

October 4, 2023

Womble Farms  
11785 US 15-501 North, Chapel Hill, Chatham County, North Carolina

The information below was obtained from local, state and federal sources. The entities where a response was needed were contacted on or about July 31, 2022 and then again on November 11, 2022.

## **PROPOSED PROJECT DESCRIPTION AND NEED**

- 1) **Describe the overall project in detail, including all proposed phases.** The proposed project will develop approx. 12% (+/- 7 acres) into a Mixed Use Conditional District that will be comprised of a mix of uses between multi-family apartment units (approx. 250) and commercial development (approx. 15,000 square feet). It is not anticipated that this will be a phased development.
- 2) **Provide a project location map showing surrounding areas.** A location map is provided in Appendix A.
- 3) **Provide a project site plan showing existing and proposed facilities.** The site plan is provided in the Appendix A.
- 4) **Describe how this project fits into larger plans or connects with adjacent projects.** There are no larger development plans for the property and there are no connections to adjacent projects, other than a possible sewer line connection to the Lighthouse Baptist Church property to the immediate north of the property.
- 5) **List and describe any public facilities or public benefits provided by the project.** The public will benefit from the project by providing additional housing in a high demand area and a commercial building that will provide services and employment opportunities.
- 6) **Discuss the land acreage to be disturbed during each phase.** All of the acreage will be disturbed at one time. Total land disturbance is anticipated to be at least 13 acres, excluding wastewater disposal areas.
- 7) **List square footage and height (in stories) of new buildings.** Anticipated building heights and square footage are as follows:

**Building 1:** 4/5 story split; +/-82,294 sf

**Building 2:** 4 stories; +/-72,056 sf

**Building 3:** 4 stories; +/-113,036 sf

**Total Apartments**

**+/-267,386 sf**

**Commercial Building:** 1 story; +/-15,000 sf

**Total Apartments and Commercial**

**271,386 sf**

- 8) **Describe proposed uses of all buildings and proposed facilities.** The apartment buildings will be a mixture of 1-, 2-, & 3-bedroom apartments. The

integrated amenity area will house the pool equipment, showers/restrooms for the pool, rental office, and cluster mailboxes. The commercial building will be available to any commercial use allowed within the WS II watershed district.

9) **Show number of parking spaces in parking lots and decks.** The site plan shows the anticipated number of parking spaces and the associated calculations for the surface parking lots. There are no parking decks proposed.

10) **Show areas to be cleared, graded, filled, paved, and landscaped.** Final clearing and grading limits, including filled areas, cannot be determined prior to development of construction drawings. However, paved and landscaped areas are shown on the site plan.

11) **Show connections to existing utility and sewer lines or new utilities.** An existing water main is located along the southern portion of the road frontage and will be utilized as the connection point for the new water main. Additional extensions will be provided at the direction of the water department. Wastewater will be treated by a State-permitted wastewater treatment facility.

12) **Show wastewater management systems on a map.**

- Anticipated wastewater treatment facilities locations are shown on Appendix K

13) **Show proposed areas of impervious and semi-pervious surfaces.** All building, sidewalk, and pavement areas are impervious and are shown on the site plan.

14) **Show and describe any proposed stormwater control devices.** The existing farm pond is non-jurisdictional and will be removed and re-graded/re-constructed for use as the stormwater control measure. A single wet pond is anticipated, however additional measures will be implemented as needed.

## **Alternatives Analysis**

1) **Discuss and compare all reasonable development alternatives (site selection, facility layout, utilities, stormwater management, construction methods, open space reservation, any other pertinent alternative considerations).** There are no reasonable development alternatives. The site has limited developable area due to the stream crossing through the middle of the site, the old landfill, rock outcroppings, and the 12% maximum allowable impervious area. Single family residential is not viable on this site considering its development limitations.

2) **Discuss how the preferred alternative was selected and its benefits relative to other alternatives (including a no-build alternative, if applicable).** The preferred Mixed Use Conditional District development alternative was selected because the impervious surface limitations dictate a vertical development plan rather than a horizontal development plan. The vertical development of multi-family housing on this site will be beneficial by making housing for the “missing middle” in northeast Chatham County available. Given its location in the heart of the commercial and highway district in northeast Chatham County a no-build alternative is not plausible for the long-time owners of the site.

Anticipated short term construction impacts will be addressed through obtaining and complying with erosion control and stormwater permitting with the intent of avoiding such impacts. No long-term impacts are anticipated given required compliance with stormwater permitting and compliance with all management conditions produced by

[the Phase II environmental report and management of RECs through the NCDEQ Brownfields Program. A Brownfields Property Application was submitted to NCDEQ on October 10, 2023 and is under review. All requirements of the Brownfield Program, including any design strategies, construction methods, and long-term maintenance procedures will be complied with. No indirect or secondary impacts are anticipated. Potential impacts to existing stream and wetland areas will be avoided through stormwater management as required.](#)

[See Letter from Hart Hickman dated November 16, 2023 and submitted herewith which details the Brownfield program and status for this site \(the "Brownfields Letter"\).](#)

[No unavoidable impacts nor compensatory mitigation is anticipated. However, the issues raised by the Phase I and Phase II environmental investigations, including methane concerns, will be mitigated as required by the appropriate regulatory body including through the Brownfields Program detailed in the Brownfields Letter. Any issues regarding WWTP treated effluent disposal will be addressed through the DEQ permitting.](#)

[Regarding potential traffic impacts, a TIA was submitted with the application and has been reviewed by the NCDOT. Certain roadway improvements are under consideration by NCDOT and will be complied with once finalized.](#)

## **1) Geography**

The United States Geological Survey (USGS) "Farrington Quadrangles, North Carolina, United States" topographic maps were reviewed. According to the contour lines on the topographic maps, the elevation of the subject property ranges from approximately 550 (at eastern quadrant of the property) to 450 feet (at western quadrant of the property) above Mean Sea Level (MSL). The contour lines indicate the general direction of downward slope for surface water runoff is to the west along an Un-Named creek. The Un-Named creek flows into the East Branch of Prince Creek. The East Branch of Prince Creek flows into University Lake (Morgan Creek). Morgan Creek flows into [the New Hope Creek arm of Jordan Lake, part of the Haw River watershed](#) ~~(New Hope Creek). New Hope Creek flows into the Deep River.~~

The property is located in Chapel Hill, North Carolina, which is located in the central Piedmont Physiographic Province. The Piedmont Province generally consists of well-rounded hills and ridges which are dissected by a well-developed system of draws and streams. The Piedmont Province is predominantly underlain by metamorphic rock (formed by heat, pressure and/or chemical action) and igneous rock (formed directly from molten material) which were initially formed during the Precambrian and Paleozoic eras. The volcanic and sedimentary rocks deposited in the Piedmont Province during the Precambrian era were the host from the metamorphism and were changed to gneiss and schist. The more recent Paleozoic era had periods of igneous emplacement, with at least episodes of regional metamorphism resulting in the majority of the rock types seen today.

The topography and relief of the Piedmont Province has developed from differential weathering of the igneous and metamorphic rock. Ridges and hills have been developed on the more easily weathered and erodible rock. Because of the continued chemical and physical weathering, the rocks in the Piedmont Province are now generally covered with a mantle of soil that has weathered in place from the parent bedrock. These soils vary in thickness and are referred to as residuum or residual soils. The residuum is typically finer grained and has higher clay content near the surface because of the advanced weathering. Similarly, the soils typically become coarser grained with increasing depth because of decreased weathering. As the weathering decreases, the residual soils generally retain the overall appearance, texture, gradation and foliations of the parent rock.

Chatham County lies at the center of the Piedmont, with long ridges of ancient, deformed metamorphic rock of Raleigh Belt. Tucked into these ridges are gnarled streamcut valleys and occasional domes of harder, younger granite that have withstood the slow erosion of the Piedmont “peneplain” – the huge, flattened wedge of material washed down over millions of years from the formerly towering Appalachian Mountains. The topographical features of the Piedmont are not pushed or folded up, but instead cut into this gently sloping plateau by the slow relentless action of water.

Based on a review of the United States Geological Survey (USGS) “Raleigh quadrangles topographic maps”, North Carolina, United States, the inferred groundwater flow direction based on topography appears to be to the west along an Un-Named creek.

All improved areas will be graded and an attempt will be made to balance the cut and fill volumes on-site without the need for import or export of excess material. However, topsoil will likely need to be exported due to the limited areas for re-use on the site. The cut/fill volume is anticipated to be 75,000-100,000 cubic yards, excluding the wastewater treatment areas.

The existing pond will be drained slowly prior to breaching the dam and will not flood downstream areas.

Refer to Appendix B for:

- USGS Topographic Map of the Farrington, NC quadrangle.
- Hazard and Nuisance Checklist (natural hazards).
- FEMA Floodplain Map Panel 9776.
- FEMA Firmette (site specific).
- Geology (site specific).

## **2) Soils and Prime Farmlands**

The site soils predominantly consist of the following types:

UdC—Udorthents, loamy, 2 to 10 percent slopes = Not Prime Farmland

VaB—Vance sandy loam, 2 to 6 percent slopes = Prime Farmland

WdC—Wedowee sandy loam, 2 to 15 percent slopes, boulder = Not Prime Farmland

WeB—Wedowee sandy loam, 2 to 6 percent slopes = Prime Farmland

WeC—Wedowee sandy loam, 6 to 10 percent slopes = Farmland of Statewide

Importance

WeE—Wedowee sandy loam, 15 to 25 percent slopes = Not Prime Farmland

The Wedowee series are usually very deep, well drained, moderately permeable soils that formed in residuum weathered from felsic igneous and metamorphic rocks of the Piedmont uplands. The WeB soils (approximately 2.2 acres) depicted as Prime Farmland on Appendix X are confined to the northwestern portion of the site. These soils will be preserved as they are a long distance from the development portion of the site.

The Vance series consists of well drained, slowly permeable soils that formed in residuum weathered from acid crystalline rocks in the Piedmont. They are moderately deep to saprolite and very deep to bedrock. The VaB soils denoted as Prime Farmland on Appendix C (approximately 14.0 acres) are primarily located along the eastern edge of the site in the area where farming has historically taken place. The northern most portion is outside of the apartment and commercial development area and will likely not be impacted by the apartment and commercial development building or parking areas. The southern portion of these soils (approximately 11.2 acres) will be impacted by the development footprint.

The Udorthents series are nearly level and gently sloping areas where the original soils have been cut away or covered with a loamy fill material.

There is one (1) jurisdictional wetland on the subject site. The wetland begins on the site near the eastern property boundary and flows west. The wetland area bisects the subject site. The 100-foot Chatham County wetland buffers are shown on the map in Appendix C.

A Phase I Environmental Site Assessment (ESA) was conducted for the subject site, dated February 14, 2022. The northern portion of the subject site was previously used as a landfill. There was a previous gasoline refueling station immediately east of the subject site. The landfill was closed according to the NCDEQ guidelines. A Vapor Screening Assessment was performed, report dated April 12, 2022. The results of the Vapor Assessment do not indicate a Vapor Encroachment issue from the former landfill or former gasoline refueling station. The landfill area will not be disturbed as part of this project.

No soil contamination is expected as a result of the project.

The cut/fill volume is anticipated to be 75,000-100,000 cubic yards, excluding the wastewater treatment areas. Topsoil will likely be removed from the site and will be relocated to an approved facility/site. The location is not known at this time.

Runoff from the site will be directed to a Stormwater Control Measure (SCM) that will replace the existing pond. The SCM is anticipated to be a wet pond and will be designed in accordance with the State's Minimum Design Criteria and County standards. Additional measures will be implemented, as needed, during development of the

construction drawings and will be coordinated with the Chatham County Watershed Protection Department.

Erosion and sediment control practices will be implemented in an attempt to prevent in accordance with State and County requirements any off-site impacts. Typical measures include:

- Construction entrance: removes sediment from vehicular traffic to prevent sediment from entering the public roads
- Sediment basin: holds construction runoff for 2-5 days to allow sediment to settle out prior to discharging from the site
- Silt fence: filters sediment out of construction runoff prior to discharging from the site
- High hazard silt fence: provides a second row of silt fence for additional treatment adjacent to environmentally sensitive areas (stream buffers)
- Silt fence outlets: provides relief during high intensity storm events to keep silt fence from over-topping, tearing, or falling over
- Slope matting & seeding: keeps seeding in place for proper germination
- Temporary and permanent seeding and mulching: seed and mulch areas to reduce the amount of exposed soil

A Land Disturbing Permit will be acquired from the Chatham County Watershed Protection Department and a Certificate of Coverage will be acquired from NCDEQ prior to commencement of any land-disturbing activities.

Refer to Appendix B for:

- NRCS Soil Map (site specific).
- Prime Farmland Assessment (site specific).
- Wetlands Map (site specific).
- McKim & Creed Preliminary Cut/Fill Plan (site specific).

Refer to Appendix C for:

- Wetlands Map (site specific).
- USACE Jurisdictional Determination (site specific).

Refer to Appendix D for:

- Phase I ESA (site specific).
- Methane Assessment (site specific).
- Detail map (site specific).

### **3) Land Use**

The subject site is currently zoned R-2 and the proposed zoning is CD-MU. The subject site is +/-59.03 acres. The site is comprised of essentially three current or past uses: (1) single family residential (two homes on the property); (2) a former dairy farm (inactive); and (3) a former LCID site (closed and inactive per NCDEQ). The development property is within close proximity to 16 other present commercial sites. Given the fact that 15-501 South is a major highway and the fact that there are nothing but commercial uses across the highway from this site, the current single family residential use of the tract is increasingly incongruous. See map attached as

"Detail Map" in Appendix A showing the current uses on the site and on surrounding properties.

Other adjoining parcels include single family residential lots, wooded undeveloped lots and the Lighthouse Baptist Church.

On the current Future Land Use and Conservation Map adopted in 2017 with the Comprehensive Plan, this site is located adjacent to the Cole Park Plaza Neighborhood Center to the south and very close to the Walmart Neighborhood Center to the North. It is ideally situated for development along the highway with the bonus that, because it is in the WS-II watershed district, 88% of the acreage (approx. 52.5 acres) will remain without impervious surface. This unique tract will accomplish the goals of commercial development for this part of the County but will also serve the environmental protection and open space concerns.

The Chatham County Zoning Map will need to be revised to reflect the change from R-2 to CD-MU. The Comprehensive Plan will not need to be modified.

Refer to Appendix E for:

- County Zoning Map.
- Letters to Chatham County Zoning Department.

#### **4) Wetlands**

~~There is~~ Soil & Environmental Consultants, PA (S&EC) has delineated one (1) jurisdictional wetland on the subject site. The wetland area is shown on the map in Appendix C and is approximately —0.66 acres in size. The 100-foot Chatham County perennial stream buffers and the 50-foot intermittent stream and wetlands buffers are shown on the map in Appendix C.

No wetland areas will be impacted during site development. No permits are required.

~~Any diversions or additional runoff will be directed back to the stream on the upstream side and won't have any impact to the wetlands. -Site runoff will continue to follow pre-existing flow paths, which will provide the wetland with the water needed to continue performing as it currently does. Any stormwater captured by the stormwater control measure pond will be treated therein and subsequently make its way to the wetland through the existing stream channel.~~

Refer to Appendix C for:

- Wetlands Map (site specific).
- USACE Jurisdictional Determination (site specific).

The plans indicate wetlands will not be impacted during development and, thus, no permits are required.

#### **5) Public Lands and Scenic, Recreational, and State Natural Areas**

Chatham County has six (6) public parks, and two other recreational options. The parks and options are:



- Chatham Grove Community Center, 1301 Andrews Store Rd, Pittsboro, NC. The community center offers Zumba, yoga, chair yoga for seniors (free), youth jump rope, youth art class, and indoor open adult pickleball.
- Earl Thompson Park, 170 Bynum Hill Rd, Pittsboro, NC. The park offers Multi-Purpose Field (Lighted), Restrooms and Playground.
- Northeast District Park, 5408 Big Woods Rd, Chapel Hill, NC. The park offers Softball Fields (Lighted), Multi-Purpose Field, 2 Tennis/Pickleball Courts – Pickleball, Respite Area, Restrooms, Playground and Paved Walking Trail
- Southwest District Park, 15124 Hwy 902, Bear Creek, NC. The park offers Picnic Shelter (Accommodates up to 84), Softball/Multi-Purpose Field, Compacted Screenings Walking Trail, Restrooms, Playground and Sand Volleyball Court.
- Northwest District Park, 2413 Woody Store Rd, Silver City, NC. The park offers Dining Hall (Accommodates up to 75), Activity Center (Accommodates up to 40), Picnic Shelter (Accommodates up to 70), Pool (Available Saturday & Sundays only, 1 pm to 5 pm), Open Space, Compacted Trail, Basketball Court, Restrooms, Playground and Pond (Catch & Release only).
- The Park at Briar Chapel, 1015 Andrews Store Rd, Pittsboro, NC. The park offers 2 Softball Fields (Lighted), Football/Multi-Purpose Field (Lighted), Soccer/Multi-Purpose Field (Lighted), Picnic Shelter (Accommodates up to 55), Restrooms, Playground, Paved Walking Trail and Dog Park.
- Haw River Canoe Access, Hwy 64 Access or US15/501 Access. The Haw River is a classic Piedmont river with an action-packed run. The river is good for kayaking after a significant rain and tends to hold water longer than other Piedmont rivers.
- American Tobacco Trail. The American Tobacco Trail is a 22+ mile rails-to-trails project located in the Triangle Region of North Carolina. The route crosses through the City of Durham; Durham, Chatham, and Wake counties; the planning jurisdictions of the Towns of Cary and Apex; and passes through the Lake Jordan project land of the U.S. Army Corps of Engineers. Paving from Massey Chapel Road south to the Chatham County line was completed early in 2013 and the short section along Massey Chapel Rd. was completed in late November 2013. Sections north of Renaissance Parkway and connecting to the bridge were completed early in 2014. The bridge spanning I-40 had numerous delays on the protective fencing and opened on February 19th 2014. Data on the usage of the ATT in 2013 before the bridge was open and in 2014 after the bridge was opened were collected by researchers at NC State University.

Refer to Appendix F for:

- Letter to County Parks and Recreation Department **(did not respond)**.
- 2022 Chatham County Program Guide.
- 2019 American Tobacco Trail Map.

## 6) Areas of Archaeological or Historical Value

The site totals approximately 59-acres in area and is residential, agricultural, and wooded undeveloped land. There are multiple structures on the site. The residential dwellings were constructed circa 1940's and 1980's. The dairy barn was constructed circa 1920's. No historic places were located on the National Registry of Historic



Places map. The structures on the property will be demolished as part of the site grading operations. However, Applicant is working with the Chatham County Historical Association at this time to determine the condition of the barn and what, if any, accommodations can be made for the barn.

The following entities were consulted:

- North Carolina State Historic Preservation Office.
- North Carolina Department of Natural and Cultural Resources.
- Muscogee (Creek) Nation **(did not respond)**.
- The Catawba Indian Nation.
- The Eastern Shawnee Tribe of Oklahoma **(did not respond)**.
- The Eastern Band of the Cherokee Indians **(did not respond)**.

Refer to Appendix A for:

- SHPO/THPO consultation package.
- National Registry of Historic Places map (site specific).

Refer to Appendix D for:

- Phase I ESA, Figure 4 Detail Map for locations of structures on site.

## 7) Air Quality

The EPA's air maps for criteria air pollutants were reviewed on August 4, 2022. Based upon a review of the maps, the subject site is not located in a non-attainment area. [As such, it is not anticipated that the negligible traffic created by the project will create any air quality or ozone impacts \(such as might be created by a significant industrial project\).](#)

Prior to demolition of the structures, the structures will be inspected for the presence of asbestos and the asbestos will be removed per the National Emissions Standards for Hazardous Pollutants (NESHAP).

The project is not anticipated to have any impact on ambient air quality beyond those typically expected for a development of this type.

There are no plans for open burning during or after construction.

The proposed number of parking spaces is anticipated to be 407 for the apartments and 76 for the commercial area, totaling 483 spaces.

It is not anticipated that the project will increase odor levels other than typically ephemeral odors related to on-site wastewater treatment.

No traffic study is required but one is provided separately with this report. [The TIA was supplied with the zoning application. An additional copy is supplied with these revisions.](#)

[Current odors described in the Phase I will be addressed as part of the Phase II and the Brownfields Application. See Brownfields Letter submitted herewith](#)

Refer to Appendix G for:

- EPA's National Non-Attainment Maps.

## **8) Noise Levels**

The current vehicle traffic noise levels are at 65 dB, which is below the mitigation level requirement [and the anticipated traffic related noise added by this project will be negligible](#). The noise contour map for RDU airport do not contribute the noise levels in the area. There are no railroad tracks within the survey area that would contribute to the noise levels.

No significant increases in noise levels are anticipated from this project beyond de minimus temporary noises those typically associated with [construction activity and uses of this type, such as those associated with trash collection and deliveries. It is not anticipated that noise levels in excess of the Chatham County noise ordinance provisions will be detectable offsite.](#)

Surrounding properties are not anticipated to be impacted by noise levels.

The commercial users are not known at this time but are anticipated to be general office uses. If so, the anticipated office hours will be typical office hours ranging from early morning through approximately 7:00 pm.

Refer to Appendix H for:

- HUD Noise calculator results.
- NCDOT AADT Traffic Count Map (site specific).
- RDU Airport Noise Contour Map (site specific).

## **9) Light Levels**

Parking lot lighting will be provided consistent with typical security and safety levels for multi-family projects. Building-mounted lighting is anticipated to provide identification of entrances and security. All lighting for the project will be full-cutoff fixtures and compliant with the Chatham County lighting requirements in the Chatham County Zoning Ordinance, Section 13. [These requirements are designed to confine the light to the area where the lighting resource is needed such that there is no anticipated impact to adjacent residents nor wildlife. Further, the mandated 100' building setback for this zoning district further ensures no off-site impacts of lighting.](#)

## **10) Surface and Groundwater Resources**

There are no sole-source aquifers in North Carolina. The subject site is not located near any Wild or Scenic Rivers. The subject site is not located in any of the major aquifers. Any groundwater supply for this site would come from the surficial aquifer. This aquifer is widely used throughout the State for individual home wells. The surficial aquifer is the shallowest and most susceptible to contamination from septic tank systems and other pollution sources. Commonly, large diameter wells (up to 3 feet in diameter) are drilled up to 60 feet deep to store large quantities of water in the well casing. The surficial aquifer is also very sensitive to variations in rainfall

amounts -- they are the first to dry-up in a drought. The subject site will be connected to the local municipal water utility, which obtains water from Jordan Lake.

B. Everett Jordan Lake is a U.S. Army Corps of Engineers' multipurpose reservoir that was constructed in 1981 and 1982. The reservoir, located mostly in Chatham County, provides low-flow augmentation, flood control, recreation, fish and wildlife habitat and water supply. The water supply storage in the lake was included at the request of the State of North Carolina and was done with the understanding that the actual users of the water would repay the Corps the costs of including the water supply storage and a portion of the annual operating and maintenance costs.

The General Statute GS 143-354(a)(11) of the State of North Carolina gives the Environmental Management Commission (EMC) the authority to allocate to local governments any water supply storage held by the State in federal reservoirs. The EMC has adopted an administrative rule requiring applicants for a water supply allocation from Jordan Lake to provide information describing their current water supply sources, projected water needs and alternative water sources. The Division of Water Resources (DWR) is responsible for analyzing the information and recommending the allocation amounts to the EMC.

The subject site is located in the Haw River Basin.

Potential, though undocumented, groundwater impact from an offsite, long-closed gas station will be addressed as set out in the Brownfields Letter submitted herewith. Likewise the Phase I REC related to the closed LCID dump on the far northwestern portion of the property will be addressed as set out in the Brownfields Letter submitted herewith.

Refer to Appendix I for:

- Sole Source Aquifer Map and Recharge Zones.
- Designated Sole Source Aquifers in EPSA Region IV.
- Haw River / Cape Fear Basin Map.
- Jordan Lake Map.
- USGS NC Depth to Groundwater Map.
- NC Wild and Scenic River Map.

## **11) Fish and Aquatic Habitats**

There is one (1) small man-made pond on the subject site. There is the beginning of an Un-Named creek on the subject site. No other water sources, creek, streams, pond or other large bodies of water are present on the site. No fish or aquatic species are expected to be impacted or displaced with the proposed development. When the existing small pond is drained, any fish and aquatic life will be able to flow downstream into the adjacent watershed and relocate into another appropriate habitat.

Refer to Appendix C for:

- Wetlands Map (site specific).

- USACE Jurisdictional Determination (site specific).

## **12) Wildlife and Natural Vegetation**

No Endangered Species were observed on the site. [The Guide to Natural Communities of North Carolina, Fourth Approximation published by the NC Natural Heritage Program was reviewed used for the survey.](#) A site-specific survey was conducted during July 2022. Development of the site requires deforestation in upland areas (southeastern portion of site) where construction is proposed. Future undisturbed areas comprise approximately 75% of the site, and will preserve much of the older growth communities associated with surface waters and wetlands in the project area. Deforestation will occur in areas that are early to mid-successional growth or in areas that are currently maintained or historically used in agriculture. The project area will be timbered using typical equipment. Tree save areas and buffers will be clearly marked prior to construction activity to establish timbering limits.

The subject site is comprised mostly of terrestrial with a Dry-Mesic Oak-Hickory Forest, that has been previously disturbed for agricultural and land altering activities with a small portion of the subject site containing a wetland natural community type. The surrounding properties appear mostly to be Dry-Mesic Oak-Hickory Forest as observed from the subject site. The property to west of the site appears to be more of a wetland natural community with several man-made ponds. The terrain of the subject property indicates natural water flow off the site would be to the west.

The dominant plant species observed were poplar and sweetgum in the wooded areas. The dominant plant species observed in the maintained areas were grasses that appear to be harvested for agricultural purposes (as hay for horses and cows).

No large animals (i.e., deer or fox) were observed during the site visit, but are expected to be present on the site at various times of the year. Smaller species, such as birds, [squirrels](#), amphibians and reptiles are present on the site but were not documented.

[No significant wildlife displacement is anticipated since most of the development footprint is already cleared. It is anticipated that existing wildlife will relocate to undisturbed portions of the site or to adjacent wooded sites.](#)

[NC Botanical Garden publication regarding "Plants to Avoid in the Southeast US" was consulted and only](#) Chinese Wisteria was observed [on the site](#), near the center of the subject site. Chinese Wisteria is considered an invasive species.

Chinese Wisteria ([photos starting on p. 31 and 32 of the pdf in Appendix A](#)) is a deciduous, woody twining vine that climbs up tree trunks in a clockwise direction; stems are stout, smooth gray-brown and covered with fine white hairs. Older plants can grow to 15 in. or more in diameter. It's leave area alternate, compound, 6-10 in. long with 9-11 (7-13) leaflets; leaflets egg-shaped with wavy-margins and strongly tapering tips. Flowers, fruits and seeds: flowering occurs in April before leaf expansion; flowers are lavender to purple, occur in pendulous racemes or clusters 6-8 (up to 12) in. long, and open mostly all at once; individual flowers are

0.8-0.9 in. long on 0.6-0.8 in. long stalks (pedicels); fruits are green to brown velvety seedpods 4-6 in. long, narrowed toward the base with constrictions between the 1-3 flat, round seeds; fruits begin to appear midsummer and persist for a long time on the vine. Chinese Wisteria spreads by seed which, in riparian areas, can be transported by water; vegetatively by producing stolons (above-ground stems) that produce shoots and roots at short intervals. For small infestations, cut vines to relieve trees of the weight and girdling. Treat lower cut stem portions with a systemic herbicide containing glyphosate or triclopyr. New plants may grow from seed. For large infestations, remove soil from the site. Long term management may be needed.

The majority of the site development will be located in areas without mature trees. Where tree removal will occur, limits of removal will be surveyed, and tree protection fence will be installed to prevent removal of trees beyond the approved limits. The extent of tree removal will be shown on construction drawings, after site grading and wastewater treatment designs have been completed.

The following entities were consulted:

- US Fish and Wildlife Service **(did not respond)**.

Refer to Appendix J for:

- Endangered Species Report (site specific).
- Natural Communities Map.

### **13) Hazardous Materials**

Necessary pool chemicals will be safely stored indoors in the amenity building with access limited to only authorized personnel.

Any chemicals required by the approved and permitted WWTP will be managed in accordance with the permit and all applicable regulations.

No fuel oil capacity will be stored onsite. All EPA guidelines and regulations will be followed. Any regulated onsite spill will be managed in accordance with the environmental management plan for the site and in compliance with any applicable regulations.

No evidence of any existing underground storage tanks was discovered during the Phase I environmental inspection.

Any asbestos encountered will be managed and removed with appropriate HAZMAT permitting as required by law.

De minimis quantities of hazardous material for routine housekeeping purposes will be used on the subject property during and after construction.

To the extent any hazardous materials are required to be used beyond de minimus housekeeping amounts, all proper protocols and procedures for management, storage, use and disposal will be followed.

The following is a list of State and Federal Permits required:

- NCDEQ-DEMLR General Permit No. NCG010000
- NCDEQ-DWR Authorization to Construct
- NCDOT 16.6 3-Party Agreement
- NCDOT 16.1B 2-Party Encroachment Agreement
- NCDOT TEB 65-04 Street and Driveway Access Permit
- Any and all permits required by NCDEQ for the wastewater treatment plant and disposal system
- NPDS Permit from NCDEQ