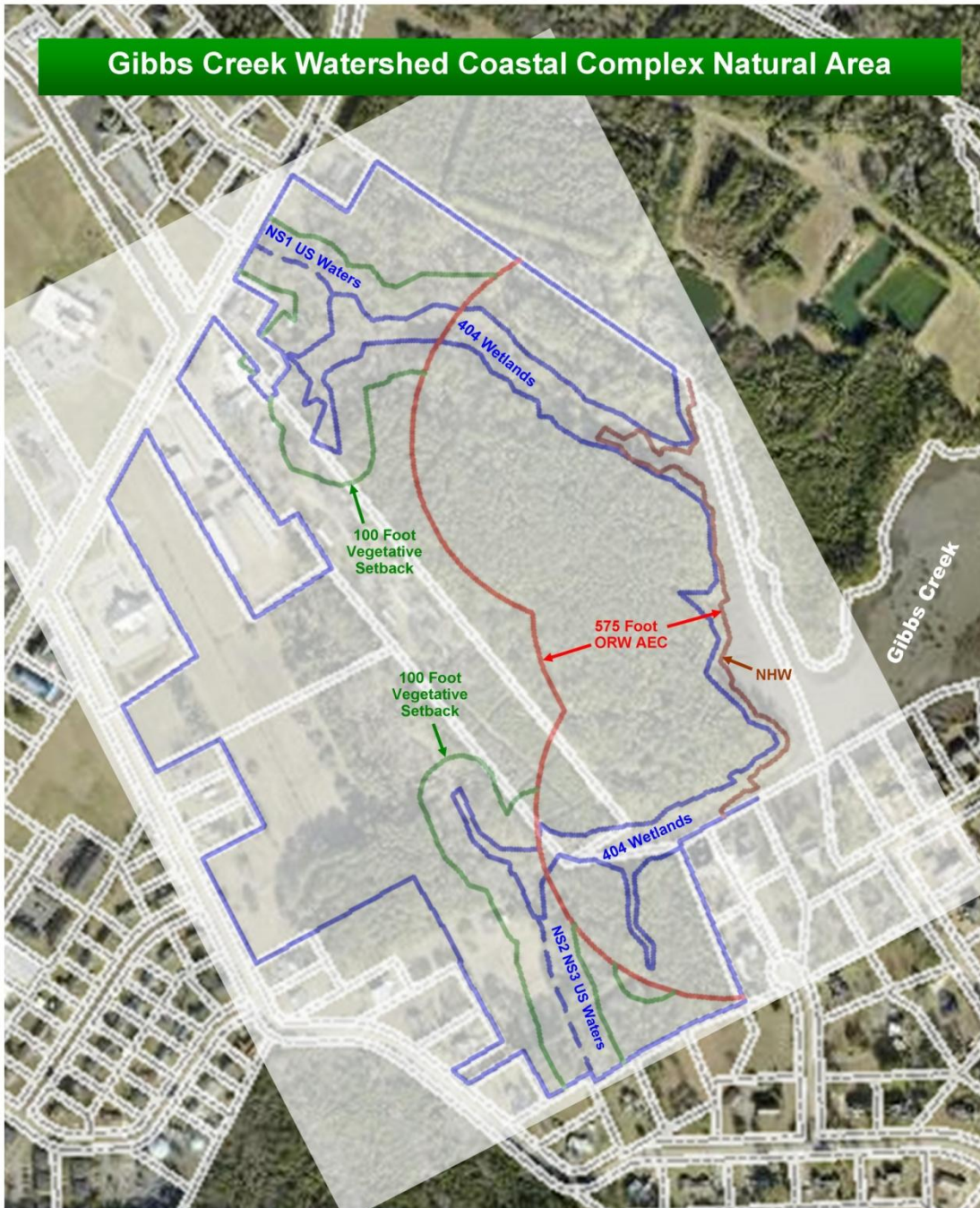
As described in Section III.E., the high-ground land encompassing the Gibbs Creek watershed is an ecologically significant Coastal Complex Natural Area with key biological components of a natural coastal system that qualifies as an AEC. Based on extensive peer-reviewed scientific research, there is compelling evidence supporting a need to protect and preserve the biological and physical integrity of these tributary watersheds with larger undisturbed buffers to ensure their function as key components of the landscape and the coastal ecosystem of Gibbs Creek and the North River Estuary.

In and around the town of Beaufort land is being rapidly developed and terrestrial species that once relied on the undeveloped land for essential habitat are emigrating to the Gibbs Creek watershed for critically needed resources, including food, water, and shelter. The Gibbs Creek watershed is one of the last remaining relatively large tracks of undeveloped and forested land in the territorial jurisdiction of the Town of Beaufort where the features of the landscape can support a healthy and diverse population of wildlife, including mammals, reptiles, amphibians, and birds.

While the forested and vegetated upland areas of the Gibbs Creek watershed are critically important features for terrestrial and aquatic wildlife, they are also essential for sustaining healthy environmental conditions in the streams, ponds, wetlands, and the tidal creek. Peer-reviewed scientific studies have demonstrated the biophysical connectivity of the uplands to the wetlands and the tidal creeks, as well as the fragile nature of this connectivity when it is disturbed by human activities such as deforestation, soil excavation, manipulation of groundwater, installation of impervious surfaces and stormwater. There is compelling scientific evidence that the features responsible for the integrity of tributary tidal creeks, especially the headwaters and intertidally dominated areas, are impaired by non-point source pollution associated with deforestation, increases in impervious cover and urbanization (Sanger et al. 2015). According to a recently published study of several local tidal creeks (Bost et al. 2023); *“These abundant tidal-creek watersheds have little relief, area, and flow, but they are impacted by changes in land cover more, in terms of percent area, than their larger riverine counterparts, and down-stream areas are highly connected to their associated watersheds. This work expands the scientific understanding of connectivity between lower coastal plain watersheds and estuaries and provides important information for coastal zone managers seeking to balance development pressures and environmental protections”*. The existing 75' AEC buffer is insufficient for protecting the natural functions of the tidal creek watershed. Gibbs Creek meets ORW qualifications pursuant to **15A NCAC 02B .0225 (b)**. The creek and the adjoining waters of the North River estuary have outstanding and unusually valuable recreational and commercial fisheries and their habitats that are of considerable social and economic importance to local and regional communities. The creek also supports endangered and protected species of sea turtles and their habitat. To protect these unique and exceptional qualities the watershed deserves the 575' buffer from mean high water (MHW) which AEC protections grant to ORW waters. The perennial and intermittent streams draining the uplands and feeding the creek must also be protected with vegetative setbacks. **15A NCAC 02H .1019 (6)(b)** calls for a minimum of 50-foot vegetative setbacks, but in the Gibbs Creek watershed a 100-foot undisturbed vegetative setback is necessary to protect habitat of rare, threatened, and endangered species and maintain the current, natural infiltration processes which sustain the SA/HQW classification of Gibbs Creek. 404 wetlands do not come with automatic buffer protections, but in this case, the wetlands, like the streams feeding them, must have the same 100-foot undisturbed vegetative setbacks to continue without interruption of the natural watershed's infiltration processes that sustain the SA/HQW of Gibbs Creek. **See Figures 2., 3. and 4.** which show the delineation of the proposed Gibbs Creek Watershed Coastal Complex Natural Area.

Designating a larger area of the Gibbs Creek watershed as an AEC will not eliminate its' use or development. According to statute, 25 % of the AEC can be developed by the landowner. However, the restrictions afforded by the designation of a larger and more comprehensive AEC

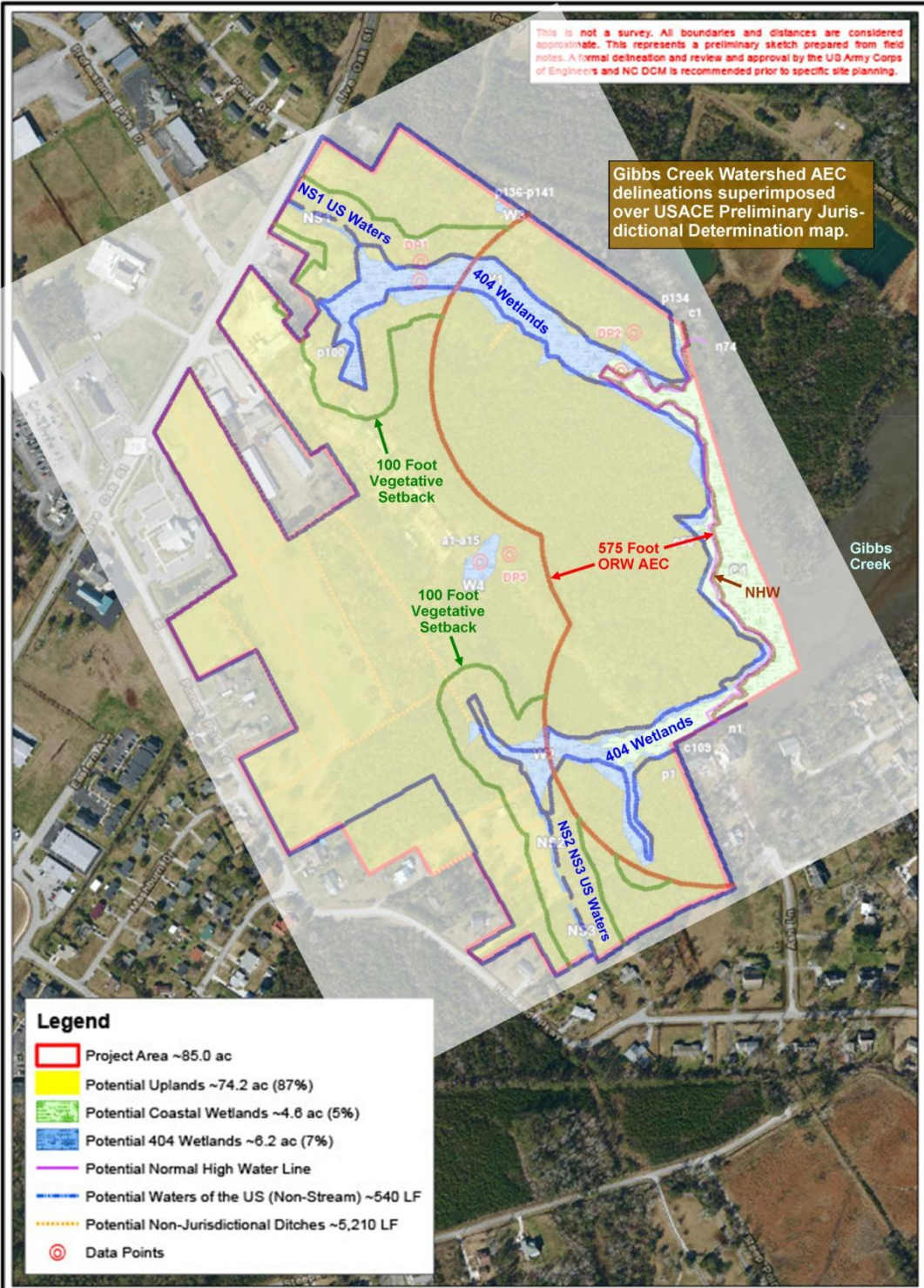
Gibbs Creek Watershed Coastal Complex Natural Area



Gibbs Creek Watershed Coastal Complex Natural Area, an Area of Environmental Concern pursuant to 15A NCAC 07H .0506, as delineated on the map above, consisting of the following areas:

1. 575 feet landward from Normal High Water as provided for Outstanding Resource Waters pursuant to 15A NCAC 07H .0209(a)(1).
2. 100 feet of undisturbed vegetative setbacks from intermittent and/or perennial streams NS1, NS2 and NS3 Waters of the US as provided for by 15A NCAC 02H .1019 (6)(b).
3. 100 feet of undisturbed vegetative setbacks from 404 Wetlands pursuant to NCGS 113A-113 (b)(1) and 15A NCAC 07H .0501.

Figure 2.



This is not a survey. All boundaries and distances are considered approximate. This represents a preliminary sketch prepared from field notes. A formal delineation and review and approval by the US Army Corps of Engineers and NC DCM is recommended prior to specific site planning.

Gibbs Creek Watershed AEC delineations superimposed over USACE Preliminary Jurisdictional Determination map.

Legend

- Project Area ~85.0 ac
- Potential Uplands ~74.2 ac (87%)
- Potential Coastal Wetlands ~4.6 ac (5%)
- Potential 404 Wetlands ~6.2 ac (7%)
- Potential Normal High Water Line
- Potential Waters of the US (Non-Stream) ~540 LF
- Potential Non-Jurisdictional Ditches ~5,210 LF
- Data Points

L:\Wetlands\2021 Wetlands Files\DRGNCW21.274\Maps
 Boundaries are approximate and not meant to be absolute.
 Map Source: 2020 NC One Map Aerial Photography

N
 0 150 300 600
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 Scale applies to 11X17" print.

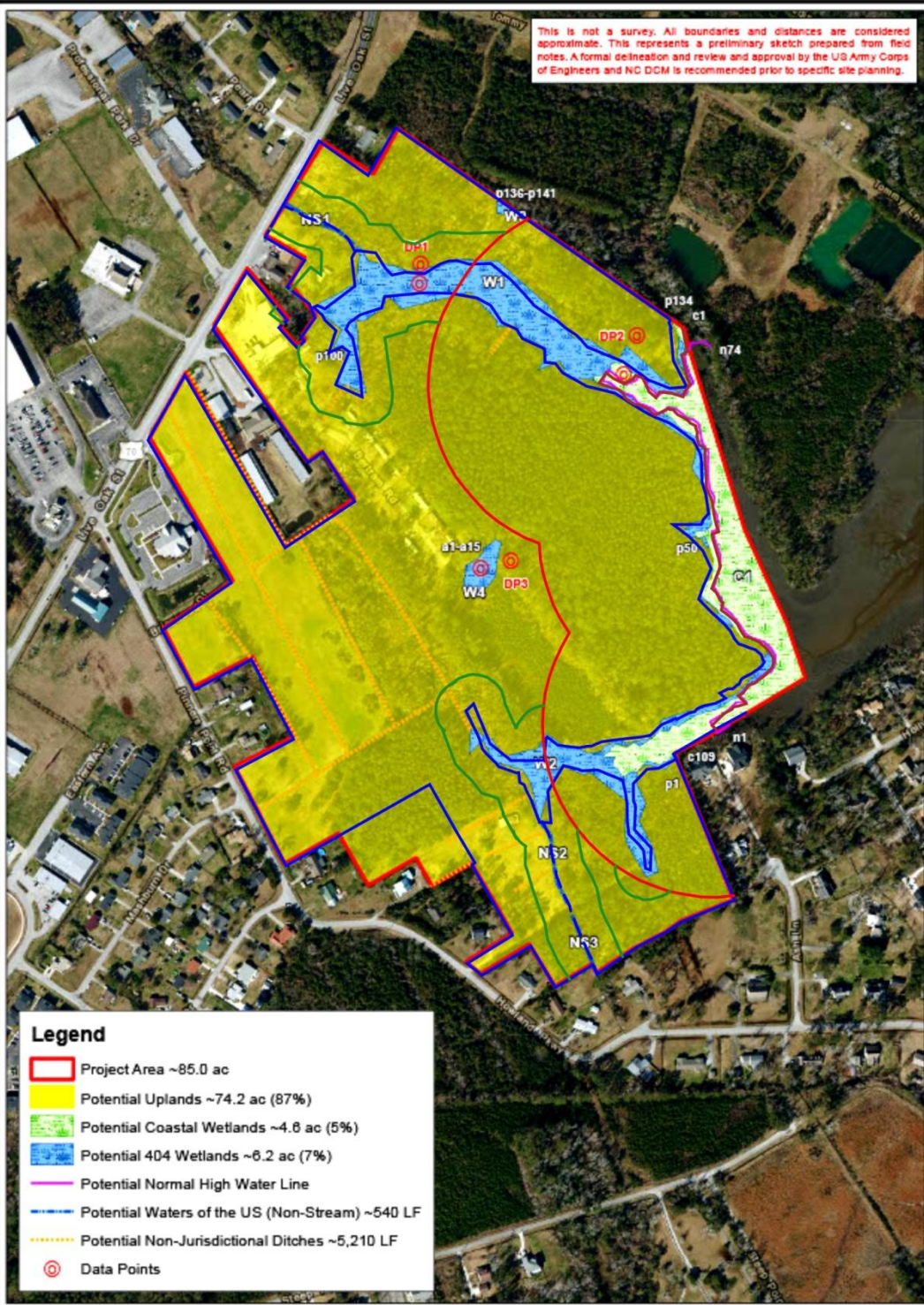
Beltway-Stroud Tract
 Carteret County, NC
 03/29/2022
 DRGNCW21.274

DAVEY
 Resource Group
 3805 Wrightsville Avenue
 Wilmington, NC 28403
 (910) 452-0001

**Section 404/401 Delineation
 Preliminary Sketch
 (PJD Reference)**

Figure 3.

This is not a survey. All boundaries and distances are considered approximate. This represents a preliminary sketch prepared from field notes. A formal delineation and review and approval by the US Army Corps of Engineers and NC DCM is recommended prior to specific site planning.



Legend

- Project Area ~85.0 ac
- Potential Uplands ~74.2 ac (87%)
- Potential Coastal Wetlands ~4.8 ac (5%)
- Potential 404 Wetlands ~6.2 ac (7%)
- Potential Normal High Water Line
- Potential Waters of the US (Non-Stream) ~540 LF
- Potential Non-Jurisdictional Ditches ~5,210 LF
- Data Points

L:\Wetlands\2021 Wetlands Files\DRGNCW21.274\Maps
 Boundaries are approximate and not meant to be absolute.
 Map Source: 2020 NC One Map Aerial Photography



0 150 300 600
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 Scale applies to 11X17" print.

Beltway-Stroud Tract
 Carteret County, NC

03/29/2022
 DRGNCW21.274

DAVEY
 Resource Group
 3805 Wrightville Avenue
 Wilmington, NC 28403
 (910) 452-0001

Figure 4.

**Section 404/401 Delineation
 Preliminary Sketch
 (PJD Reference)**

will more closely approach the recommendations of peer-reviewed scientific studies which have identified thresholds of land use and development in a coastal complex natural area (the Gibbs Creek watershed) which safeguard its biological integrity and functions. Restricting land use and development in the designated AEC will also provide access to opportunities for scientific research environmental education that would otherwise not be available to local citizens, governments and non-government organizations should private development be permitted throughout the entire watershed.

B. Do you know of any development proposed for this area? If so, what kind?

Subdivision with 80 Single-Family Lots

V. Data Supplement

A. If you are aware of research studies, inventory reports or surveys of this area (or adjoining areas) that might be useful in the evaluation, please include this information below.

<u>Author</u>	<u>Title</u>	<u>Date of Work</u>	<u>Source (if available)</u>
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	North Carolina Natural Heritage Program, Division of Land and Water Stewardship, NC Dept. of Natural and Cultural Resources, Biodiversity and Wildlife Assessment #254 (https://ncnhde.natureserve.org/content/map). Nature Research Center - 121 W. Jones Street 1651 Mail Service Center, Raleigh, NC 27699-1651. (919) 707-9382		
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Fussel, J.O. & Wilson. 1983. Natural Areas Inventory of Carteret County, North Carolina. North Carolina Coastal Energy Impact Program, Office of Coastal Management, North Carolina Department of Natural Resources, CEIP Report No. 9. This report can be accessed at https://www.govinfo.gov/content/pkg/CZIC-qh87-3-t33-1984/html/CZIC-qh87-3-t33-1984.htm			
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Bost MC, Deaton CD, Rodriguez AB, McKee BA, Fodrie FJ, Miller CB (2023) Anthropogenic impacts on tidal creek sedimentation since 1900. PLoS ONE 18(1): e0280490.			
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Corbett D. R., Walsh J. P., & Zhao Y. (2017). Impacts of Land-Use Change on Sedimentation in Tidal Creeks of North Carolina, USA. <i>Journal of Geography and Earth Sciences</i> . https://doi.org/10.15640/jges.v5n1a1			
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Field, D., J. Kenworthy, and D. Carpenter. 2021. Metric Report: Extent of Submerged Aquatic Vegetation, High-Salinity Estuarine Waters (REVISED). Albemarle-Pamlico National Estuary Partnership. Raleigh, NC. 19 pp.			
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Paerl H.W., Hall N.S., Hounshell A.G., Rossignol K.L., Barnard M.A., Luetlich R.A Jr. et al., (2020) Recent increases of rainfall and flooding from tropical cyclones (TCs) in North Carolina			
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(USA): implications for organic matter and nutrient cycling in coastal watersheds. *Biogeochemistry*, 150, 197–216. <https://link.springer.com/article/10.1007/s10533-020-006934>

Logan Louis. Beaufort Citizens Alliance, Stream Determination Analysis, February 8, 2023, (**See Exhibit 1.** under Additional Information.)

B. Who have you contacted regarding this nomination or the possibility of developing ways to protect this area? (For example, landowners, local governments, state agencies, conservation groups, etc.)

<u>Contact Person</u>	<u>Agency</u>	<u>Address/Phone</u>
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Todd Miller,	North Carolina Coastal Federation,	3609 N.C. 24 (Ocean), Newport, NC 28570 252-393-8185.
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Janice Allen,	Coastal Land Trust, Director of Land Protection, New Bern office,	3 Pine Valley Drive Wilmington, NC 28412, (252) 634-1927.
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Lisa Rider,	Executive Director, Coastal Carolina Riverwatch,	700 Arendell St, Morehead City, NC 28557, (252) 514-0629.
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Geoff Gisler & Derb Carter,	Southern Environmental Law Center,	601 West Rosemary Street, Suite 220, Chapel Hill, NC 27516, (919) 967-1450.
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Dr. Wilson Laney,	Assistant Professor Department of Applied Ecology North Carolina State University Campus Box 7617 Raleigh, NC 27695-7617 Office phone: 919-515-5019 Mobile phone: 252-339-5717 Fax: 919-515-4454 E-mail (temporary):	rallaneys@gmail.com
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Dean Carpenter,	Program Scientist, Albemarle Pamlico National Estuary Partnership,	1601 Mail Service Center, Raleigh, NC 27699-1601, 919-707-8634.
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Joel Dunn,	Chair, Croatan Group, Sierra Club, North Carolina,	joel@jdunns.com
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Town of Beaufort Board of Commissioners,	701 Front Street, Beaufort, NC	252-728-2141
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Town of Beaufort Planning Board,	701 Front Street, Beaufort, NC	28516 252-728-2141
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Ms. Beth Clifford,	Manager, Beltway Investment Group, Inc., 3225 McLeod Drive No. 110 Las Vegas, NV 89121-2257 207-449-8801 (See Exhibit 2. under Additional Information)	
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C. Additional Information

The following are the citations for references used in Sections II.E and IV.A.

Bost MC, Deaton CD, Rodriguez AB, McKee BA, Fodrie FJ, Miller CB (2023) Anthropogenic impacts on tidal creek sedimentation since 1900. PLoS ONE 18(1): e0280490.

Bledsoe, B.P. 1993. Vegetation along hydrologic and edaphic gradients in a North Carolina Coastal Plain creek bottom. M.S. thesis, North Carolina State University.

Holland AF, Sanger DM, Gawle CP, Lerberg SB, Santiago MS, Riekerk GHM, Zimmerman LE, and Scott GI. 2004 Linkages between tidal creek ecosystems and the landscape and demographic attributes of their watersheds. *Journal of Experimental Marine Biology and Ecology* 298: 151–178.

Kneib RT 1997 The role of tidal marshes in the ecology of estuarine nekton. *Oceanography and Marine Biology Annual Review* 35: 163–220.

Lerberg SB, Holland AF, and Sanger DM. 2000 Responses of tidal creek macrobenthic communities to the effects of watershed development. *Estuaries* 23: 838–853.

Mallin MA, Williams KE, Esham EC and Lowe RP. 2000 Effect of human development on bacteriological water quality in coastal watersheds. *Ecological Applications* 10: 1047–1056.

Sanger DM, Holland AF, and Scott GI. 1999a. Tidal creek and salt marsh sediments in South Carolina coastal estuaries: I. Distribution of trace metals. *Archives of Environmental Contamination and Toxicology* 37: 445–57. [PubMed: 10508892]

Sanger DM, Holland AF, and Scott GI. 1999b. Tidal creek and salt marsh sediments in South Carolina coastal estuaries: II. Distribution of organic contaminants. *Archives of Environmental Contamination and Toxicology* 37: 458–71. [PubMed: 10508893]

Sanger, D., Blair, A., DiDonato, G., Washburn, T., Jones, S., Riekerk, G., Wirth, E., Stewart, J., White, D., Vandiver, L., and Holland, A.F. 2015. Impacts of Coastal Development on the Ecology of Tidal Creek Ecosystems of the US Southeast including Consequences to Humans. *Estuaries Coast.* 2015 January; 38(Suppl 1): 49–66. doi:10.1007/s12237-013-9635-y.

Exhibit 1.

February 10, 2023

Ms. Morella Sanchez-King
Regional Supervisor, Division of Water Resources
Wilmington Regional Office
127 Cardinal Drive Extension
Wilmington, NC 28405

Mr. Thom Edgerton
Environmental Engineer, Division of Energy, Mineral and Land Resources
Wilmington Regional Office

127 Cardinal Drive Extension
Wilmington, NC 28405

Dear Ms. Morella and Mr. Edgerton,

The following Salt Wynd Preserve Phase I, Town of Beaufort, Carteret County, permits are currently under review:

CAMA-Major Permit
SW8220710 State Stormwater Management Permit

The USACE Preliminary Jurisdictional Determination for the project area issued 6/1/22 by Thomas Charles was accepted by the applicant for permitting purposes. The PJD map shows two Potential Waters of the US (Non-Stream) labeled NS2 and NS3. (See figure 1.)

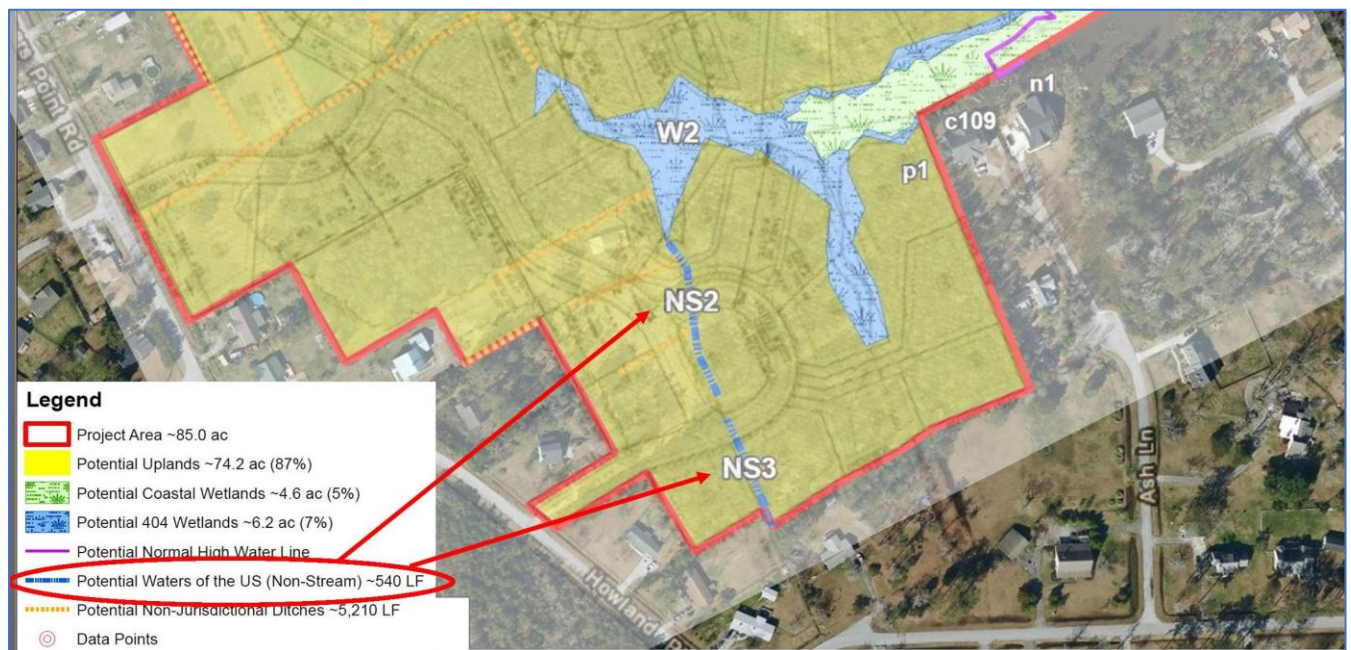


Figure 1. PJD Map section with Salt Wynd plan overlay showing NS2 and NS3

The applicant's proposed project is located within a Coastal County and therefore is subject to **15A NCAC 02H .1019 (6)(b) Vegetated Setbacks** which states, "For all subject properties within the Coastal Counties, vegetated setbacks from perennial waterbodies, perennial streams, and **intermittent streams** shall be at least 50 feet in width for new development..." **15A NCAC 02B .0233 (2)(g)** states, "Intermittent stream' means a well-defined channel that contains water for only part of the year, typically during winter and spring when the aquatic bed is below the water table. The flow may be heavily supplemented by stormwater runoff. An intermittent stream often lacks the biological and hydrological characteristics commonly associated with the conveyance of water."

Nearby residents speculated that the US Waters identified as NS3 and NS2 would qualify as an “Intermittent Stream” and might even qualify as a “Perennial Stream.” Two members of our group conducted a site visit and, following the procedure outlined in the **North Carolina Division of Water Quality Methodology for Identification of Intermittent and Perennial Streams and Their Origins Version 4.11 Effective Date: September 1, 2010**, surveyed and scored the stream. Although both individuals are familiar with the geomorphology, hydrology, biology and assessment of streams, especially coastal streams, neither individual is SWITC-certified.

The site was surveyed on February 8, 2023 at 2:00 PM. There had been no rainfall on the site during the previous 48 hours. Asked to be conservative, the evaluators scored the stream as follows:

Conservative Scoring: 31.5 Total Points (See Figure 2.)

The evaluators, thinking that the stream might be intermittent or even ephemeral, were surprised at what they encountered once on-site. The stream appeared to be quite substantial. After carefully reviewing and discussing the Methodology for Identification, the evaluators began their survey, and afterward, using a conservative approach, they completed the Stream ID Form. (See Figure 2.) The evaluators’ photos of the stream and specimens collected and observed have been overlaid onto the applicant’s project plan where NS3 and NS2 are located. Arrows point to the approximate location along the stream where the photo or specimen was taken or observed. (See Figures 3 and 4.)

Two items on special note:

1. While examining muck from the stream bottom, an evaluator found a segmented larva which was identified as crane fly larva (Order *Diptera*, Family *Tipulidae*). **NCDWQ Methodology for Identification of Intermittent and Perennial Streams and Their Origins Version 4.11 Effective Date: September 1, 2010** page 36 shows “Table 3: Additional indicators of perennial streams” and the table lists *Tipulidae* as an indicator of a perennial stream. This is likely due to the lifecycle of the crane fly as, “The larvae can take a few months or up to five years developing under water, depending on species.” (Missouri Dept. of Conservation.)

NC Division of Water Quality –Methodology for Identification of Intermittent and Perennial Streams and Their Origins v. 4.11

NC DWQ Stream Identification Form Version 4.11

NS3 & NS2 to H04W

Date: 2/8/23 2PM	Project/Site: SALT WYND	Latitude:
Evaluator: BPT CITIZENS ALL.	County: CARTERET	Longitude:
Total Points: Stream is at least intermittent if ≥ 19 or perennial if $\geq 30^*$ 31.5	Stream Determination (circle one) Ephemeral Intermittent Perennial	Other e.g. Quad Name:

A. Geomorphology (Subtotal = 14.5)

	Absent	Weak	Moderate	Strong
1 ^a . Continuity of channel bed and bank	0	1	2	3
2. Sinuosity of channel along thalweg	0	1	2	3
3. In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3
4. Particle size of stream substrate	0	1	2	3
5. Active/relict floodplain	0	1	2	3
6. Depositional bars or benches	0	1	2	3
7. Recent alluvial deposits	0	1	2	3
8. Headcuts	0	1	2	3
9. Grade control	0	0.5	1	1.5
10. Natural valley	0	0.5	1	1.5
11. Second or greater order channel	No = 0		Yes = 3	

^a artificial ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 7)

12. Presence of Baseflow	0	1	2	3
13. Iron oxidizing bacteria	0	1	2	3
14. Leaf litter	1.5	1	0.5	0
15. Sediment on plants or debris	0	0.5	1	1.5
16. Organic debris lines or piles	0	0.5	1	1.5
17. Soil-based evidence of high water table?	No = 0		Yes = 3	

C. Biology (Subtotal = 10)

18. Fibrous roots in streambed	3	2	1	0
19. Rooted upland plants in streambed	3	2	1	0
20. Macroinvertebrates (note diversity and abundance) Tipulidae	0	1	2	3
21. Aquatic Mollusks	0	1	2	3
22. Fish	0	0.5	1	1.5
23. Crayfish	0	0.5	1	1.5
24. Amphibians	0	0.5	1	1.5
25. Algae	0	0.5	1	1.5
26. Wetland plants in streambed	FACW = 0.75; OBL = 1.5 Other = 0			

*perennial streams may also be identified using other methods. See p. 35 of manual.

Notes: Aquatic plants in stream pass. waterweed (elodea canadensis) or Hydrilla (Both OBL), crane fly larvae, spotted turtle on grade control.

Sketch: SEE MAP/PLANS See photos

Figure 2. Completed Stream Identification Form for NS2/NS3

Order: *Diptera*
Family: *Tipulidae* (crane flies)
Larva found in stream mud. Perennial Stream Indicator Table 3 Page 36 of Methodology for ID of Intermittent and Perennial Streams.

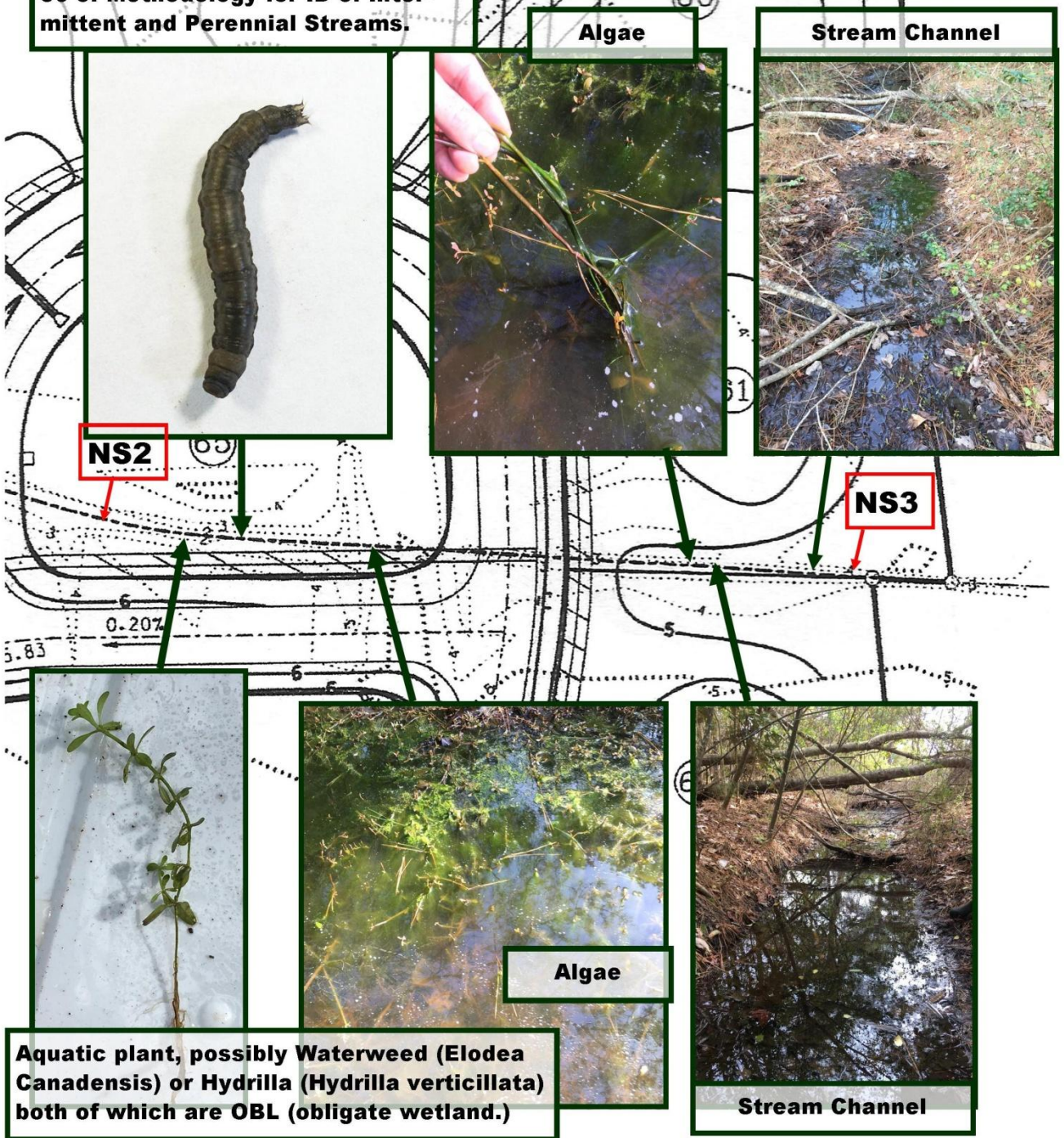


Figure 3. Stream and specimen photos with locations noted on project plan.

2. While walking downstream toward a log lying across the stream with a pile of leaves and pine needles pushed against it by previous stronger flow, the evaluator saw a turtle sunning itself on the pile. The evaluator photographed the turtle (Figure 4.) Later research identified the reptile as *Clemmys guttata* (spotted turtle.) “Clean, slow-moving or still-water habitats are required to support turtle populations. Spotted turtle sites are typically vegetated with aquatic plants and have soft, mucky substrates. Late winter to spring is the peak period of spotted turtle activity. The turtles feed heavily at this time – in water as cool as 40 degrees Fahrenheit! –and congregate to breed. When foraging, this omnivorous turtle prefers shallow water about 2 feet or less in depth.” (Georgia Dept. of Natural Resources.) The location in the stream where the evaluator spotted the turtle matched the spotted turtle habitat requirements perfectly. Further investigation revealed:
 - a. The spotted turtle, *Clemmys guttata* is listed as **Endangered** under criteria A2cde+4ce by the IUCN (International Union for Conservation of Nature) stating, “...the species is likely to have suffered more than 50% overall reduction, much of this being irreversible through habitat loss.”
 - b. The US Fish and Wildlife Service accepted a petition from the Center for Biological Diversity to list the spotted turtle, *Clemmys guttata* as **endangered** or **threatened** and critical habitat be designated under the Act. The USFWS stated, “Based on our review of the petition and sources cited in the petition, we find that the petition presents substantial scientific or commercial information indicating that the petitioned action may be warranted for the spotted turtle (*Clemmys guttata*) based on Factors A, B, D, and E.”
 - c. The NC Dept. of Natural and Cultural Resources Natural Heritage Program List of Rare Animal Species of North Carolina 2020 includes the spotted turtle, *Clemmys guttata* on their Watch List as W1—Population Decline in NC, “Species that are known to be **declining in North Carolina.**”

The score sheet and photos superimposed over the applicant’s plan tell the story. One of the two evaluators is a coastal marine scientist trained and experienced in environmental science monitoring. So, while not formally trained to determine if the NS3/NS2 stream is ephemeral, intermittent or perennial, the evaluators are not novices and the evaluators felt there were more than enough indicators to call for a professional stream determination.

Not only does it appear that NS3/NS2 is likely an intermittent or perennial stream and 50-foot vegetative setbacks are required, but the applicant’s plan calls for NS3 & NS2 to be filled-in which is possible with the proper USACE permit, however NS3 and NS2 are also upstream stormwater conveyances and blocking them off would violate NCGS 77-14.

Since the 50-foot vegetative setback for Coastal County intermittent streams is a stormwater requirement, the Stormwater Permit should not be approved until a proper stream determination can be conducted. Furthermore, regarding the CAMA-Major

permit, the DWR should notify the DCM that a proper stream determination needs to be conducted and until then, the DWR must rescind its “no comment” response. In addition, the DCM should withhold their comments concerning the CAMA-Major permit application until a proper stream determination is executed. As a reviewer of CAMA-Major applications, the Dept. of Natural and Cultural Resources Natural Heritage Program staff should move to deny the CAMA-Major permit until further studies are conducted and measures put in place to insure the spotted turtle habitat remains undamaged.

I know this probably seems like a very minor thing from the agency’s perspective, but here in Beaufort, it is not. Gibbs Creek is rated SA/HQW and is the last creek in Beaufort still open to shellfish harvesting. Protecting the habitat, including the streams draining the uplands and feeding the wetlands and the estuary are critical to the creek’s overall health and sustainability. All tools in the box should be used to protect the watershed in perpetuity.

If you have any questions or need additional information, please feel free to contact us.

Logan Louis
Chairman, Beaufort Citizens Alliance
900 Cedar Street
Beaufort, NC 28516
252-864-9206
Logan@LoganLouis.com

cc: Ms. Sarah E. Hair, US Army Corps of Engineers, Wilmington Regulatory Division
Ms. Misty Buchanan, Director, North Carolina Natural Heritage Program
Mr. Braxton Davis, Director, Division of Coastal Management

Exhibit 2.

June 26, 2022

Ms. Beth Clifford
Manager, Beltway Investment Group, Inc.
3225 McLeod Drive No. 110
Las Vegas, NV 89121-2257

Ms. Clifford,

Hope this letter finds you well and I apologize for its tardiness.

Thanks for agreeing to consider presenting to your board the options:

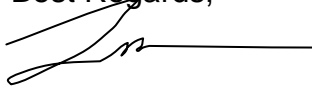
1. Instead of developing the subdivision, Salt Wynd Preserve, as currently planned, sell the land to a Land Trust Conservancy. Possibilities include, but are not limited to:
 - a. Sell all of the land to the Conservancy
 - b. Sell the portion of the land to the Conservancy which is necessary to provide maximum protection of the Gibbs Creek watershed and proceed with developing the Salt Wynd Preserve subdivision on the remaining portion of the land.
 - i. Although the protective land portion is to be determined, first look indicates 750 feet landward from Normal High Water (NHW) and 500 feet landward from 404 Wetlands would be conserved.
 - ii. An easement for a road to the Conservancy would be needed, so visitors don't drive through the residential streets of the subdivision to reach the Conservancy.
2. Purchase price of the land by a Land Trust Conservancy
 - a. Land Cost *plus* Theoretical Gross Lot Sales *less* Theoretical Total Development Costs *less* No Development Risk Adjustment *equals* Adjusted Buyout Cost, is no longer a land price determination formula acceptable to public grant funding sources.
 - b. Public grant funding sources will only accept, as a land price determination, an appraisal of fair market value based upon highest and best use of the land and comparable raw land sales.

Conservancy purchase funds will come from public grant sources, therefore, to move forward, you and your investors would accept a fair market value appraisal based upon highest and best use of land and comparable raw land sales. The present value of the land from your perspective, as the developer, would likely be higher, possibly considerably higher, as you project profits derived from theoretical sales and expenses, even when adjusted for the expected significant risk when pursuing a development of this magnitude in this environment.

Discussions surrounding a possible Conservancy land sale are intended to be a second track alongside, but independent of, your development plans and are in no way intended to halt or slow down your development plans.

I truly appreciate the sincerity you expressed about looking at the possibility of a Conservancy sale and I look forward to your response.

Best Regards,

A handwritten signature in black ink, appearing to read "Logan Louis", is written over a horizontal line.

Logan Louis
Chairman, Beaufort Citizens Alliance
900 Cedar Street
Beaufort, NC 28516

VI. NOMINATOR CERTIFICATION

To the best of my knowledge, all of the information provided in the AEC nomination form is accurate.

____ Logan Louis Jones _____
Name (please print)

____  _____
Signature

____ 3/7/2023 _____
Date

If you have any questions, please contact the nearest Division of Coastal Management office. Please return completed form to DIRECTOR, Division of Coastal Management, Department of Environmental Quality, 400 Commerce Ave, Morehead City, NC 28554.