Environmental Impact Assessment

For

Space Station Self Storage, Boat + RV Storage and Boat Sales

Chatham County, North Carolina

July 3, 2014

Prepared by:

Warren D. Mitchell, PE 253 Tobacco Farm Way Chapel Hill, NC 27516

Proposed Project Description and Need

1) Describe the overall project in detail, including all proposed phases.

This project includes the construction of self storage buildings, boat and RV garages and surface parking, and boat sales. The project will be built in several phases. The existing land is a 46 acre parcel, undeveloped.

- 2) Provide a project location map showing surrounding areas. *See attachment A-13.*
- 3) Provide a project site plan showing existing and proposed facilities. **See attachment A-13 and A-14.**
- 4) Describe how this project fits into larger plans or connects with adjacent projects.

This project is compatible with nearby commercial properties along US Hwy 64; namely the Builders First Source, Farrells Self-Storage, Camper sales and repair, Extra Garage Boat+RV storage, Concrete Plant, and John Deere Landscapes.

5) List and describe any public facilities or public benefits provided by the project. *This facility will provide a public benefit whereby Chatham County residents can safely store small and large belongings convenient to where they live.*

6) Discuss the land acreage to be disturbed during each phase.

The first building will be constructed during phase 1. The entire site will be prepared, graded and stabilized during construction of building 1. The total site area to be disturbed is approximately 20 acres.

7) List square footage and height (in stories) of new buildings.

Building one has a footprint of 23,470 square feet x 3 floors = 70,400 square feet. Building two has a footprint of 20,000 square feet. The boat sales building is 15,000 square feet. The 3-story building will have a maximum height of 36 feet.

8) Describe proposed uses of all buildings and proposed facilities.

The uses being requested with this application are (1) Self-storage facility / mini-warehouse storage facility with related retail and services (i.e. moving truck

rental). (2) Boat, trailer and other utility vehicle sales and service. (3) Boat Storage Facility and (4) Recreational Vehicle Storage Facility.

- 9) Show number of parking spaces in parking lots and decks. *See attachment A-14.*
- 10) Show areas to be cleared, graded, filled, paved, and landscaped. *See attachments A-14 through A-17.*

11) Show connections to existing utility and sewer lines or new utilities.

The facility will require a public waterline sized for fire protection of the buildings. The sanitary sewer will use a septic system for disposal. The electrical needs will be met with using the existing utility lines along US Hwy 64.

12) Show wastewater management systems on a map.

The wastewater system / septic system location is shown on drawing C2 (See attachment A-14).

13) Show proposed areas of impervious and semi-pervious surfaces. *See attachment A-14*

14) Show and describe any proposed stormwater control devices.

See attachment A-15. The stormwater system for this project will be designed to meet or exceed the County's stormwater ordinance. Several stormwater basins are proposed for the project to capture the stormwater and mitigate the quantity and quality from the development. A wet detention basin is being used to control the peak discharge, provide 90%TSS removal, and reduce the nitrogen and phosphorous from the development.

Alternatives Analysis

1) Discuss and compare all reasonable development alternatives (site selection, facility layout, utilities, stormwater management, construction methods, open space preservation, and any other pertinent alternative considerations).

There are other properties for sale on US64. It was decided that a parcel close to the other commercial businesses would be preferred by the applicant and the County. It is always preferred to cluster commercial uses together. This property met that criteria. This facility will have very low water and sewer demand. The water and sewer requirements will be comparable to one or two houses.

The streams bisect this property in several directions. The stream buffers played a role in the layout of the facility. All proposed development was placed to avoid the stream buffers. 2) Discuss how the preferred alternative was selected and its benefits relative to other alternatives (including a no-build alternative, if applicable).

This site is suitable for this particular facility because we are able to use one driveway to serve many uses. The length of frontage along US 64 is nearly 1200 feet long.

Existing Environment and Project Impacts

For each resource topic below, describe:

A. Existing resources and conditions.

This 46 acre tract is was partially timbered in the 1990s. Approximately 10 acres has mature pines and the remainder is a mix of young trees. There are ephemeral, intermittent, and perennial streams on the property. The is nearly 1200 feet of frontage on US 64. Surface water flows from north to south and enters Beaver Creek which flows to Jordan Lake. Soil types are the Creedmoor series, CrB and CrC. The slope on the site is gentle and averages 6%. There are no steep slopes on the property.

B. Anticipated impacts (short-term construction impacts, long-term operation impacts, and indirect or secondary impacts).

The short term construction impacts include clearing approximately 20 acres. The timber will be sold for lumber or pulp wood and the stumps and branches will be turned to mulch. The soil will be graded to create a site with a gentle slope suitable for the proposed buildings and parking. There will be no significant long term operation impacts. The stormwater basins will be inspected annually and repairs or maintenance done as needed to the basins. Landscaping will be maintained as required.

C. Discuss how potential impacts to the resource will be avoided and minimized through alternative selection, design strategies, construction methods, and long-term maintenance procedures.

There are no significant trees on the property in size or species. The slope of the site is considered gentle and no special methods are required for the earthmoving operations. The gentle slope of the site means the anticipated stormwater runoff will not create the same problems you would have on sites with more severe slopes. Sedimentation from earthmoving operations will be managed by constructing sediment basins that will become the permanent stormwater basins following site stabilization and the completion of the facility.

D. For unavoidable impacts, describe whether any compensatory mitigation is planned or required.

One stream crossing is planned by a driveway across an ephemeral stream. This will be less than 40 feet wide and is considered exempt in the

Chatham County Watershed Ordinance. There will also be 2 small pipe crossings for the 2 septic systems associated with the project. Each sewer crossing will be just 10 feet wide. This impact is also considered exempt in the Watershed Ordinance. No mitigation is required or planned.

1) <u>Geography</u>

- Discuss the geographic setting, geology, and topography of the project area and adjacent areas.

The natural geography of the area is gentle. The dominant soil type indicated on the county soil map is CrB and CrC –Creedmoor Series. See attachment A-19.

- Provide a topographic map of the property and surrounding area, use the county GIS website topography (2' contour interval) data at a scale appropriate for the project size, i.e., 1'' = 100', etc.).

See attachment A-15 for the site topo and attachment A-20for the surrounding area topo.

- Identify any 100-year floodplains (FEMA Special Flood Hazard Areas) on or adjacent to the property. If present, provide an appropriate-scale map of these flood-prone areas defined by the NC Flood Mapping Program.

No 100-year floodplains exist on or adjacent to the property.

- Show areas that will be graded or filled, and provide estimated cut/fill volumes. See attachment A-15. The cut and fill operation will be executed to create a balanced site. The estimate of cut/fill is approximately 25,000 cubic yards.

- If the project includes pond or dam work, show areas that will be flooded. *The project does not include pond or dam work.*

2) Soils and Prime Farmlands

- Identify dominant soils in the project area (County GIS or NRCS website) and show on a map.

CrB and CrC – Creedmoor Series. See attachment A-19.

- Discuss any soil constraints (fill, wetland soils, septic suitability, slopes, etc.), and indicate those areas on a map.

The soil is suitable for the proposed improvements being requested based on the earthmoving operations that took place on the existing facility. There are no wetlands on site or unsuitable soils expected. A new septic systems will be installed for both the Self-Storage and the Boat Sales office. - Describe any soil disturbance or contamination expected as a result of this project. *The soil disturbance expected is shown on attachment A-15. No contamination is expected as a result of this project.*

- If contamination is expected, discuss containment plans and procedures. *No contamination is anticipated.*

- If soil will be relocated, specify the number of square yards/feet to be moved, and its relocation site.

Soil will not be relocated. The site is designed to balance.

- Describe runoff management plans for the project.

Stormwater runoff from the proposed project will drain into stormwater basins shown on attachment A-15.

- If soil disturbance is proposed, describe the off-site impacts expected from this activity.

There will be no offsite impacts from soil disturbance.

- Provide a map of any prime or unique farmland soils in the project or service areas, and include references used to make this determination.

See attachment A-21. Chatham County GIS.

- Describe impacts to prime or unique farmland soils, including acreage estimates of lost farmland soils and retained farmland soils.

The entire property is considered farmland soils. Over half of the property is being preserved. Approximately 20 acres will be disturbed and approximately 26 acres will be preserved. See attachment A-21.

3) Land Use

- Provide a map showing current use of land on the site and surrounding properties. **See attachment A-22.**

- Discuss how the current land use fits into the surrounding area (conservation, development, ecological function, etc).

The current land use is timber farm. The properties to the east and south are residential. The property to the west is owned by the lumber company. This area has been steadily experiencing development for the last couple of decades.

- Provide the current zoning of the project site and the surrounding area. **See attachment A-23**

- Discuss how the proposed uses fit into the intended land use of the area (conservation, development, ecological function, quality of life).

This project is suited for this parcel because other commercial uses have been developed on both sides of the highway in recent years. The highway used to be a 2 lane road. Now the highway is 4 lanes and getting busier all the time. For these reasons, this property is more suitable for this commercial use than houses as it is currently zoned for. The storm pond will be designed to control the 25-year storm and slowly release it over 48 – 72 hours. The discharge rate will be less after development than the rate today. Full cutoff lighting fixtures will be used to focus the light only where needed and limit offsite light impacts.

This site is located on a transportation corridor, US hwy 64 which is mentioned in the Land Development Plan as suitable for development in appropriate locations.

The following are two recommendations of the technical and advisory committees that worked on the Land Development Ordinance:

- Site commercial uses along major highways in clusters at specific, designated locations; design these commercial sites to retain a rural crossroads or village character; and integrate these uses with other nearby development.
- Site commercial clusters/compact communities so that they might be able to be served by transit in the future, especially along US 15-501 north of Pittsboro and US 64 east of Pittsboro.

- Indicate whether zoning or local land use plans will need to be changed after project completion.

Local land use plans will not need to be changed after project completion.

4) Wetlands

- Indicate whether wetlands are present; describe the basis for this determination and the identity of the person who made the determination.

No wetlands are present on site. This determination was made by Scott Mitchell, Mitchell Environmental, P.A.

- Show identified wetlands on a map, and describe all relevant details, such as acreage, types, delineation, function, etc.).

No wetlands are present on this site.

- If wetlands are to be filled, specify the number of acres that will be affected. **No wetlands are present on this site.**

- List all required permits and permitting agencies. *No wetlands are present on this site.*

- If any diversions/additions/withdrawals of surface water will affect wetlands, describe those activities.

No wetlands are present on this site.

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

- Provide a map of County or municipal parks, scenic, recreational, or state natural areas (SNHAs, State or Federal Forests, etc.) on or adjacent to the site/project area.

None of these places exist on or adjacent to the site/project area. This was confirmed by the Chatham County GIS and NC one map.

6) Areas of Archaeological or Historical Value

- Discuss any archaeological or historical studies of the project location; provide relevant references.

No archaeological or historical studies exist for the project site.

- Describe and identify on a map any structures (i.e., walls, buildings, etc.) on the site and provide estimated ages of those structures.

There are no structures of any kind on site. See attachment A-13.

- Describe all impacts to any archaeological or historical resources in the proposed project area.

No archaeological or historical resources are known to exist on the proposed project property.

- Describe plans for demolishing or rebuilding any structures.

There are no structures of any kind on site.

- Provide photographs of any significant resources, including all structures older than 50-years.

There are no significant resources in the project area.

- Provide relevant correspondence with the Chatham County Historical Association and NC SHPO.

I talked with Bev Wiggins of the Chatham County Historical Association. All cemeteries in the County are located online now. We checked and did not see any on the site or on any adjacent properties.

7) <u>Air Quality</u>

- Describe the project's impacts on ambient air quality.

No impacts on ambient air quality will occur.

- Describe plans for any open burning during or after construction.

The remaining stumps and small trees may be burned or turned into mulch, depending on the time of year and weather conditions.

- Indicate the number of proposed parking spaces, if applicable.

Thirteen spaces are proposed for the self-storage and 17 are proposed for the boat sales facility. See attachment A-14.

- Describe whether the project will increase odor levels, or the likelihood of odor complaints.

No odors are anticipated with this storage facility.

- Provide a copy of any required traffic studies.

A traffic study was not required or prepared for this project.

8) Noise Levels

- Discuss current noise levels; use a benchmark, if possible. *The property is undeveloped – wooded.*

- Describe any increases in noise levels expected from this project.

Self-storage facilities are not known as loud or noisy. Any increase will be minor and the distance to adjacent homes is significant.

- Specify the distance at which the increased noise will be heard.

The only noise expected from the project is people talking and vehicles being driven. Boats will be repaired and that will be an inside activity. These are normal domestic occurrences that you would hear at houses in any neighborhood.

- Discuss whether surrounding properties will be affected by noise levels.

Surrounding properties should not be affected by noise from this facility. As mentioned before, the proposed activities could be considered domestic activities.

- If commercial uses are proposed, specify the hours of operation.

The office hours will be typical; 8:00 am to 6:00 pm. People can still get to their units after 6:00 and on weekends but most customers come during the day.

9) <u>Light Levels</u>

- Describe lighting plans for the project, including how lighting will impact adjacent residents and wildlife.

Only cut-off light fixtures will be used on the project. Outdoor fixtures will be LED which use a fraction of the energy that other types of fixtures use. This is the best lighting option for having the smallest impact on adjacent residents and wildlife. The lighting plan is included on attachment A-17.

10) Surface and Groundwater Resources (discuss separately)

- Identify and provide a map of surface waters in the project area. Describe groundwater (aquifers) in the project area.

There are ephemeral, intermittent and perennial streams on the site. See attachment A-13-A-15.

Not much is known about the groundwater aquifer.

- Include names, locations, classifications, and use support ratings for surface waters. *The name of the tributary on this site is unknown and it flows to Beaver Creek.*

- Specify and show on a map the river basin in which the project is located. *The project is located in the Cape Fear River Basin. See attachment A-25*

- Discuss any known groundwater quality issues. *I do not know of any groundwater quality issues.*

- Discuss drinking water sources.

A new well will be drilled to supply the drinking water for this project. There is no public waterline in US 64 in front of this project.

11) Fish and Aquatic Habitats

- Describe fish and aquatic habitats in and adjacent to the site/project area.

The streams on the property are very small and have small drainage areas. There are no ponds on the property.

- Discuss impacts to fish and aquatic life and their habitats, including a map showing those habitats.

N/A

12) Wildlife and Natural Vegetation

- Describe and provide a map of natural community types on and adjacent to the site/project area.

The site and the adjacent lands contain native hardwoods and pines. Wildlife on the property includes deer, squirrel and possum and possibly foxes.

- List the species of dominant plants and animals observed on the site that typify those communities.

The site and the adjacent lands contain native hardwoods and pines. Species of trees include oak, hickory, poplar, beech, cedar, sweet gum, maple and loblolly pine. Wildlife on the property includes deer. - Evaluate and discuss whether suitable habitat exists for rare, threatened, and/or endangered species, as described by the NC Natural Heritage Program.

There are no suitable habitats on or adjacent to this property that exist for rare, threatened and/or endangered species as evidenced by the NC Natural Heritage Program layers on the Chatham County GIS.

- If wildlife will be displaced, discuss any limitations of adjacent areas to support them.

There is an abundance of adequate area adjacent to this property to support the wildlife displaced from this development – including undisturbed land on the property.

- Identify, list, and describe the distribution of the invasive species present on the site. Consult the NC Botanical Garden's Web page, "Plants to Avoid in the Southeast US" for a list of invasive species common to the region.

No invasive species have been found on site.

- If forests will be cleared, discuss the extent of planned deforestation and specify the forestry methods to be used, including BMPs.

Approximately 20 acres will be cleared. The trees will be used for lumber or pulp wood. The stumps and branches will be chipped and used for mulch or burned depending on the time of year and conditions.

13) Hazardous Materials

- List all hazardous materials to be stored or introduced during construction or operation.

No hazardous materials are expected to be stored or introduced during construction. The self-storage lease will prohibit all hazardous materials.

- For each hazardous material, other than in deminimis quantities or for routine housekeeping purposes, describe the procedures to be used to ensure their proper management, storage, and disposal.

No hazardous material will be stored or introduced on site.

References

Exhibits (Maps, Figures, Tables, Photos, etc.)

State and Federal Permits Required

C. Topographic Map

A topographic map with contours at vertical intervals of not more than five (5) feet, at the same scale as the First Plat, for all major subdivisions unless not deemed necessary by staff. Staff may require a topographic map for other subdivisions if

necessary for adequate review. The date and method of preparing the topographic survey shall be stated.

See attachment A-13 and A-20.

D. Soils Evaluation

A soils evaluation shall be performed by a certified/licensed soil scientist or persons approved by the Health Department to perform such evaluations or investigations. Such evaluations shall be performed unless a central sewage disposal system is proposed. A soils map showing the location of suitable soils and a letter of explanation shall be submitted to perform such evaluations or investigations.

Scott Mitchell, PE, LSS of Mitchell Environmental PA has evaluated the soils and found area suitable for the septic field to serve the facility.

E. Utility Plans

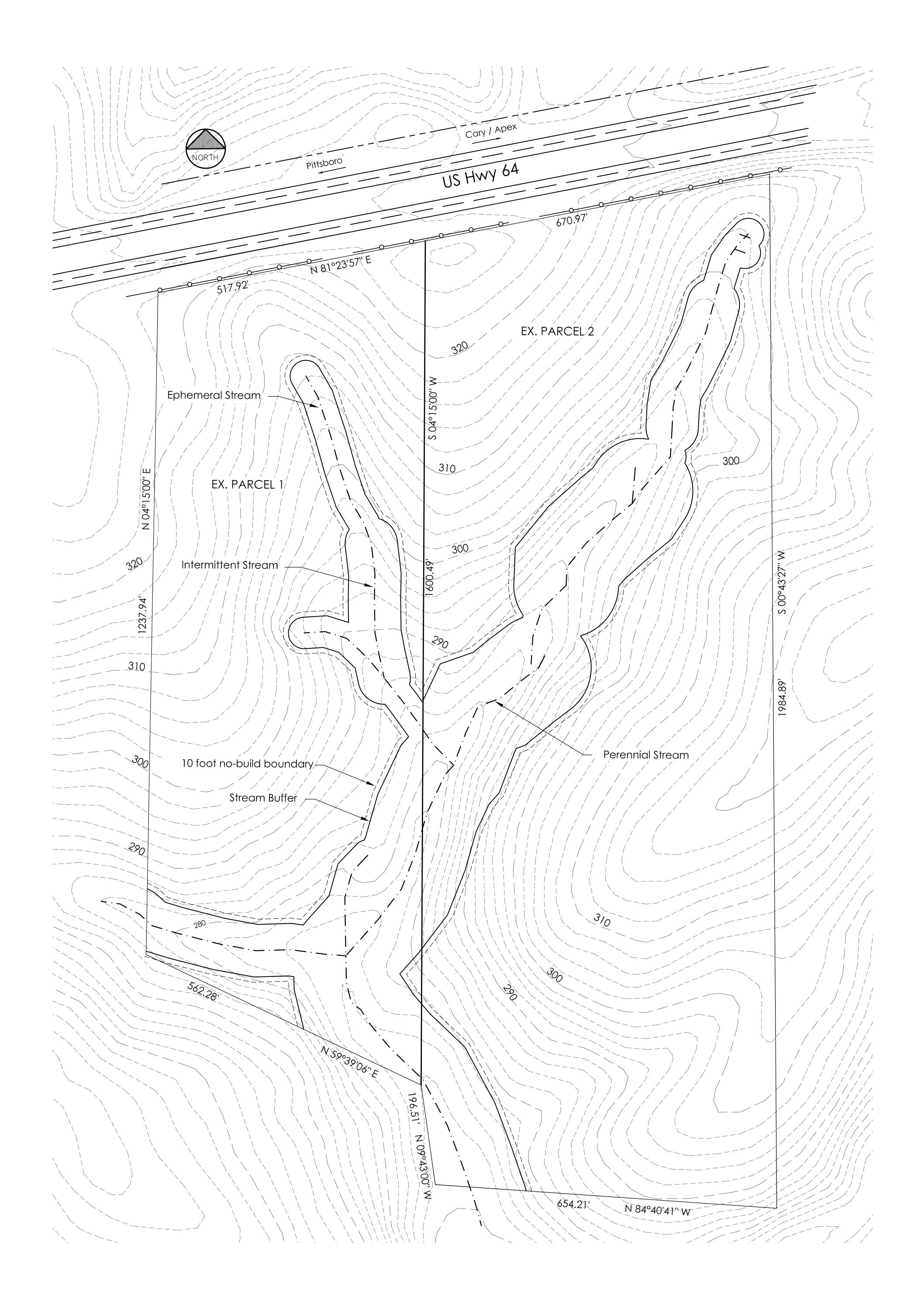
Plans of proposed utility layouts for sewer and water where applicable, showing feasible connections to the existing utility system, or any proposed utility system.

A well is proposed for water use and septic systems will be installed for the wastewater.

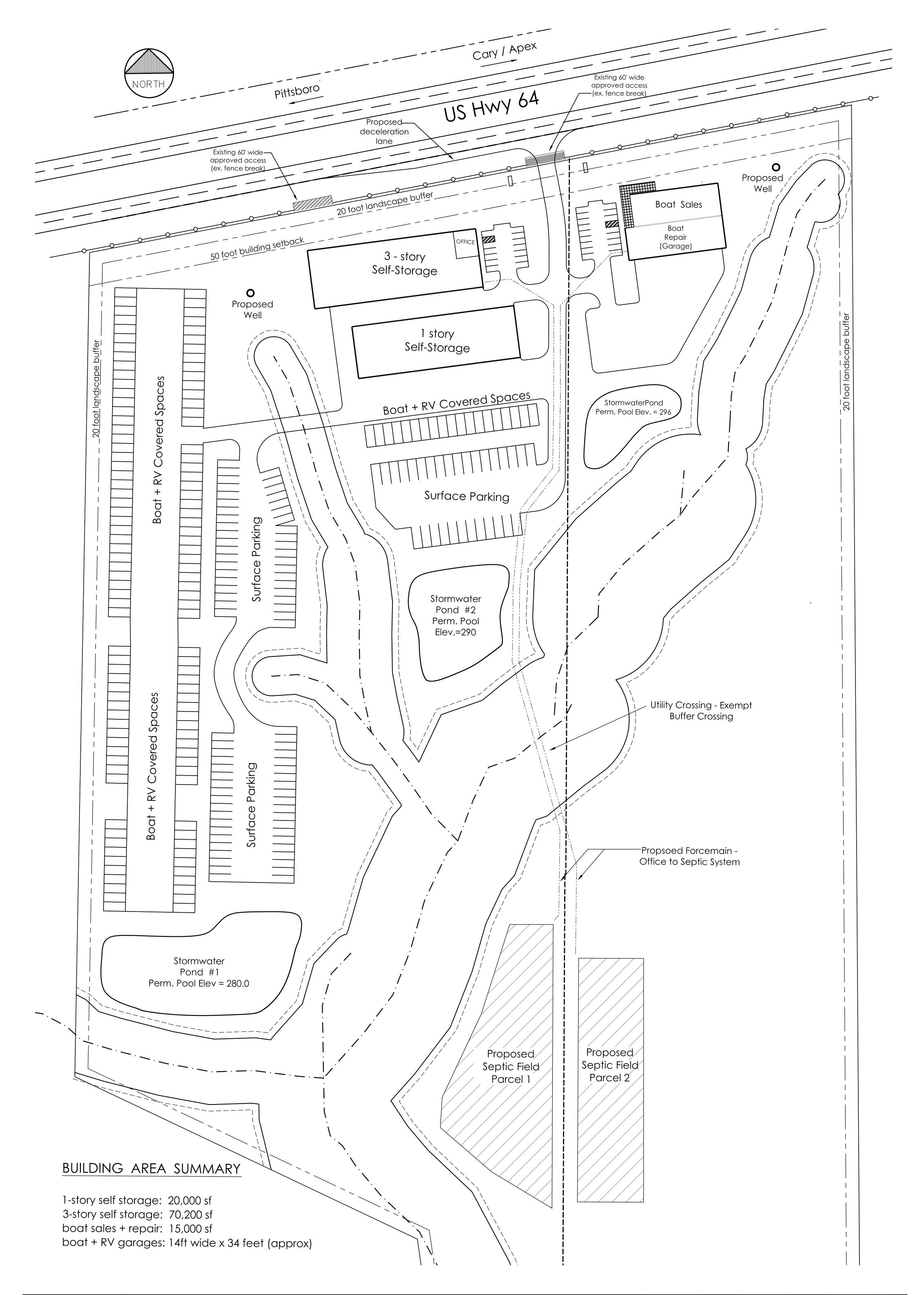
F. U.S. Army Corps of Engineers and Division of Water Quality Permits or Certifications

Indicate if US Army Corps of Engineers and/or NC Division of Water Quality permits or certifications will be required. These permits and/or certifications may be required when development improvements may involve the placement of excavated material or fill material into streams, creeks, lakes, or wetlands. If any of these permits or certifications will be required, copies of the approved permits shall be submitted at time of Construction Plan submittal.

There are no State or Federal permits required for this project.



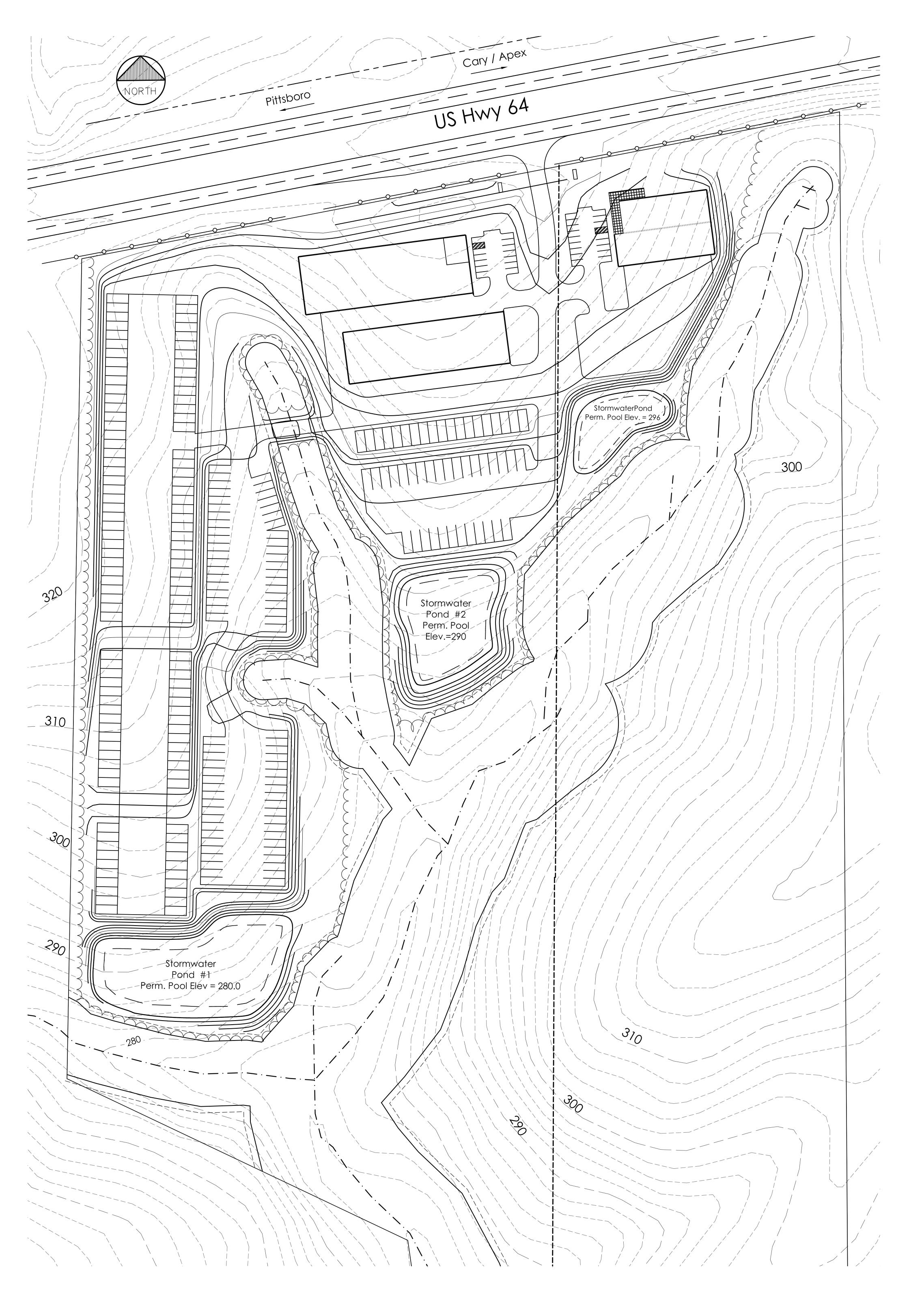
	July 3, 2014 Scale: 1"=80' existing conditions C2	Space Station Conditional Zoning Distict Self-Storage, Boat + RV Storage, Boat Sales	REVISIONS	Warren D. Mitchell, PE Civil Engineering 253 Tobacco Farm Way CHAPEL HILL, NORTH CAROLINA 27516 warrendmitchellpe@gmail.com
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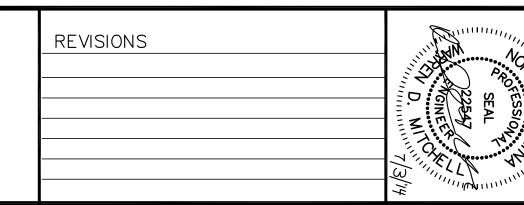
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Warren D. Mitchell, PE

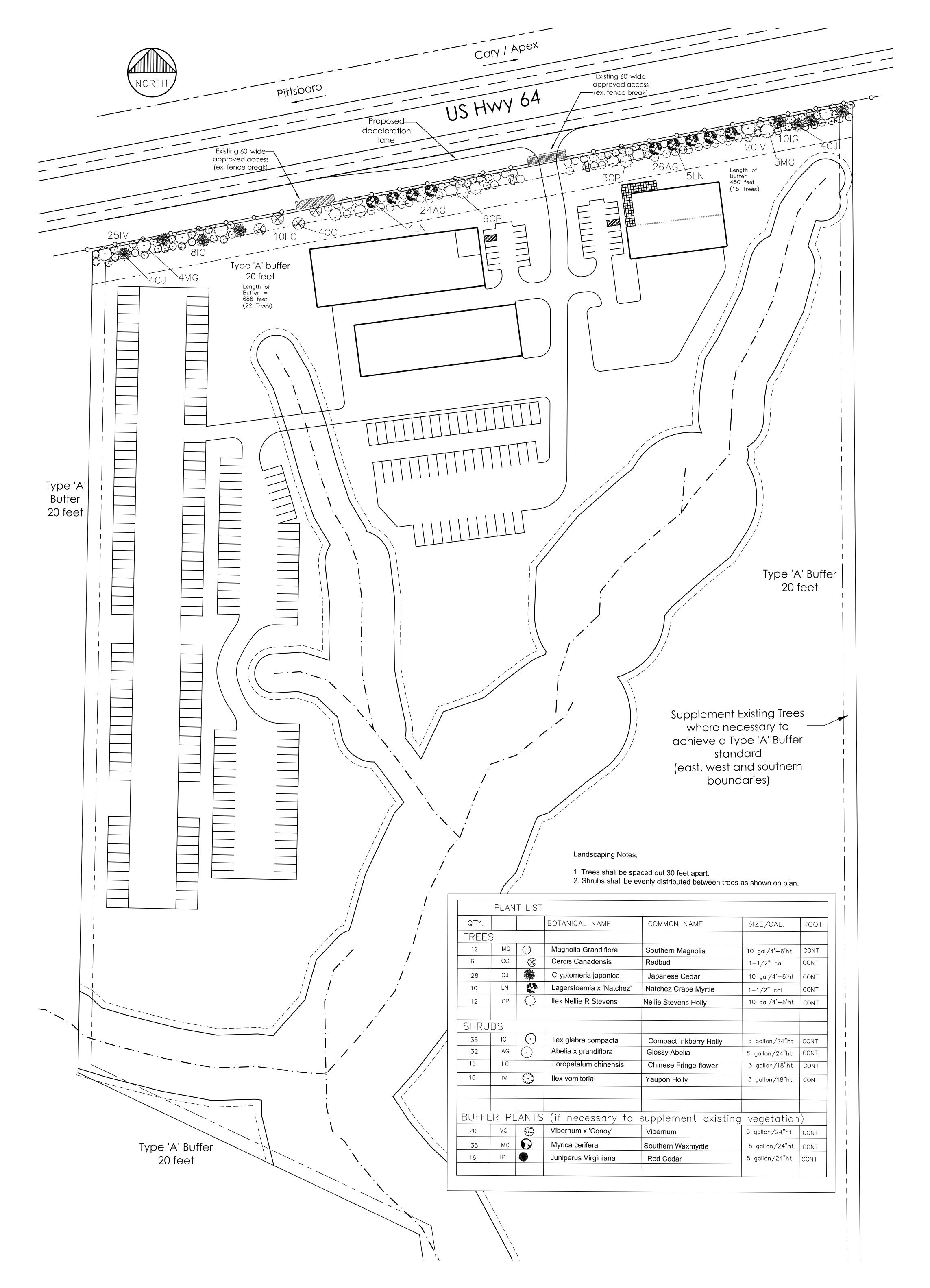
Civil Engineering 253 Tobacco Farm Way CHAPEL HILL, NORTH CAROLINA 27516 warrendmitchellpe@gmail.com P (919) 593-1916



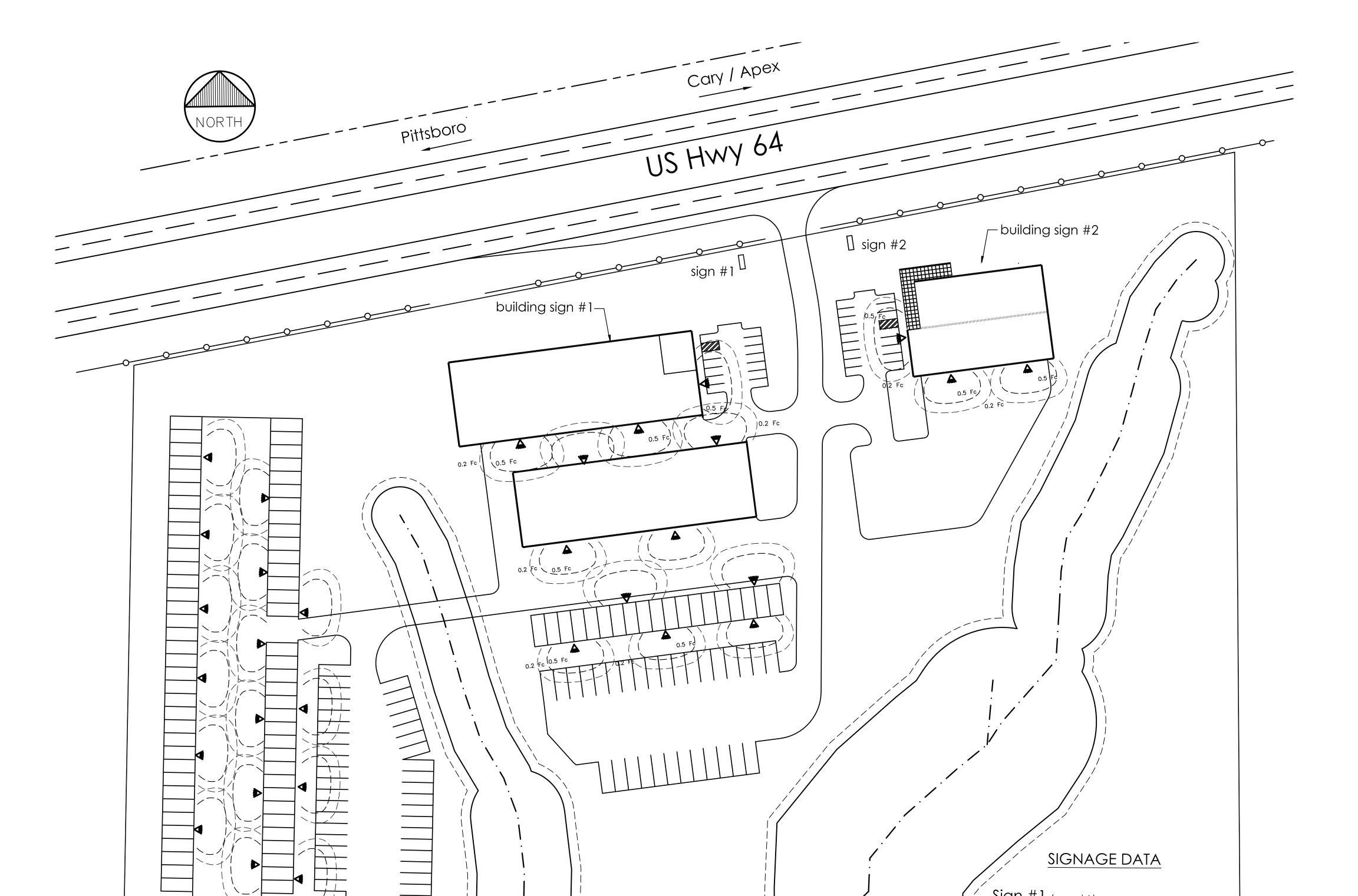




Warren D. Mitchell, PE Civil Engineering 253 Tobacco Farm Way CHAPEL HILL, NORTH CAROLINA 27516 warrendmitchellpe@gmail.com P (919) 593-1916



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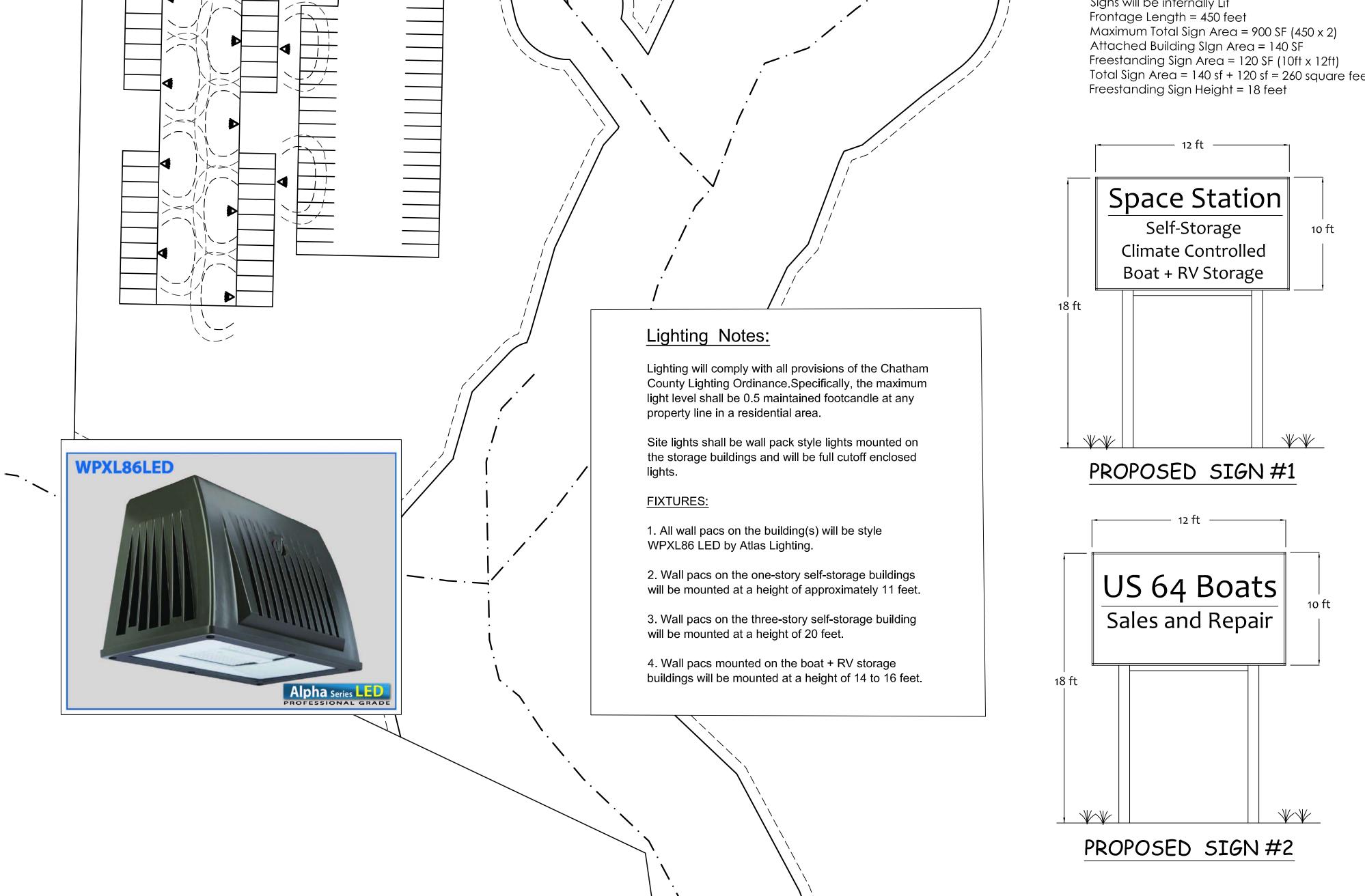
SIGNAGE DATA

Sign #1 (parcel A)

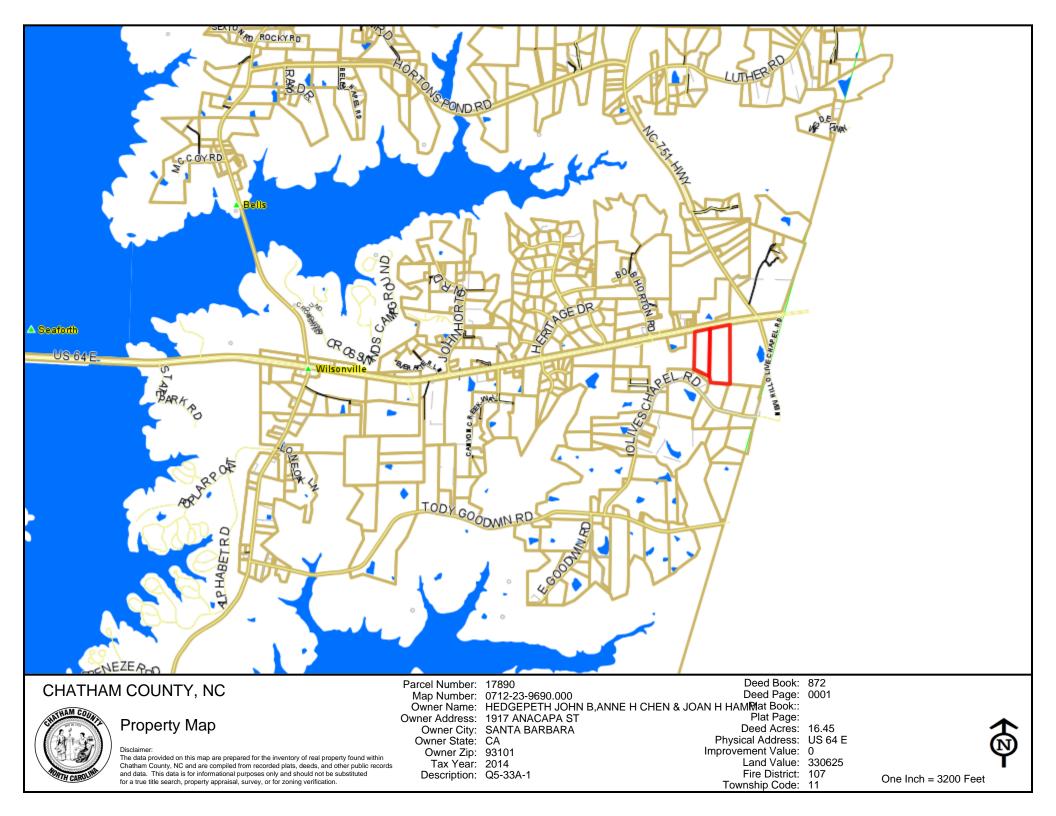
Signs will be internally Lit Frontage Length = 737 feet Maximum Total Sign Area = 1474 SF (737 x 2) Attached Building SIgn Area = 150 SF Freestanding Sign Area = 120 SF (10ft x 12ft) Total Sign Area = 150 sf + 120 sf = 270 square feet Freestanding Sign Height = 18 feet

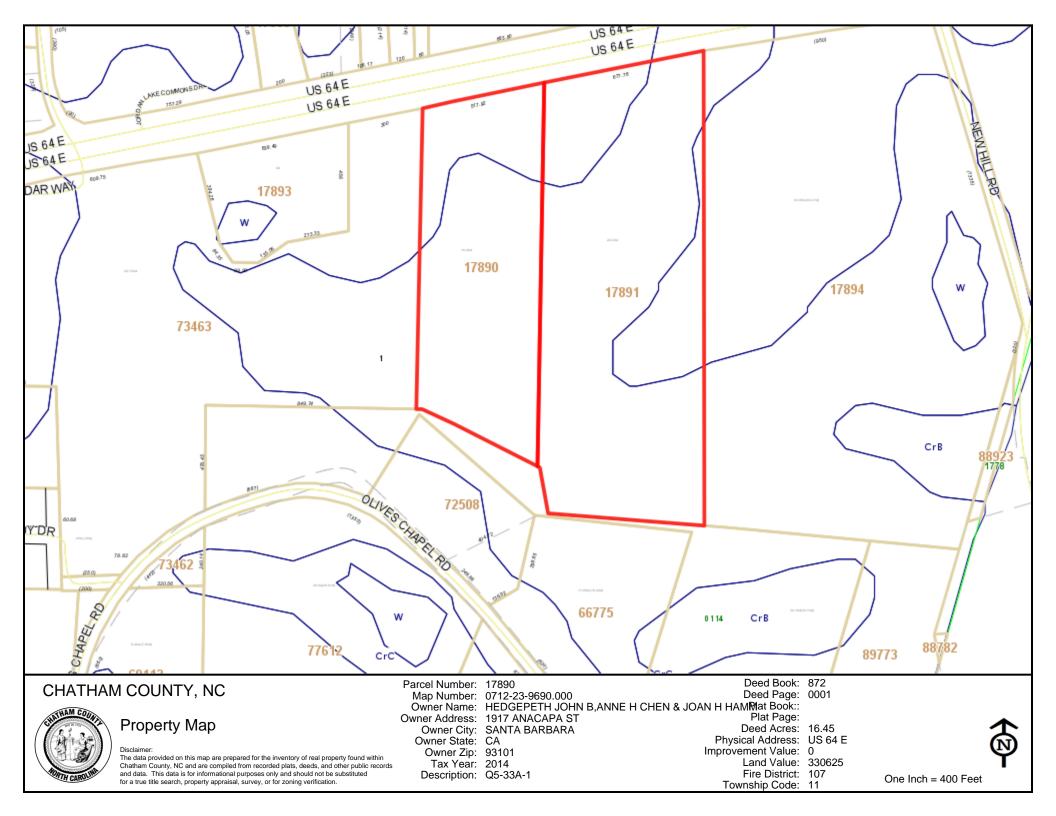
Sign #2 (parcel B)

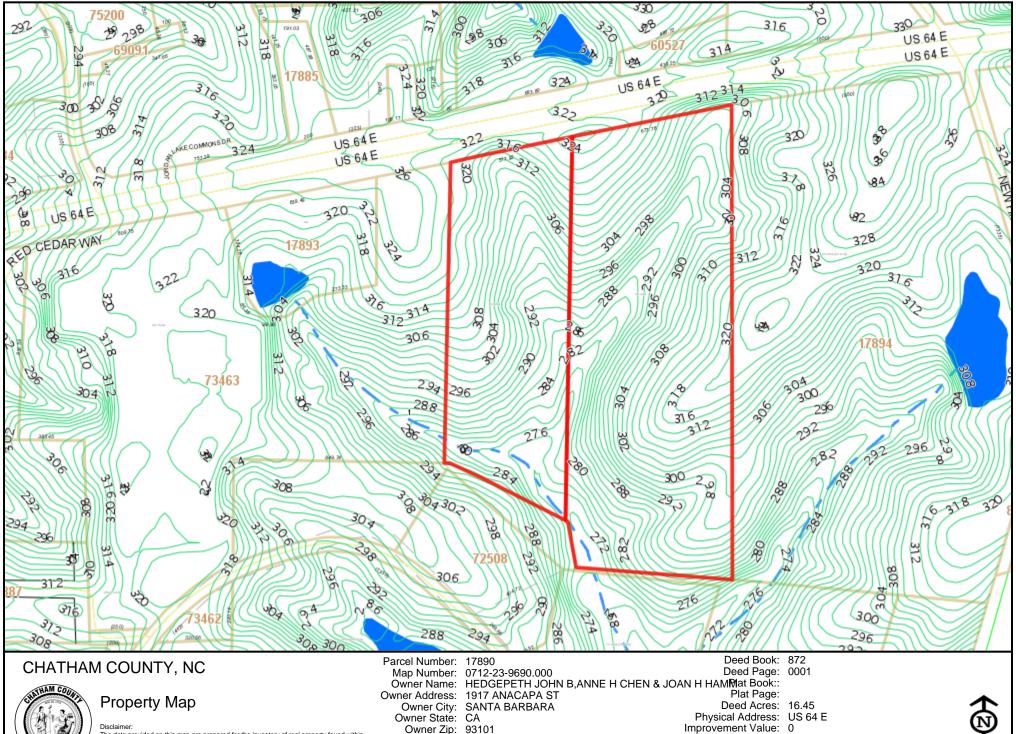
Signs will be internally Lit Frontage Length = 450 feet Maximum Total Sign Area = 900 SF (450 x 2) Attached Building SIgn Area = 140 SF Freestanding Sign Area = 120 SF (10ft x 12ft) Total Sign Area = 140 sf + 120 sf = 260 square feet Freestanding Sign Height = 18 feet



Sign+Lighting Space Station Conditional Zoning Distict State: 1"-60 Self-Storage, Boat + RV Storage, Boat Sales Chatham County, North Carolina Chatham County, North Carolina	Warren D. Mitchell, PE Civil Engineering 253 Tobacco Farm Way CHAPEL HILL, NORTH CAROLINA 27516 warrendmitchellpe@gmail.com P (919) 593-1916
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Tax Year: 2014

Description: Q5-33A-1

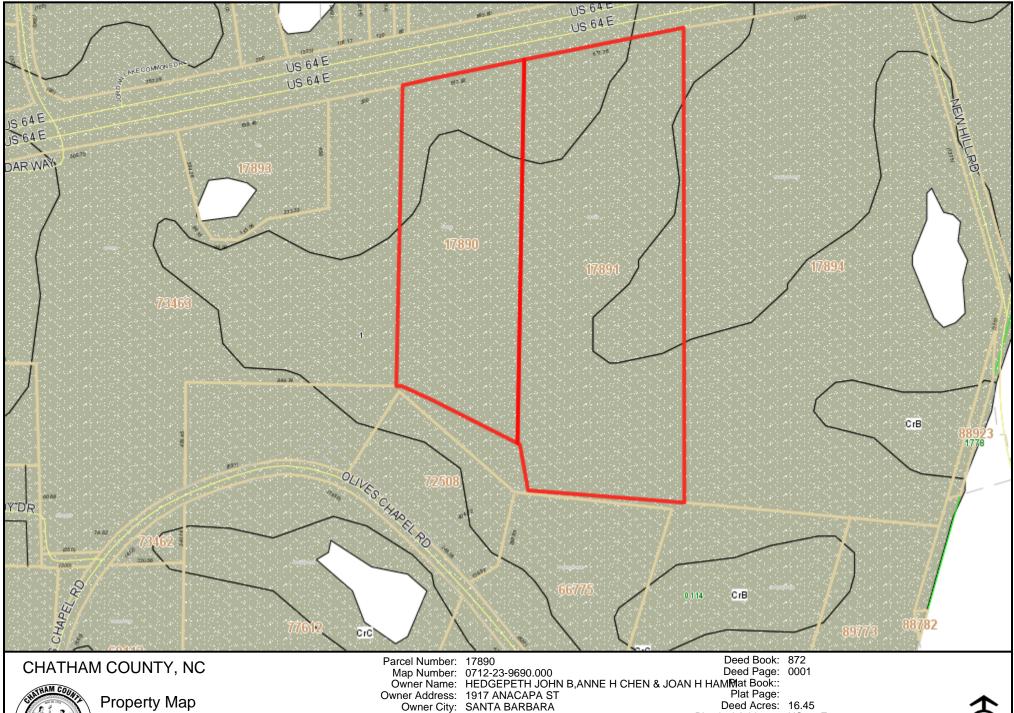
The data provided on this map are prepared for the inventory of real property found within Chatham County, NC and are compiled from recorded plats, deeds, and other public records and data. This data is for informational purposes only and should not be substituted for a true title search, property appraisal, survey, or for zoning verification.

One Inch = 400 Feet

Land Value: 330625

Fire District: 107

Township Code: 11



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Parcel Number:17890Deed Book:
Deed Page:Map Number:0712-23-9690.000Deed Page:Owner Name:HEDGEPETH JOHN B,ANNE H CHEN & JOAN H HAMMat Book::Owner Address:1917 ANACAPA STPlat Page:Owner City:SANTA BARBARADeed Acres:Owner State:CAPhysical Address:Owner Zip:93101Improvement Value:Tax Year:2014Land Value:Description:Q5-33A-1Towner Code:

AN H HAMMal BOOK. Plat Page: Deed Acres: 16.45 Physical Address: US 64 E Improvement Value: 0 Land Value: 330625 Eiro Didtrigt, 107 Fire District: 107 Township Code: 11 One Inch = 400 Feet

