

City Council Approved  
June 17, 2014  
Ord. # 2014-82

THE **PUD MASTER PLAN** FOR

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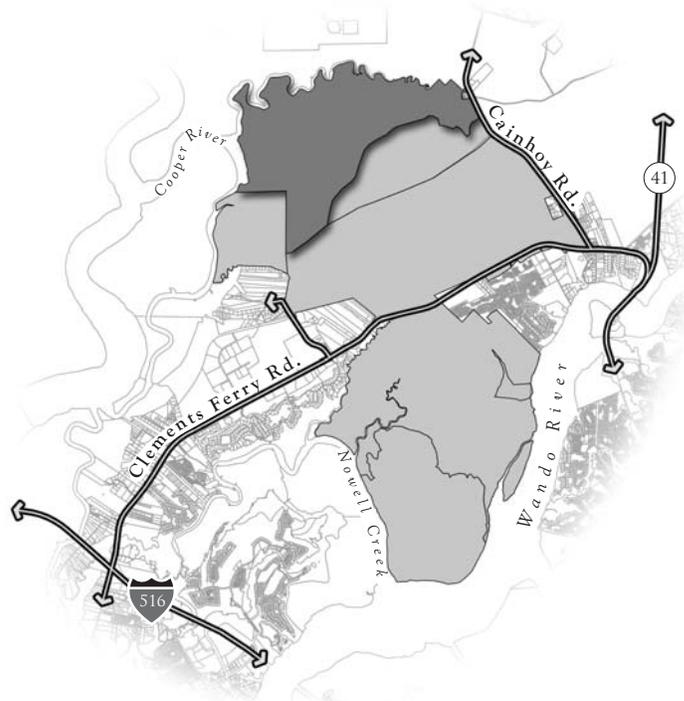
# CAINHOY - T7 PUD

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City of Charleston  
Berkeley County, South Carolina

Ratified by Charleston City Council on June 17, 2014  
Ratification #2014-82



**Property Owner:**

Tract 7, LLC.

**Consultants:**

Cainhoys Land & Timber, LLC.  
The Guggenheim Family  
Womble Carlyle Sandridge & Rice, LLP  
Cooper, Robertson & Partners  
DesignWorks  
Thomas & Hutton  
Sabine & Waters, Inc.  
Robert Charles Lesser  
Bio Habitats  
D.I. Development Company, Inc.

FEBRUARY 25, 2014

**CAINHOY-T7**  
**MASTER PLAN AND ZONING TEXT**  
**CITY OF CHARLESTON**  
**BERKELEY COUNTY, SOUTH CAROLINA**

Adopted June 17, 2014: Ordinance #2014-82

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**CAINHOY-T7**  
**PUD MASTER PLAN**

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## CAINHOY PUD MASTER PLAN OVERVIEW

The Cainhoy Land & Timber PUD Master Plan, Cainhoy-ST PUD Master Plan and the Cainhoy-T7 PUD Master Plan have identical master plan zoning texts and shall be administered in a coordinated fashion. For ease of reference, these three master plans are collectively referred to as the “Cainhoy PUD Master Plan.” The three master plans encompass about 5,653.52 acres in Cainhoy Land & Timber PUD Master Plan, about 1,860.2 acres in the Cainhoy -ST PUD Master Plan and about 1,573.5 acres in the Cainhoy-T7 PUD Master Plan for a combined total of about 9,087.22 acres as shown on **Exhibit 1 (Aggregated Property)**.

The Cainhoy PUD Master Plan has been crafted to establish guiding principles and goals to guide the protection of the properties’ natural and historic resources and to promote managed development of the land over the course of the next many decades. The primary goal of the Cainhoy PUD Master Plan is to promote a sensible development pattern and to create a sustainable community that embraces the Lowcountry natural heritage by providing connectivity of habitat, minimizing impacts of development on natural resources and ecological processes, and employing strategies to enhance co-mingling of human habitat and wildlife habitat that supports the evolutionary trajectory of both. Guiding Principles for the Cainhoy PUD Master Plan include:

- Create a place that embraces the natural and cultural resources of the land and the cultural heritage of the region.
- Create a place that preserves and enhances the properties pattern of waterways, marshes, wetlands and wildlife habitat while integrating them with responsible pattern for human habitat.
- Create a place that enhances the City of Charleston by allowing uses that over time create jobs, provide public infrastructure and promote sensible transportation patterns.
- Create a place that establishes mixed use social centers, gathering places and town centers that allow the people of the region to enjoy the benefits of a sustainable planned community.

The request from the Berkeley County School District to buy land from Cainhoy Land & Timber, LLC for a high school and the master planning requirement of the development agreements with the City of Charleston are the catalyst for this Master Plan.

The Property currently is subject to the Cainhoy Development Guidelines of the CY District which allows the Developer to place any use in any location, subject only to master planning in increments of 150 acres. The two development agreements with the City of Charleston require prior to land transfer a very general plan for the development of the Property which sets out the proposed highways, primary thoroughfares and arterial streets and the proposed location of the anticipated land uses of the Property as a planning tool only without restricting the use of any designated area within the Property. The Cainhoy PUD Master Plan replaces the very flexible CY District zoning with comprehensive zoning for the entire 9,087 acres that is based largely on the very successful Daniel Island Master Plan and fulfills the requirements of the development

agreements for the land transfer to the Berkeley County School District for a much needed new high school.

The location's proximity of the Property to the Boeing plant makes the area attractive to new businesses and employers. The Cainhoy PUD Master Plan recognizes the importance of new jobs and gives greater flexibility to Economic Development Projects.

A planning team included representatives of Cainhoy Land & Timber, LLC, the Guggenheim family, D.I. Development Company, Inc., Womble Carlyle Sandridge & Rice LLP, Cooper, Robertson & Partners, Design Works, Thomas & Hutton, Sabine and Waters, Robert Charles Lesser, and Bio habitats.

## **GUIDING PRINCIPLES AND DESIGN PRECEPTS**

The following guiding principles and design precepts form the basis for the Cainhoy PUD Master Plan.

### **(a) A Vibrant Community**

Cainhoy will be a vibrant community which will evolve over time to meet the needs of its residents. It will have a wide variety of uses and resources and ample public open spaces for the benefit of the Cainhoy community and the general public.

### **(b) Diverse Housing Opportunities**

Cainhoy PUD Master Plan is designed to encourage a mixture of housing types and incomes, allowing a mixture of large lots and small lots, town homes, attached housing, and apartments. The use of manufactured and modular housing is not precluded and may be considered for one or more appropriately designed Neighborhoods.

### **(c) Variety of Street Types**

The streets within Cainhoy will include a variety of allowed street sections. The street sections have been modeled after successful streets existing in historic downtown Charleston and Daniel Island. The streets range from rural sections to urban sections and are designed to create pedestrian friendly environments that safely and efficiently move vehicular traffic. The Cainhoy PUD Master Plan shall allow the Zoning Administrator after consultation with the City Engineer to approve additional streets sections, if necessary due to particular design parameters or environmental constraints provided the proposed street section achieve safe vehicular and pedestrian movement. Private dirt roads where there are large lots are permitted as discussed in Section 9.5 of the PUD Zoning Text. The Cainhoy PUD Master Plan shall provide roadway linkage of major land use areas including internal linkage to commercial and public recreational facilities. The plan will also provide connectivity through multi-purpose paths or trails for bicycle and pedestrian traffic. See **Exhibit 9 (Street Types)**. Because of the current conditions on Cainhoy Road, there will be limited access points onto Cainhoy Road as determined in conjunction with the SC Department of Transportation and the City of Charleston. The Developer is working to obtain the SC Department of Transportation agreement to the Developer's and the community's vision for Clements Ferry Road, the front door to the Cainhoy

PUD area. This vision includes a boulevard type road with multiple synchronized signalized intersections, pedestrian paths on both sides of the road, including a multi-purpose trail along one edge, possibly on-street parking and a planted median. The Developer has made arrangements with SCE&G to place the existing overhead power line underground and has agreed to donate to SCDOT the land needed to achieve this vision.

**(d) Creation of Town Centers, Village Centers and Meeting Places**

The Cainhoy PUD Master Plan allows for the development of town centers, village centers and meeting areas consistent with the goals and objectives of the City's comprehensive plan. The final location of these important community elements will be determined at the time of a development plan submittal for a particular portion of the Property. Generally, town centers will be highest density and most intense type of mixed use area and located with direct access from Clements Ferry Road. Village centers will be smaller less intense mixed use areas, their location will be determined based on internal traffic pattern and residential development patterns. Meeting places will be low intensity nodes typically located at prominent/high values sites adjacent to the rivers, creeks or marshes that the property enjoys. The meeting places may include recreational amenities, reunion halls, clubhouses, marinas, restaurants, and neighborhood commercial and/or retail uses. The intent of the meeting areas will be to allow people to interact with the rivers, creeks and marshes.

Residential neighborhoods will reflect the natural or man-made features of the land. The Developer's delineation of Neighborhoods will be influenced by the pattern of historic Lowcountry towns, vegetation and topography. The Developer shall delineate a Neighborhood at the time of its subdivision concept plan approval. The Developer shall have sole discretion in delineating the size, location and configuration of each Neighborhood.

The Mixed Use Zones shall be attractive environments for pedestrians with a network of streets defined by Building frontages, screen walls and landscaping. There shall be a mix of retail establishments, hotels and offices, parks, civic buildings and a residential component of houses and multi-family of different sizes, constructed in a range of different densities. Apartments and offices may be located over retail stores and may be adjacent to each other. While Clements Ferry Road and Cainhoy Road are major highways, internal streets and sidewalks shall be designed primarily to enhance the experience of pedestrians and to facilitate traffic movement, but not to facilitate traffic movement at high speeds. Most of the Mixed Use Zone streets shall provide for on-street parking, based on the street design. Buildings shall be constructed parallel to internal streets and in close relationship to the street frontage in a Mixed Use Zone. Due consideration shall be given to the location of utility easements and planned or anticipated road widenings prior to finalizing the building setback lines

**(e) Respect for Adjacent Neighborhoods**

There are diverse neighborhoods and communities adjacent, or in close proximity, to the Cainhoy PUD Master Plan acreage, including the Jack Primus community, the Nellie Fields neighborhood and the Huger community. Appropriate development adjacent to one neighborhood might be a neighborhood with similar lot sizes and housing price points and for another neighborhood, it might be buffers and other types of separations. The Developer shall solicit input from the residents of adjacent neighborhood and shall give respectful consideration

to their preferences. The Cainhoy zoning text allows a broad range of housing types, including manufactured and modular housing in order to provide additional flexibility of approach. The Jack Primus community and the Huger community have expressed interest in an existing neighborhood growth area within the Cainhoy PUD. Possible locations for such expansion neighborhoods are shown on **Exhibit 8 (Illustrative Sketch of Expansion Neighborhoods)**.

(f) **Wildlife Corridors and the National Forest**

The Property is immediately across Highway 98/ Cainhoy Road from the National Forest. The Properties extensive wetland systems provide habitat and travel corridors for a myriad of types of wildlife. The Cainhoy PUD Master Plan embraces its relationship to the National Forest by the creation of a National Forest Green Belt. The Cainhoy PUD Master Plan protects wildlife corridors that relate to the National Forest. The Developer and the Master Plan support the continued prescribed burning on the Property and the adjacent National Forest.

The extensive wetland system within the Property serves as a wildlife habitat. These wildlife habitats will be preserved and greenway paths between wetland systems will be maintained or created so there will be connectivity between wildlife habitats. **See Exhibit 7 (Illustrative Sketch of Master Plan )**.

(g) **Park Network and Community Facilities**

The Cainhoy PUD Master Plan commits to a varied network of parks throughout the property. Usable open space may include but is not limited to, neighborhood parks, playgrounds, leisure trails, recreational areas, dog parks, pocket parks, passive parks, equestrian trails, fishing lakes, golf courses, ball fields, nature ways and the like. Some examples are illustrated on **Exhibit 3 (Usable Open Space)**. Each residential neighborhood will have at a minimum one neighborhood park within walking distance of its homes. If the neighborhood has more than one park, at least one park will be a neighborhood focal point. Primary internal streets indicated on the Cainhoy PUD Master Plan shall include either a sidewalk or a multi-use bikeway/leisure trail linking the parks and neighborhoods within Cainhoy. The Cainhoy PUD Master Plan shall allow for both public and private recreational facilities.

(h) **Cultural Resource Protection**

As part of the PUD application process, a preliminary assessment of cultural and historical resources was conducted by Brockington and Associates. Brockington performed historical research of the property in order to determine the sites most likely to contain significant artifacts. The initial study determined areas having high, medium and low potential for archeological sites. The list of sites potentially eligible for inclusion on the National Register include the Brickyard Plantation House circa 1790 (rebuilt in the 19<sup>th</sup> century) and the 1935 Cainhoy Plantation House and appurtenant buildings. A summary of the report, including a description of the review process, is included under **Tab 6 (Cultural Report)**. More comprehensive studies will be conducted pursuant to the comprehensive regulations of the State Historic Preservation Office (“SHPO”) prior to development of an area. The initial assessment will serve as the basis for future studies. Through this process, additional cultural resource sites are likely to be identified and will be appropriately protected. In advance of any development in a specific area, the Developer shall conduct extensive investigations into the cultural resources of

such area, promptly report the findings to SHPO and protect and preserve these cultural resources in accordance with the requirements of SHPO and all applicable laws and regulations. A Memorandum of Agreement (MOA) between the developer and the appropriate state agency will be executed where sites warrant. The Brickyard Plantation House (also called the River House) and the Sanders House will not be moved or demolished and their exterior façades will not be altered prior to the completion of a full cultural resource investigation, the submittal of this resulting report to SHPO and written arrangements reached with SHPO for the permanent protection and preservation of these cultural resources.

Adjacent to the Property on Cainhoy Road is the St. Thomas and St. Denis Episcopal Church, a National Register site and a designated Landmark property in the City of Charleston. Development. The area surrounding the church, as shown on **Exhibit 10 (Map of Zones)**, shall be a temporary “church preservation zone” to allow additional planning for this area and input from the persons and entities responsible for, or interested in the St. Thomas and St. Denis Episcopal Church.

The Property includes several gravesites, including the active Venning cemetery where former slaves and their descendants are buried and the Nelliefield Creek cemetery. These gravesites will be protected and preserved in accordance with applicable laws, including Section 24-43-310 which grants access rights over private property. The Section 2.18 of the PUD Zoning Text includes specific protections for the Venning cemetery.

(i) **Ecological Protection**

The predominate natural feature of the Cainhoy property is its proximity to the Wando River, Nowell Creek, tributaries of the Cooper River and an extensive system of fresh water wetlands, creeks, and drainage ways. The property enjoys approximately thirty one (31) miles of saltwater marsh frontage. These systems provide invaluable natural habitat for flora and fauna as well as a natural filtration system for storm water. The Cainhoy PUD Master Plan is committed to exercising best management practices to preserve, protect and enhance these environments. Storm water management plans will include a system of interconnected lakes and ponds throughout the property engineered to filter storm water prior to discharge to the wetlands in accordance with Section 2.15 of the PUD Zoning Text. The storm water ponds will be site specific and based on the natural watersheds that exist on the property. Approximate watersheds and outfalls will be included in each Drainage Basin study and as preliminarily identified on **Exhibit 6 (Drainage Basins)**. The ponds will generally be located just beyond the required buffers to the wetlands. The combination of the wetlands, wooded wetland buffers and ponds may provide linkage between adjacent wetland systems thus providing wildlife corridors and excellent opportunity for nature trails.

The primary proposed streets for Cainhoy are represented on **Exhibit 2 (Proposed Roads)**. These streets are generally located on existing woodland roads that connect the various “islands” of high ground suitable for neighborhood development. These woodland roads have been established in the past based on “the path of least resistance” through the forest by the foresters. They also have existing crossings over the freshwater wetland systems that will provide for minimal disturbance to the wetlands as the various “upland islands” on the property become linked as neighborhoods.

Tree cover at Cainhoy is dominated by natural regrowth of longleaf and loblolly pine. The fresh water wetlands are generally wooded with hardwoods and other riparian species. **Exhibit 16 (Timber Type)** shows the approximate location of the forest types. Diversification of tree species will result over time as a result of provisions of the Cainhoy PUD Master Plan which require or result in the planting of trees. The review process balances the significance of an individual Landmark Tree and a long term land planning approach by requiring a tree assessment of the tree's condition and expected longevity, by considering the immediate impact of the loss of the Landmark Tree against the long term impact on building layout and design and by requiring the replanting of multiple trees in mitigation.

The planting of Invasive Tree Species shall be prohibited. The eradication of Invasive Tree Species shall be encouraged and supported by the requirement that Invasive Tree Species be removed from a lot or parcel prior to its development.

The Developer and the City will seek to identify those very significant Landmark Trees that should be preserved for the next generations as early in the planning process as possible in order to avoid adverse impacts on individual landowners. To the extent practical, the Developer will identify and address Landmark Trees issues during the subdivision concept plan and the preliminary subdivision approval process with the goal of eliminating issues to be addressed at the individual site review stage.

Neighborhood streets where practical will terminate with vistas of forested, natural areas and/or greenways or blueways. Where appropriate, areas of unique existing vegetative cover will be preserved to express the legacy of previous land management practices.

The street tree requirements and the tree mitigation obligations of the Cainhoy PUD Master Plan will result in the reforestation of the Property with hardwood trees overtime. Based on the future development pattern of the neighborhoods within Cainhoy, existing clusters or groups of pine trees may be retained either as freshwater wetland buffers or as large clusters to provide natural buffers, view framing and wildlife habitat. The Cainhoy property is currently used for silviculture purposes. Silviculture includes the practice of planting, culturing and harvesting of trees for the purpose of producing wood fiber and timber. Silviculture activities shall be allowed to continue on the property. Once a particular section of the property has a plat recorded silviculture activities will cease within the platted area but may continue within other area of Cainhoy. Generally accepted methods of forest management shall also be permitted including wildlife management, construction and use of woodland roads, and practices to promote the health and growth of trees. The Developer will incorporate into its contracts and restrictive covenants notice to buyers of the importance of prescribed burning on and off the Property to protect and enhance the longleaf pine ecosystems, to reduce the risk of forest fires through the elimination of fuel build up and to eliminate invasive plant species.

The Developer(s) shall demonstrate that in reconciling the various and sometimes conflicting goals of this Master Plan, fair consideration shall have been given to the following important "green" goals:

- a. Connecting habitat and avoiding fragmentation of habitat;

- b. Providing ways for wildlife to safely move from one side of an interior road to another side, such as providing terrestrial and aquatic underpasses;
- c. Terminating neighborhood streets with vistas of forested, natural areas and/or greenways (and blueways);
- d. Integrating greenway paths with wildlife corridors;
- e. Preserving unique existing vegetative cover to express the legacy of the previous and existing land management practices, such as providing a usable open space which focuses on longleaf pine; and

Promoting the introduction of native trees and plants of the South Carolina Coastal Plain and helping to eradicate invasive species.

## CAINHOY PUD MASTER PLAN

### EXHIBITS

- Exhibit 1: Aggregated Property Map
- Exhibit 2: Proposed Roads Exhibit
- Exhibit 3: Usable Open Space Exhibit
- Exhibit 4: Preliminary Water
- Exhibit 5: Preliminary Sewer
- Exhibit 6: Drainage Basins
- Exhibit 7: Illustrative Sketch of Master Plan
- Exhibit 8: Illustrative Sketch of Expansion Neighborhoods



**DEVELOPMENT SUMMARY**

POD	OWNER	ZONING	GROSS ACREAGE
C1	CAINHOJ LAND & TIMBER, LLC	RESIDENTIAL	±912 AC.
C2	CAINHOJ LAND & TIMBER, LLC	MIXED USE	±3,769 AC.
C3	CAINHOJ LAND & TIMBER, LLC	RESIDENTIAL	±973 AC.
T1	TRACT 7, LLC	RESIDENTIAL	±1,404 AC.
T2	TRACT 7, LLC	MIXED USE	±169 AC.
S1	SOUTHERN TIMBER, LLC.	MIXED USE	±515 AC.
S2	SOUTHERN TIMBER, LLC	MIXED USE	±57 AC.
S3	SOUTHERN TIMBER, LLC.	RESIDENTIAL	±1,288 AC.
<b>TOTAL</b>			<b>±9,087 AC.</b>

**NOTES:**  
 1. Acreages shown above are approximate and are based on best available data to date.  
 2. Wetlands shown on this plan provided by Sabine & Waters

**MAP KEY**

**LAND USE**  
 RESIDENTIAL [Yellow Box]  
 MIXED USE [Light Green Box]

**LAND USE TRANSITION ZONES**  
 500' TRANSITION ZONE [Cross-hatched Box]

**ENVIRONMENTAL**  
 WETLAND [Green Box]  
 MARSH [Light Green Box]  
 WATER [Blue Box]

**BOUNDARY LINES**  
 INTERNAL PROPERTY LINE [Dashed Yellow Line]  
 OVERALL BOUNDARY LINE [Dashed Red Line]

**ROADS**  
 EXISTING [Solid Grey Line]  
 PROPOSED [Dashed Red Line]

**AGGREGATE PROPERTY MAP**

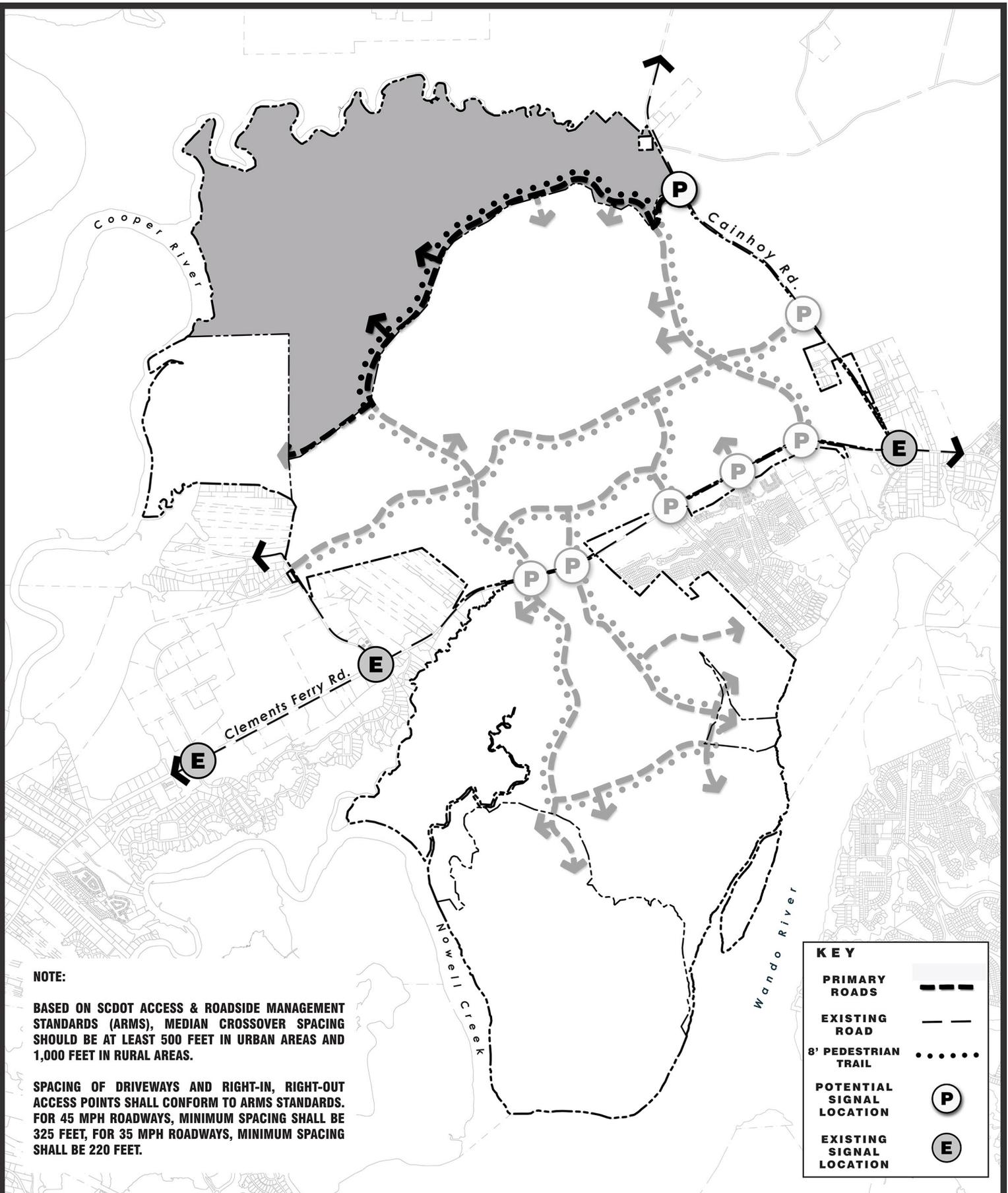
Prepared for:  
 Cainhoj Land & Timber, LLC.  
 Southern Timber, LLC.  
 Tract 7, LLC.

**CAINHOJ  
 PLANNED UNIT DEVELOPMENT**

Berkeley County, South Carolina  
 JANUARY 24, 2014



**THOMAS & HUTTON**  
 Engineering | Surveying | Planning | GIS | Consulting



**NOTE:**

BASED ON SCDOT ACCESS & ROADSIDE MANAGEMENT STANDARDS (ARMS), MEDIAN CROSSOVER SPACING SHOULD BE AT LEAST 500 FEET IN URBAN AREAS AND 1,000 FEET IN RURAL AREAS.

SPACING OF DRIVEWAYS AND RIGHT-IN, RIGHT-OUT ACCESS POINTS SHALL CONFORM TO ARMS STANDARDS. FOR 45 MPH ROADWAYS, MINIMUM SPACING SHALL BE 325 FEET, FOR 35 MPH ROADWAYS, MINIMUM SPACING SHALL BE 220 FEET.

Prepared for:  
Tract 7, LLC.

**PROPOSED ROADS EXHIBIT**

**CAINHOYS - T7 PUD**

Berkeley County, South Carolina  
January 24, 2014

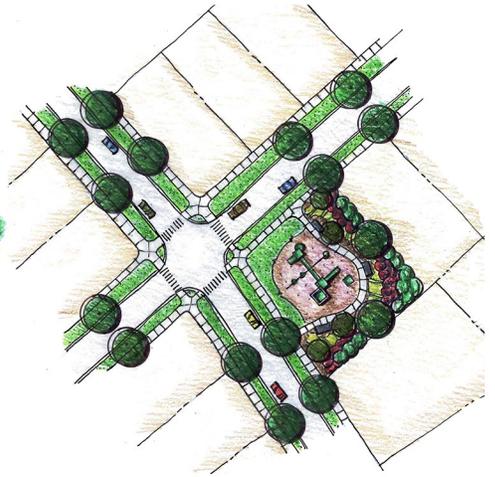




**LEISURE AND EDUCATIONAL TRAILS**



**LAKE AND POND FACILITIES**



**POCKET PARKS**

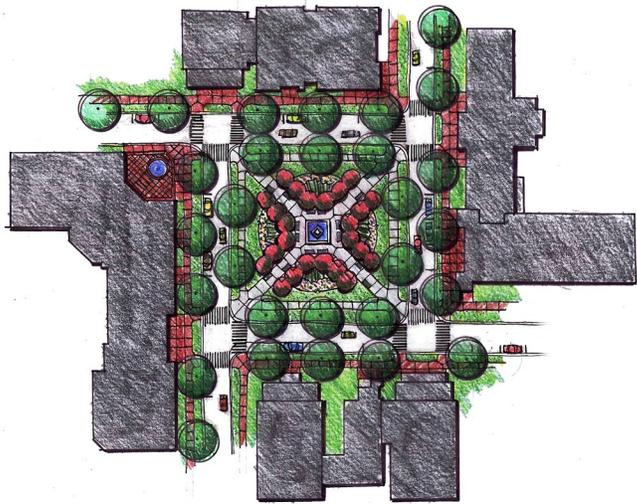
USABLE OPEN SPACE SHALL BE A MINIMUM 5% OF THE GROSS LOT ACREAGE OF THE CAINHOY PUD MASTER PLAN AND MAY CONSIST OF BUT NOT LIMITED TO:

1. NEIGHBORHOOD PARKS, PASSIVE OR ACTIVE
2. DISTRICT PARKS, ACTIVE
3. GREENWAYS WITH LEISURE TRAILS
4. URBAN PARKS AND PLAZAS
5. RECREATIONAL AMENITY AREAS
6. POCKET PARKS
7. TOT LOTS
8. LAKES AND PONDS (50% OF) WITH TRAIL ACCESS FOR FISHING, PICNICKING AND GENERAL RECREATION
9. EDUCATIONAL TRAILS
10. TRAIL SYSTEMS DEDICATED TO THE OBSERVATION OF FLORA AND FAUNA
11. PUBLIC OR PRIVATE GOLF COURSES
12. MULTI-USE FIELDS
13. DOG PARKS
14. EQUESTRIAN FACILITIES INCLUDING BARN, PADDOCKS, STABLES, RIDING RINKS, BRIDLE TRAILS AND EQUESTRIAN LEARNING FACILITIES.



- GOLF COURSE
- URBAN PARKS AND PLAZA
- LEISURE TRAILS
- MULTI-USE FIELDS
- NEIGHBORHOOD PARKS
- LAKE AND POND FACILITIES
- NEIGHBORHOOD PARKS
- DOG PARKS
- LEISURE AND EDUCATIONAL TRAILS

**TYPICAL COMMUNITY USABLE OPEN SPACE (PARTIAL LIST)**



**URBAN PARKS AND PLAZAS**

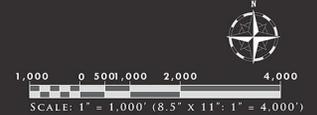


**RECREATIONAL AMENITY CENTERS**

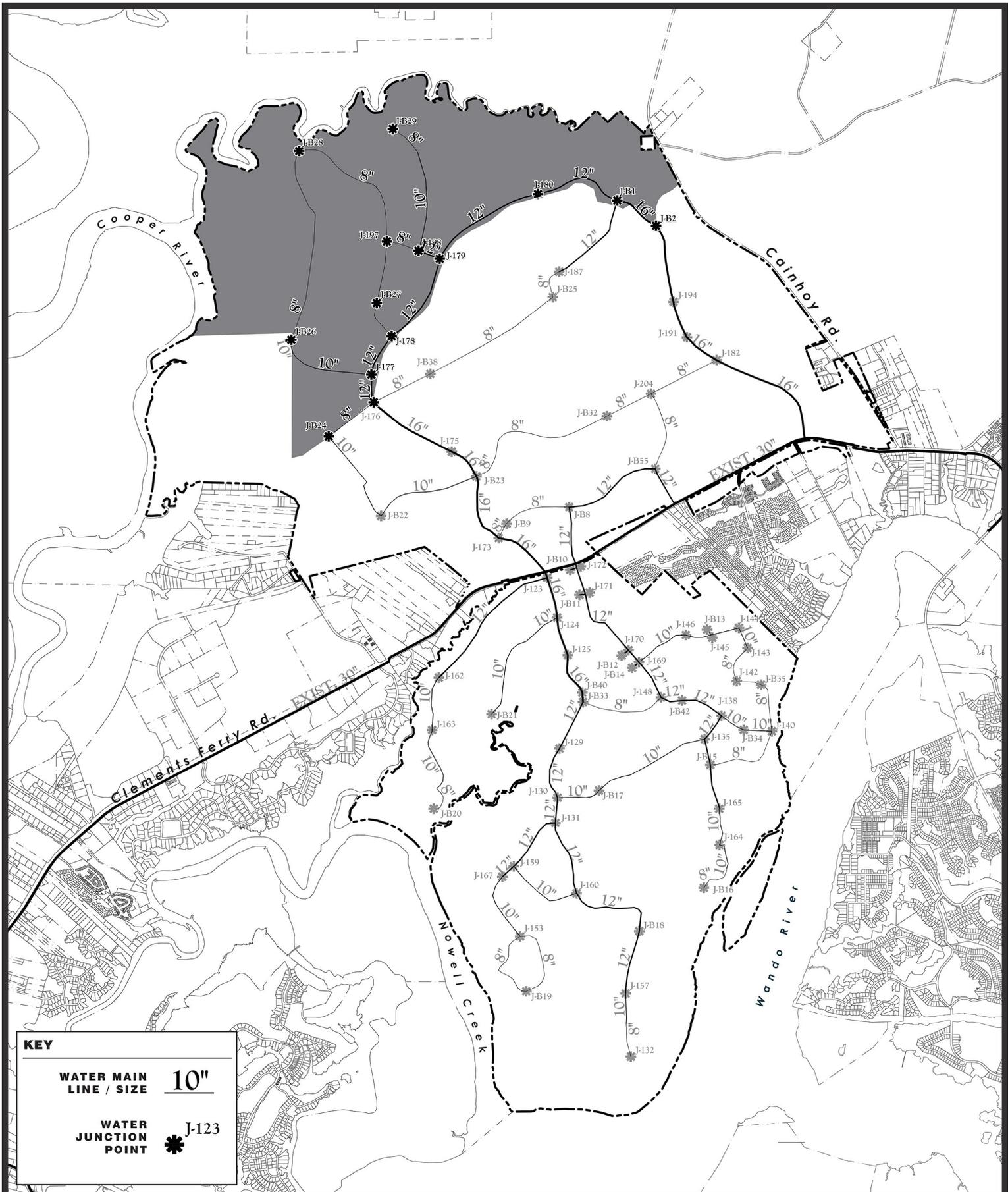
Prepared for:  
Tract 7, LLC.

**USABLE OPEN SPACE EXHIBIT**  
**CAINHOY - T7 PUD**

Berkeley County, South Carolina  
January 24, 2014



**THOMAS & HUTTON**  
Engineering | Surveying | Planning | GIS | Consulting



**KEY**

**WATER MAIN LINE / SIZE** 10"

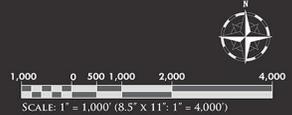
**WATER JUNCTION POINT** \* J-123

Prepared for:  
Tract 7, LLC.

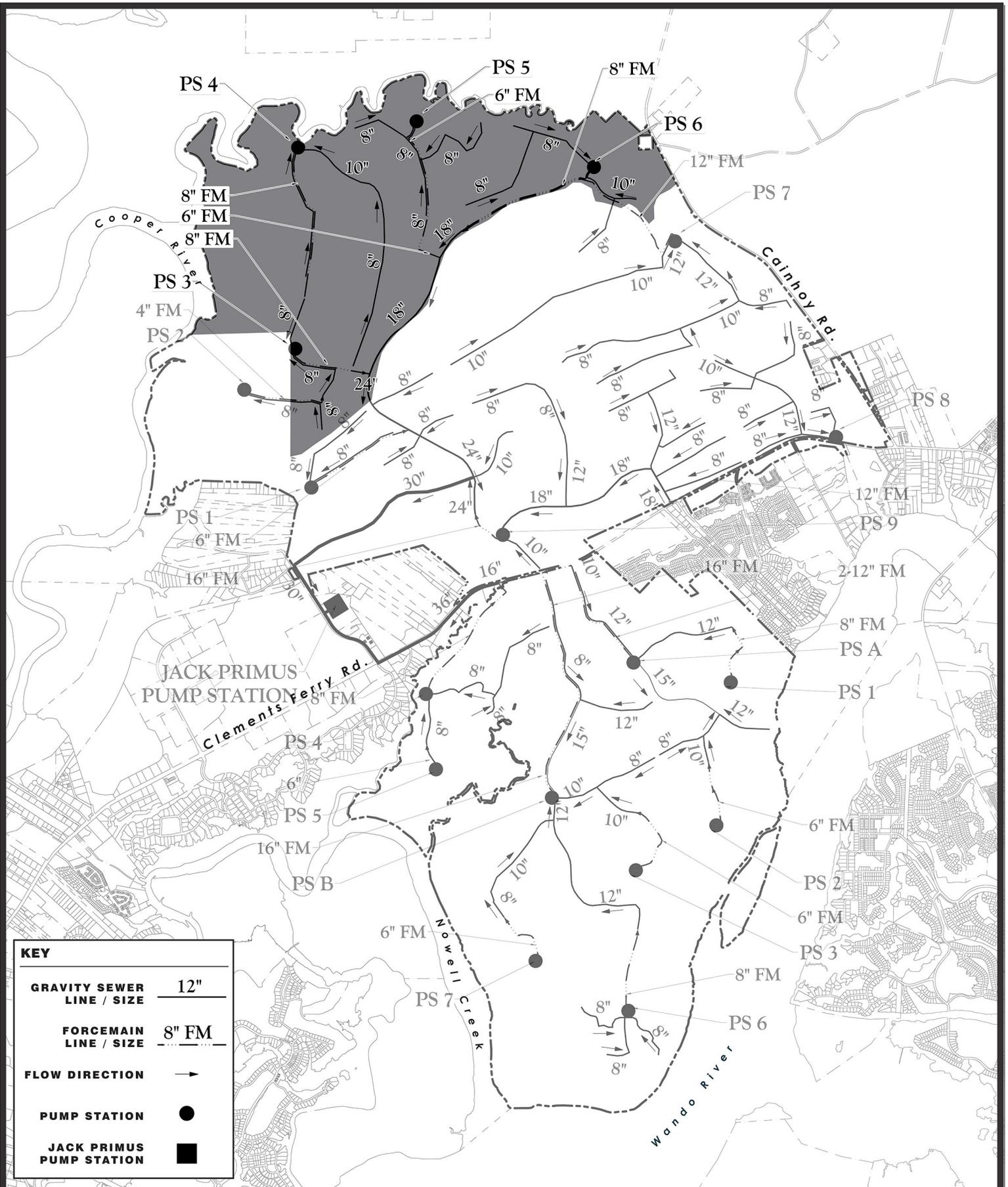
**PRELIMINARY WATER**

**CAINHOJ - T7 PUD**

Berkeley County, South Carolina  
January 24, 2014



**THOMAS & HUTTON**  
Engineering | Surveying | Planning | GIS | Consulting



Prepared for:  
Tract 7, LLC.

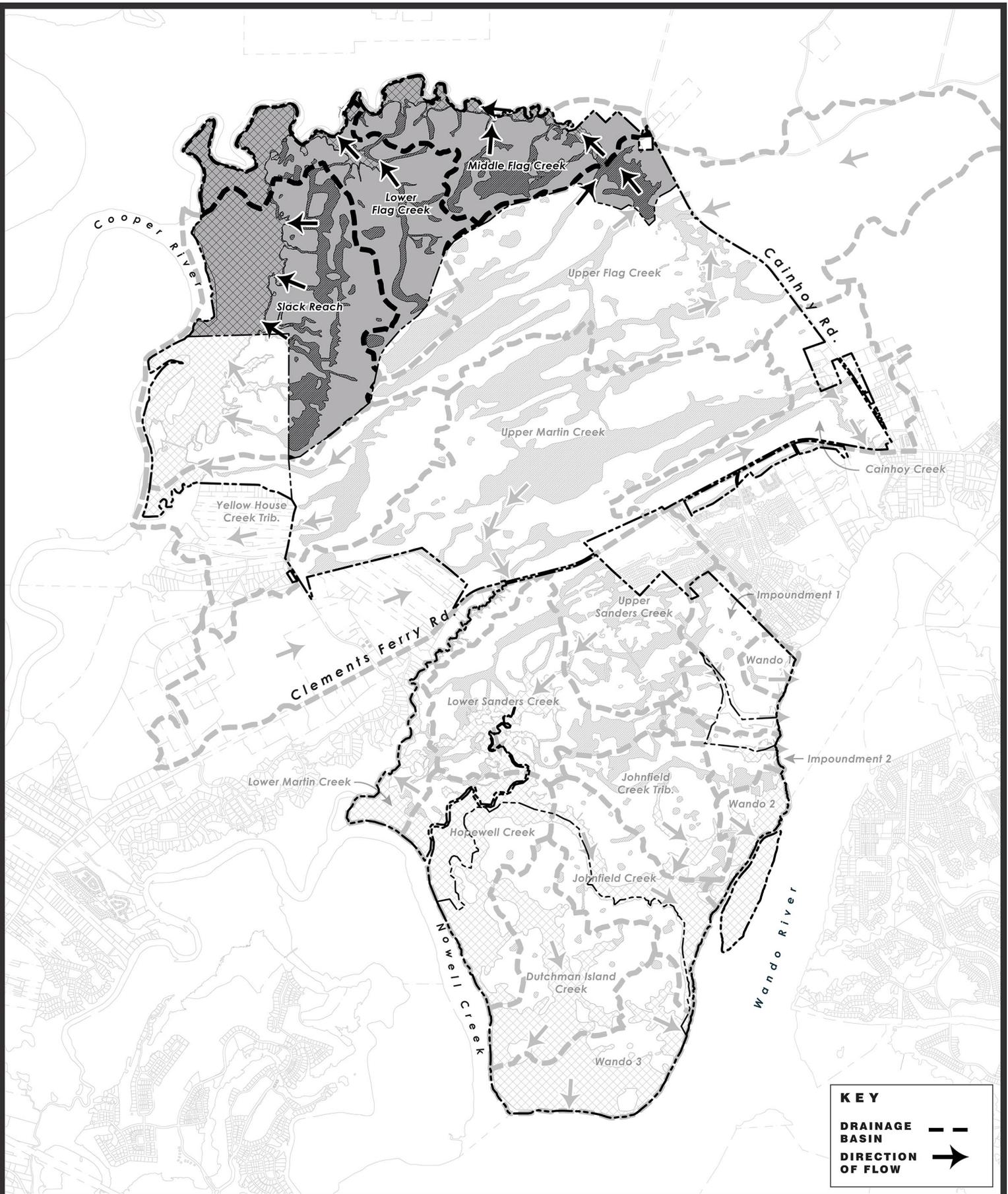
**PRELIMINARY SEWER**

**CAINHOY - T7 PUD**

Berkeley County, South Carolina  
January 24, 2014



**THOMAS & HUTTON**  
Engineering | Surveying | Planning | GIS | Consulting



**KEY**

**DRAINAGE BASIN** - - -

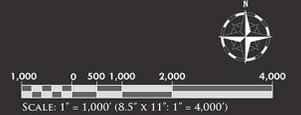
**DIRECTION OF FLOW** →

Prepared for:  
Tract 7, LLC.

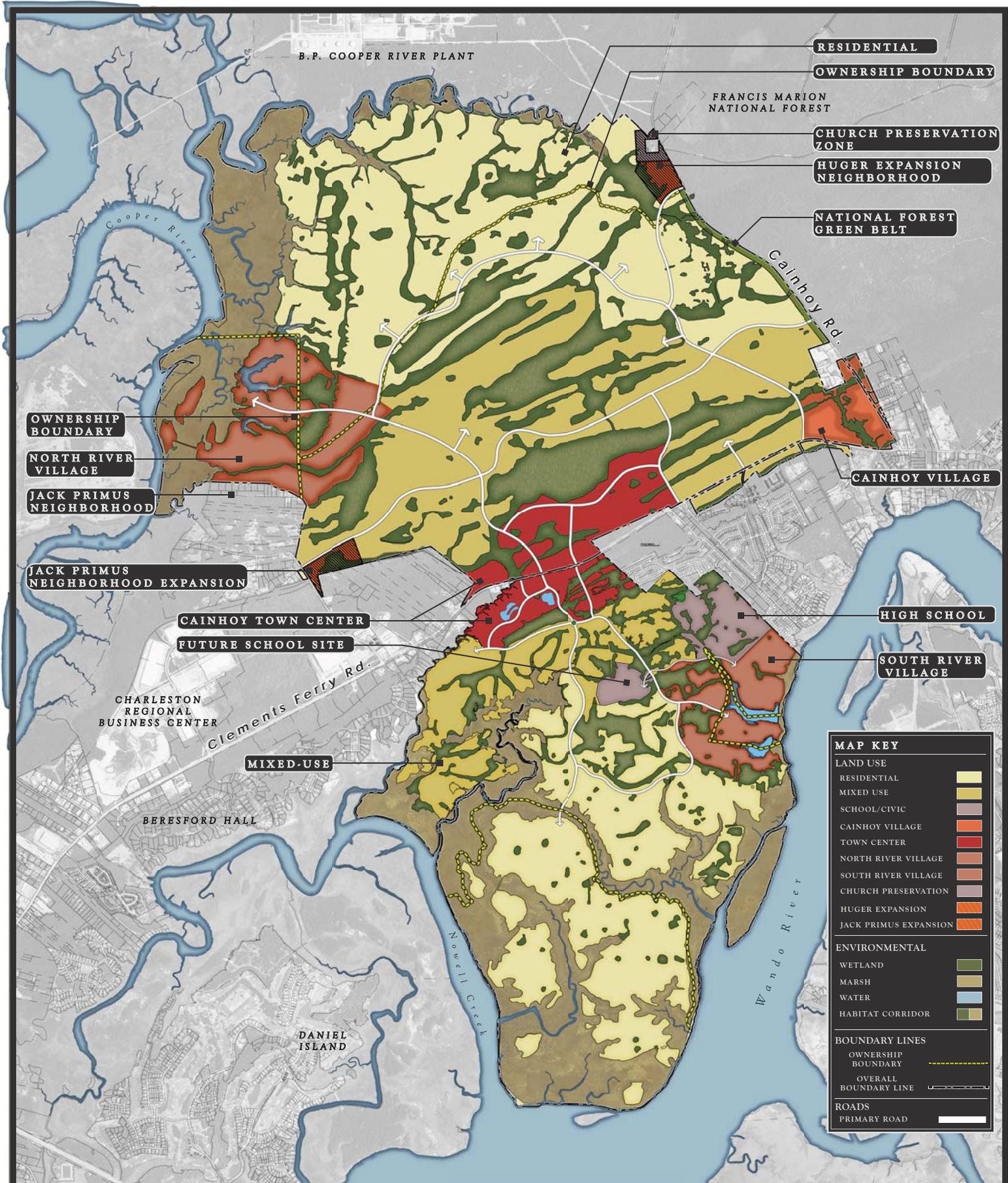
**DRAINAGE BASINS**

**CAINHOI - T7 PUD**

Berkeley County, South Carolina  
January 24, 2014



**THOMAS & HUTTON**  
Engineering | Surveying | Planning | GIS | Consulting



- RESIDENTIAL**
- OWNERSHIP BOUNDARY**
- CHURCH PRESERVATION ZONE**
- HUGER EXPANSION NEIGHBORHOOD**
- NATIONAL FOREST GREEN BELT**

- OWNERSHIP BOUNDARY**
- NORTH RIVER VILLAGE**
- JACK PRIMUS NEIGHBORHOOD**
- JACK PRIMUS NEIGHBORHOOD EXPANSION**

- CAINHOJ TOWN CENTER**
- FUTURE SCHOOL SITE**

- CAINHOJ VILLAGE**
- HIGH SCHOOL**
- SOUTH RIVER VILLAGE**

CHARLESTON REGIONAL BUSINESS CENTER

BERESFORD HALL

DANIEL ISLAND

MAP KEY	
<b>LAND USE</b>	
RESIDENTIAL	[Yellow Box]
MIXED USE	[Light Yellow Box]
SCHOOL/CIVIC	[Light Purple Box]
CAINHOJ VILLAGE	[Red Box]
TOWN CENTER	[Dark Red Box]
NORTH RIVER VILLAGE	[Light Red Box]
SOUTH RIVER VILLAGE	[Light Orange Box]
CHURCH PRESERVATION	[Light Green Box]
HUGER EXPANSION	[Orange Box]
JACK PRIMUS EXPANSION	[Dark Orange Box]
<b>ENVIRONMENTAL</b>	
WETLAND	[Dark Green Box]
MARSH	[Light Green Box]
WATER	[Blue Box]
HABITAT CORRIDOR	[Light Green Box]
<b>BOUNDARY LINES</b>	
OWNERSHIP BOUNDARY	[Dashed Line]
OVERALL BOUNDARY LINE	[Thick Dashed Line]
<b>ROADS</b>	
PRIMARY ROAD	[Thick Solid Line]

**ILLUSTRATIVE SKETCH OF MASTERPLAN**

Prepared for:  
Tract 7, LLC.

**CAINHOJ  
DEVELOPMENT PLAN**

DesignWorks  
Office Design  
Landscape Architecture  
Site Planning

1,000 0 500 1,000 2,000 4,000  
SCALE: 1" = 1,000' (8.5" x 11": 1" = 4,000')

CONCEPTUAL PLAN SUBJECT TO CHANGE  
**EXHIBIT 7**

CHARLESTON, South Carolina  
JANUARY 24, 2014

**THOMAS & HUTTON**  
Engineering | Surveying | Planning | GIS | Consulting

# CAINHOY PUD JACK PRIMUS EXPANSION NEIGHBORHOOD

JACK PRIMUS  
NEIGHBORHOOD

FUTURE SECONDARY  
ROAD

JACK PRIMUS  
NEIGHBORHOOD EXPANSION

GROSS ACRES: +/- 28

PLJ GATE

JACK PRIMUS ROAD

ADJACENT  
NEIGHBORHOOD

## EXHIBIT 8

### GRAPHIC SCALE

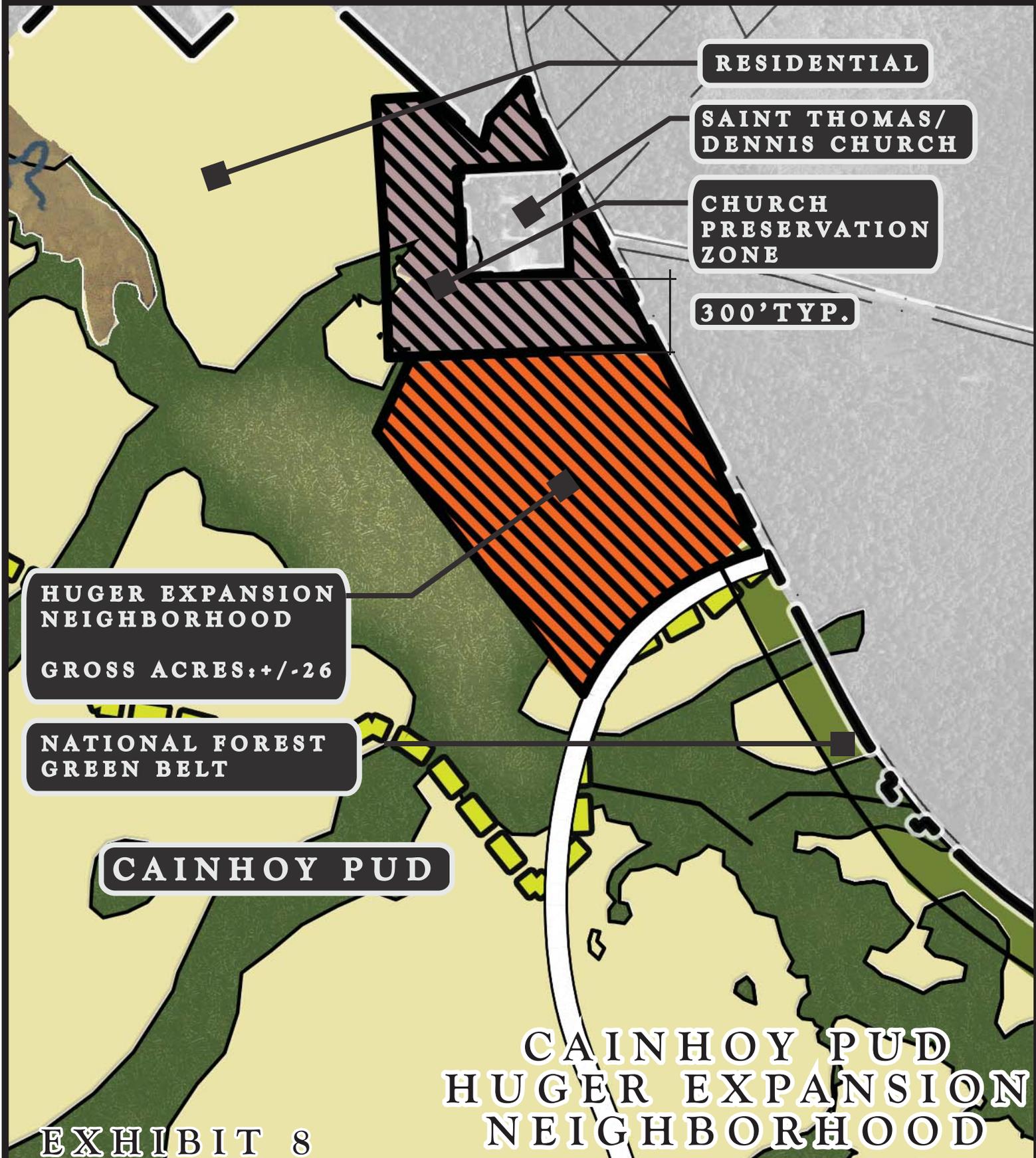
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Savannah, GA | Brunswick, GA | Myrtle Beach, SC | Wilmington, NC



This map illustrates a general plan of the development which is for discussion purposes only, does not limit or bind the owner/developer, and is subject to change and revision without prior written notice to the holder. Dimensions, boundaries and position locations are for illustrative purposes only and are subject to an accurate survey and property description.  
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( IN FEET )  
1 inch = 500 ft.



**CAINHOJ PUD  
HUGER EXPANSION  
NEIGHBORHOOD**

**EXHIBIT 8**

**GRAPHIC SCALE**



( IN FEET )

1 inch = 500 ft.

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**ZONING TEXT FOR  
CAINHOY LAND & TIMBER  
PUD MASTER PLAN**

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## MASTER PLAN ZONING TEXT

### Section 1. Definitions

The definitions in Section 54-120 (Definitions) of the Zoning Ordinance of the City of Charleston (“Zoning Ordinance”) are incorporated by reference except as amended or supplemented by the terms of this Master Plan Zoning Text. In the event of conflict, the defined terms of this Master Plan Zoning Text shall control.

**Accessory Building.** The subordinate building(s) on the same lot as the principal building or use. Accessory Buildings are allowed in all Zones.

**A.D.A. Compliant.** Private and public facilities that are built in compliance with the applicable laws and regulations relating to persons with disabilities, including the Americans with Disabilities Act, as may be amended or adopted from time to time.

**Affordable Housing** means rental property that can be afforded to be rented by persons having income equal to or less than 80% to 120% of the Charleston standard metropolitan statistical area (“SMSA”) and fee simple property that can be afforded to be purchased by persons having income equal to or less than 120% to 150% of the Charleston SMSA.

**Agricultural Land:** Land that qualifies for a reduced tax assessment by Berkeley County as qualified agricultural land and which also is being actively used for timber production, Silva culture, agriculture and the other uses which qualify for the reduced agricultural land tax assessment.

**Block:** A tract of land bounded by streets, a park, open space, the boundary line of the Property, a creek or a river that is or will be divided into lots.

**Building Frontage:** The side of a building parallel to, or most closely parallel to, and nearer to the Front Property Line. A defined building edge, such as a knee wall, with a plaza or eating area will qualify as some or all of the Building Frontage. There is no minimum percentage required for the Building Frontage to consist of a building.

**Certified Arborist:** An arborist certified by the International Society of Arboriculture.

**Civic Use:** A building used solely by public, governmental, religious, educational, social, or charitable nonprofit agencies to provide services, at no or nominal cost, to the general public.

**Critical Line Buffer:** A Type L buffer having a minimum depth of 25 feet measured from the SCDHEC-OCRM critical line to protect the water quality of the adjacent water resources. Storm water runoff from roadways or parking areas shall not be allowed to directly discharge to the Critical Area Buffer, without first being handled by another storm water Best Management Practices strategy.

**Developer:** Tract 7, LLC, a Delaware limited liability company, its successors and permitted assigns. A permitted assign is a person who is assigned rights as an “Owner” under the 1996 development agreement with the City relating to the Property, as amended.

**Development Agreement.** The provisions of Section 4.2 (Stormwater District), Section 5.1 (City Permits), Section 5.2 and (City Performance Standards) of that certain development agreement dated August 20, 1996 recorded in the Register of Deeds for Berkeley County in Book 1544, Page 11, as amended.

**Drainage Basin.** Each of the 19 named drainage basins shown on **Exhibit 6 (Drainage Basins)**.

**Economic Development Project:** An Economic Development Project means a project for a non-retail use which is estimated to have not less than 25 on-site employees and require an on-site capital investment, including equipment and buildings, of not less than \$5 million dollars as determined by the Zoning Administrator after review of such submittals as the Zoning Administrator may reasonably require for such determination.

**Front Property Line:** The property line bounding on the street. The Developer shall designate the Front Property Line of any lot that fronts on more than one street. There are no restrictions on the location of the primary entrance to a building in relationship to the Front Property Line.

**Front Setback Line:** A line inside the lot’s Front Property Line, established at the time of platting, which may also serve as the build-to line for a building on the lot. Flag lots and other lots determined by the Zoning Administrator to be similarly irregular shall not require a front setback line.

**Front Setback Zone:** The area between the Front Property Line and the Front Setback Line, in which no structures may be placed, except as specifically provided herein.

**Gross Acreage:** Gross Acreage shall mean all acreage above mean high water including freshwater wetlands, ponds, buffers, roads and lands between mean high water and the OCRM critical line. The Gross Acreage of the Aggregated Property is approximately 9,087 acres and the Gross Acreage of the Property is approximately 1,573 acres.

**Gross Lot Acreage:** The total area of the lot or lots, including all submerged land and wetlands. Gross Lot Acres do not include road right of ways or the lands between mean high water and the SCDHEC-OCRM critical line.

**Invasive Tree Species:** Tree of Heaven (*Ailanthus altissima*), Chinaberry (*Melia azedarach*), Princesstree (*Paulownia tomentosa*), Tallowtree (Popcorn tree) (*Triadica sebifera*), Thorny Olive (*Elaeagnus pungens*), Japanese privet (*Ligustrum japonicum*).

**Landmark Tree;** A Landmark Tree Species tree with an eighteen (18”) inches or greater D.B.H. (Diameter at Breast Height )

**Landmark Tree Species:** *Carya illinoensis* (Pecan), *Juniperus virginiana* ( Eastern Red Cedar), *Magnolia grandiflora* (Southern Magnolia), *Nyssa sylvatica* (Blackgum, Tupelo), *Quercus alba* (White Oak), *Quercus bicolor* (Swamp white oak), *Quercus falcata* (Red Oak), *Quercus pagodifolia* (cherrybark Oak), *Quercus phellos* (Willow Oak), *Quercus prinus* (Chestnut oak), *Quercus Shumardi* (Shumard Oak), *Quercus stallata* (Post oak), *Quercus virginiana* (Live Oak), *Taxodium distichum* (Bald Cypress) and *Ulmus americana* (American elm).

**Landmark Tree Survey:** A tree survey which shows only Landmark Trees or a certification that there are no Landmark Trees prepared by a licensed landscape architect, surveyor or engineer licensed in South Carolina or a Certified Arborist. A tree survey may be overlaid on a plat or may be shown an aerial photograph, provided that in both cases the accuracy is within three feet. The tree survey shall show the location of existing and proposed structures, improvements and rights of way and shall delineate any Landmark Tree that is proposed to be removed. Landmark Trees in freshwater wetlands and restricted buffers do not need to be surveyed.

**Live/Work Units:** A dwelling unit that includes a commercial component for a business on the first floor.

**Low Impact Business:** A business of any type having the following characteristics: (i) minimal truck traffic; (ii) negligible impacts resulting from offsite emissions including aerosol, fume, particle, smoke, odor and noise, (iii) the demands imposed upon the infrastructure network are consistent with other uses within the Mixed Use Zone, (iv) the offsite impacts from storage of dangerous goods are negligible and (v) the business' activities are primarily undertaken indoors.

**Master Plan:** The Cainhoy Land & Timber PUD Master Plan.

**National Forest Green Belt:** A green belt along the section of Cainhoy Road (Highway 98) commencing on the easterly boundary of the existing business park that is outside of the Cainhoy PUD and running immediately adjacent to Cainhoy Road to the property boundary between the CLT PUD Property to the T7 PUD Property. The width of the green belt is the distance between Cainhoy Road and the northly boundary of the SCE&G power line easement at the easterly boundary of the existing business park outparcel so long as the SCE&G parallels Cainhoy Road. When the SCE&G ceases being parallel to Cainhoy Road and diverges to in a southerly direction, the width of the greenbelt shall remain constant and adjacent to Cainhoy Road and shall no longer be adjacent to the SCE&G easement. The width of the National Forest Greenbelt in front of residential neighborhoods shall have a minimum width of 100 feet.

**Neighborhood:** A clustering of Dwelling Units that are delineated as a Neighborhood or as part of a Neighborhood by the Developer upon submittal of a conceptual subdivision plan and a preliminary subdivision plat.

**Neighborhood Commercial Use:** A Neighborhood Commercial Use is a commercial use, including retail, restaurant, and service uses that is located within a Neighborhood or immediately adjacent to a Neighborhood, that operates out of a building which has 5,000 square

feet or less of enclosed space and whose hours of operation are not earlier than 6 AM nor later than 10 PM. Businesses which include drive through services or a gasoline service station shall not be considered a Neighborhood Commercial Use.

**Neighborhood Focal Point Park:** A Usable open space of not less than one half acre in a residential Neighborhood located to serve as an important civic gathering place for one or more Neighborhoods. Most of a Neighborhood Focal Point Park shall abut a street, a wetland, lake or another type of Open Space. Neighborhood Focal Point Parks can be combined to serve more than one Neighborhood; the size of the combined Neighborhood Focal Point Parks shall equal ½ acres times the number of neighborhoods served.

**Non-Residential Parcel:** Non-Residential Parcel shall mean a parcel that is (a) larger than an acre and (b) used for purposes other than (i) a single family residence (ii) a two family residence, or (iii) recreational or sports uses that require open space, such as athletic playing fields or a golf course.

**Non-Residential Parcel Tree Count:** A certification from a licensed landscape architect, surveyor or engineer licensed in South Carolina or a Certified Arborist as to (i) the existing trees on a “Non-Residential Parcel” having a D.B.H. of eight (8”) inches or greater, including pine trees, (ii) the number of such existing trees per acre, pro rated to such parcel’s number or fraction of acres, (iii) the number of such trees that are proposed to be removed and (iv) the number of such trees per acre, pro rated to such parcel’s number or fraction of acres that will exist post development.

**Non Residential Parcel Tree Minimum:** Existing trees of any type, including pine trees, located on a Non-Residential Parcel having a D.B.H. of eight (8”) inches or greater, including pine trees, equal to 15 such trees per acre, prorated to such parcel’s number or fraction of acres. The area of existing utility and drainage easements shall be subtracted from the total lot acres prior to calculating the acreage to be used to determine the Non Residential Parcel Tree Minimum.

**Open Space:** Any parcel or area of land or water essentially unimproved and set aside, dedicated, designated or reserved for public or private use or enjoyment, or for the use and enjoyment of owners and occupants of land adjoining or neighboring such Open Space. Open Space shall not include streets, drives, off-street parking and loading areas, areas so located or of such size or shape to have no substantial aesthetic or recreational value and any area within residential lots.

**Property:** The real property which is subject to this Master Plan Zoning Text and which contains approximately 1,573 acres as more fully described on the attached **Exhibit 7 (Property Description)**.

**Prohibited Uses:** The following uses are expressly prohibited: stockyards, junk yards, landfills (or any commercial use involving the burial of trash, garbage or waste), and Adult Uses as defined in Section 54-120 of the Zoning Ordinance.

**Publicly Accessible:** Open to the general public, either at no charge or, for commercial, civic, or recreational establishments, for the normal and customary charge. Areas required to be Publicly Accessible may include essentially public and visitor servicing uses such as hotels, restaurants, and civic and recreational buildings. Privately maintained areas to be Publicly Accessible shall be subject to rules and regulations to be promulgated by the owner, including hours of operations.

**Recommended Tree:** A tree of two and on-half inches (2 ½”) or greater in diameter as measured six inches (6”) above grade which is one of the Recommended Tree Species.

**Recommended Tree Species:** Any tree species which is a medium to large canopy tree, including Landmark Tree Species, *Acer rubrum* (Red Maple), *Carya sp.* (Hickory(s)), *Fagus grandifolia* (American Beech), *Ginkgo biloba* (Ginkgo), *Ilex opaca* (American Holly), *Ilex x attenuata* (Foster, Savannah Holly), *Ilex opaca* (American Holly), *Ilex x attenuata* (Foster, Savannah Holly), *Juniperus virginiana* (Eastern Red Cedar ), *Liriodendron tulipifera* (Tulip Poplar ), *Pinus palustris* (Longleaf Pine), *Pistacia chinensis* (Chinese Pistache), *Quercus acutissima* (Sawtooth Oak), *Quercus laurifolia* (Laurel Oak), *Quercus lyrata* (Overcup Oak), *Sassafrass albidum* (Sassafrass), *Ulmus parvifolia* (Chinese Elm), and *Zelkova serrata* (Japanese Zelkova) and other native (to the South Carolina Coastal Plain) medium to large canopy trees.

**Service Access Area:** The location adjacent to a building or buildings where activities such as supplying, distributing, and waste removal are permitted.

**Side Street Line:** The side lot line coincident with a street on a corner lot.

**Street Tree Species.** Any tree species permitted to be planted in a City right of way pursuant to the City’s general rules relating to street trees in the city street tree manual, as amended or replaced.

**Story:** The vertical distance of a story is measured from the finished floor to the finished ceiling or the bottom of the structural elements if there is no finished ceiling. A story in a residential structure is the lesser of the actual distance and 14 feet. If the vertical distance is greater than 14 feet, the vertical area is considered two stories. A story in a commercial, civic or institutional building (i) is the lesser of the actual distance and 25 feet, and (ii) if the vertical distance exceeds 25 feet, the vertical distance is considered two stories. Other building elements such as bell towers, steeples, chimneys, roofs, and ornamental elements shall not be considered when height is measured by stories. A parking area beneath the finished floor is not considered a story, unless such parking is located in a building for multi-family Dwelling Units in a Residential Zone.

**Tree Risk Assessment.** A visual assessment performed by a Certified Arborist of a tree’s likelihood of failure due to factors such as, but not limited to, the general health of the tree, the vigor of the tree, the presence of disease, the impact of site conditions, insect infestations, storm damage, and other existing tree defects. Overall tree risk rating shall place the tree in one of four risk categories: low (A), moderate (B/C), high (D) and imminent (F).

**Umbrella Bond.** A bond as described in **Section 2.17**.

**Usable Open Space:** Open Space areas of high ground developed to provide for active recreational uses or Open Space areas of water that have been made accessible for water based recreation, such as fishing or boating. Usable Open Space may be developed in phases with each phase providing some level of active recreational uses.

**Zones:** Cainhoy Residential Zone, Cainhoy Mixed Use Zone, Cainhoy Church Preservation Zone, Cainhoy Transitional Overlay Zone, Cainhoy Agricultural Overlay Zone, each as delineated on **Exhibit 10 (Map of Zones)**. The boundaries of each Zone are approximate and will be determined more specifically as development and platting progress.

**Zoning Ordinance:** City of Charleston Zoning Ordinance, Section 54-101 *et seq*, as amended from time to time.

## **Section 2. General Provisions**

### **2.1 Relationship to City Zoning**

The Zoning Ordinance and the Development Agreement are incorporated by reference, except as amended herein. In the event of a conflict between the provisions of the Master Plan Zoning Text and those of the Zoning Ordinance, the provisions of this Master Plan Zoning Text shall apply. If a subject has been addressed in this Master Plan without including other requirements on the same subject contained in the Zoning Ordinance, this Master Plan shall be interpreted as eliminating the additional requirements contained in the Zoning Ordinance. By way of example only, the intended interplay between the Zoning Ordinance and this Master Plan Zoning Text results in (i) no regulations on fences or garage orientation, (ii) manufactured/mobile homes, buffers and accessory buildings being addressed solely by this Master Plan Zoning Text and (iii) stormwater management being controlled by Section 2.14 and those City regulations which are not in conflict. In the event the Zoning Ordinance is amended (i) to address new areas of zoning regulation not currently covered by either the Zoning Ordinance or this Master Plan Zoning Text or (ii) to materially expand the scope of the regulations in effect on the date of this Master Plan Zoning Text, such amendments to the Zoning Ordinance shall not apply to this Master Plan Zoning Text unless the Developer gives its written consent.

### **2.2 Design Review Generally**

The Developer has developed design guidelines to monitor and control the quality, design and aesthetics of the construction within the Property consistent with the requirements of this Master Plan. The Developer's design review procedures shall not affect any enforcement proceedings that the City might elect to institute with respect to alleged violations of this Master Plan or the City Zoning Ordinance. The Property shall not be subject to the City's present or future appointed design review boards, except as specifically provided in this Master Plan.

### **2.3 Authority of Zoning Administrator**

The Zoning Administrator may grant exemptions from setback, build-to and street Frontage requirements, as minor amendments if the Zoning Administrator determines such exemptions are necessary or desirable for preservation of natural features or Landmark Trees.

The Zoning Administrator shall have authority to amend this Master Plan Zoning Text to correct scrivener's errors and reconcile clear conflicts in the text. Upon a showing of special circumstances, the Zoning Administrator shall have the discretion to modify the lot and building standards, such as setbacks and lot dimensions, provided such modifications do not exceed the stated requirements by more than fifteen (15%) percent.

In the event that the City Zoning Ordinance permits a use or improvement by right and this Master Plan Zoning Text does not permit such use or improvement, the Zoning Administrator shall have the authority to allow such use or improvement consistent with the City Zoning Ordinance.

### **2.4 A.D.A. Compliant**

The public and private facilities constructed on the Property shall be A.D.A.Compliant, including sidewalks and recreational trails. The Zoning Administrator shall have authority to grant exemptions from the requirements of this Master Plan Zoning Text in order to accommodate the needs of an individual who is covered by the Americans with Disabilities Act.

### **2.5 Creation of Water Amenities**

Lakes and ponds may be created in any Zone and any excavated materials may be disposed of offsite, whether by commercial sale or otherwise, subject to applicable state and federal regulations. The City Zoning Administrator shall be notified of an application for a government permit to remove material off-site of the Property.

### **2.6 Zones**

(a) **Agricultural Overlay Zone.** Currently all of the Property is Agricultural Land (except for the land around the residences) and currently all of the Property is within the Agricultural Overlay Zone. Lands within the Agricultural Overlay Zone may continue to be managed for historical timber and agricultural uses and for the operation of commercial borrow pits. A parcel shall be excluded from the Agricultural Overlay Zone when (i) development activities commence on the parcel or (ii) the parcel no longer is classified as "qualified agricultural" for ad valorem tax purposes. Once a parcel is outside of the Agricultural Overlay Zone, the parcel becomes subject to the development standards of its zone as provided by **Exhibit 10 (Map of Zones)**.

(b) **Transition Overlay Zone.** The Transition Overlay Zone is the area between Zones that has a width of 500 feet on either side of the Zone boundary. The purpose of this transitional overlay zone is to allow the delineation of the final boundary line between two Zones to be established as development progresses. When the Developer has completed the necessary planning and site work for a parcel within the Transitional Overlay Zone, the Developer shall

designate the applicable Zone for the development and shall file a corresponding appropriate replacement **Exhibit 10 (Map of Zones)** with the Zoning Administrator.

(c) **Residential Zone.** Residential neighborhoods will reflect the natural or man-made features of the land. The Developer's delineation of Neighborhoods will be influenced by the pattern of historic Lowcountry towns, vegetation and topography. The Developer shall delineate a Neighborhood at the time of its subdivision concept plan approval. The Developer shall have sole discretion in delineating the size, location and configuration of each Neighborhood.

(d) **Mixed Use Zone.** The Mixed Use Zone allows for all uses permitted in the Residential Zone and also more intensive commercial uses. The Mixed Use Zones shall include frontage on Clements Ferry Road and Cainhoy Road as well as other designated parcels as shown on **Exhibit 10 (Map of Zones)**.

(e) **Church Preservation Zone.** This is a temporary zone to allow additional planning in conjunction with those persons and entities controlling or interested in the St. Thomas and St. Denis Episcopal Church. The dimensions of the Church Preservation Zone shall be 300 feet from all existing boundaries of the out parcel in the Residential Zone of the T7 PUD. The Church Preservation Zone is surrounded by property within the Residential Zone, all as more fully shown on **Exhibit 10 (Map of Zones)**.

## **2.7 Economic Development Projects**

Economic Development Projects may be allowed anywhere on the Property, including in Residential Zones but not including the Church Preservation Zone.

## **2.8 Permitted Interim Uses**

In all Zones (except the Church Preservation Zone) within this Master Plan, interim nonpermanent uses, including but not limited to nurseries, golf driving ranges, outdoor athletic facilities and other commercial or public recreation activities, are permitted uses until intended development of the lot or parcel is commenced.

## **2.9 Prohibited Uses**

No Prohibited Use shall not be allowed in any Zone.

## **2.10 Density**

The aggregate number of Dwelling Units on the Property shall not exceed 2.1 Dwelling Units per Gross Acreage. In the 2001 amendment to the development agreement relating to the Property, the City and the predecessor in title to the Developer agreed that the maximum Dwelling Units on the Property would be 3,304, based on the survey information available in 2001 and would not change by reason of improved survey information. In the event that the Developer transfers bulk acreage prior to subdivision into building lots, the Developer shall allocate in the transferring deed and on the subdivision plat the number of Dwelling Units

allocated to the such acreage and shall deliver to the City a copy of the recorded deed and plat containing the dwelling unit allocation.

## **2.11 Diverse Housing Opportunities**

It is anticipated that diverse housing opportunities will be achieved by mixing low and moderate income rental and owner-occupied housing among market rate housing in places throughout the community, within neighborhoods, mixed use areas and the Town Center. The Developer will use persistent and professional efforts to cause the construction of Affordable Housing equal to not less than 10% of the total residences offered for sale or lease on the Aggregated Property. Affordable Housing is dependent on the existence of governmental subsidies and programs, and other sources of financial support. The Developer will work with the City of Charleston and other governmental entities and non-profit organizations to achieve this goal.

In addition, the Developer will support the City's innovative concept of a new type of housing that has the characteristics of the existing Jack Primus community and the existing Huger community ("Expansion Neighborhood Concept"). The City shall develop a program to implement the Expansion Neighborhood Concept (the "EN Program") within two years of the adoption of this PUD master plan. If City Council has not adopted an EN Program within the two year period, the Developer may deliver written notice to the City and the City shall have an automatic one year extension from the date of the Developer's notice. If an EN Program has not been approved within this extension period, the Developer's obligations with respect to the Expansion Neighborhood Concept shall terminate. The approved EN Program shall include alternative design standards which shall be developed with the input of the community and the different City departments ("EN Standards"). The goals of the EN Standards shall be to create a neighborhood with similar characteristics to the existing Jack Primus and Huger communities, to reduce the total cost of the homes and to create a neighborhood which is harmonious with other neighborhoods in the PUD development. The EN Program shall define a pricing formula for the acreage to be sold by the Developer and the process for identifying additional land, shall address the integration of the expansion neighborhoods into the larger PUD community, shall include an objective measurement of success and the termination of the Developer's obligations if the EN Program is not successful. The Developer's agrees to work cooperatively with the City in the development of the EN Program, including the EN Standards. The City agrees that the EN Standards and all Developer obligations under the approved EN Program shall require the Developer's written consent. The Developer has identified two expansion neighborhood areas as shown on **Exhibit 8 (Expansion Neighborhoods)** which will be made available in accordance with the approved EN Program. The Developer shall have the right to relocate the expansion area for the Huger Community along Cainhoy Road with the consent of the City. The Developer agrees to identify up to 155 highland acres in the aggregate to be offered for sale in accordance with the terms of the approved EN Program.

## **2.12 Underground utilities**

All utility lines (including electrical transmission, distribution, cable, gas, water and sewer lines) shall be placed underground.

### **2.13 Application of City Ordinances relating to animals, birds and hunting**

(a) Lands within the Agricultural Overlay Zone shall be excluded from the bird sanctuary provisions of the general ordinances of the City of Charleston, to the extent that such provisions prohibit the hunting and shooting of Game Birds, as such term is defined under Section 50-1-30(1) of the South Carolina Code of Laws. The bird sanctuary provisions of the general ordinances shall apply to Non game Birds as defined in Section 50-1-30(3). Notwithstanding any other provisions to the contrary in the ordinances of the City, the hunting of Game Birds and Game Animals as defined in Section 50-1-30(4) and the discharge of recreational firearms shall be permitted on lands within the Agricultural Overlay Zone, provided such activities are in compliance with applicable state and federal regulations, and the hunting is conducted on a parcel of land under common ownership or control containing not less than 100 acres.

(b) Horses, farm animals and other domesticated animals shall be permitted. Cows and pigs cannot be housed within 150 feet of a neighboring property without the consent of the owner of such neighboring property.

(c) Equestrian and agricultural activities relating to horses and animals shall be permitted, including private and commercial stables. The provisions of Section 5-4(c) shall not apply to privately owned facilities that engage in activities involving horses or other animals, including polo matches and equestrian events.

### **2.14 Drainage Basin Study**

A Drainage Basin study shall be required prior to the submittal of a concept subdivision plan unless the City Engineer shall determine otherwise. The study shall include an analysis of storm water runoff running into and through the proposed development area under existing conditions and under the proposed development conditions so as to alleviate the impact of the proposed development on downstream structures. The study shall anticipate full development upstream of the proposed development in order to properly size the drainage facilities for the proposed development. The study shall include the entire Drainage Basin, regardless of the legal boundary of the proposed development. The study shall include a description of the hydrologic method used and the assumptions made. The Rational Method shall be appropriate only for basins which are 200 acres or smaller. Other methods are required for larger basins, such as the unit hydrograph method or the soil conservation service method. City regulations not inconsistent with this Section 2.14 and the Development Agreement shall apply to storm water management.

### **2.15 Master Traffic Study**

As development plans are developed, a master traffic study will be prepared which analyzes the major interior arterial roads of the Property and the assumptions relating to the traffic projected by the projected development. The master traffic study will be updated and amended if and when development occurs in three (3) to five (5) year intervals from any major changes and will include such studies as the City of Department of Traffic and Transportation may determine are needed. Development projects consistent with the master traffic study, as

updated, shall not require a separate traffic study. An applicant for a development permit shall be subject to the City's current traffic mitigation requirements, as amended from time to time.

## **2.16 Umbrella Bonds**

The Developer shall post an Umbrella Bond in the amount of \$100,000 to guarantee the performance of Developer's obligations to plant trees pursuant to Section 8.3 and a second Umbrella Bond in the amount of \$100,000 to guarantee the performance of the Developer's obligations to construct sidewalks pursuant to Section 8.2 (c). The City shall have the right to request and require a larger Umbrella Bond, at the time of renewal or when the Umbrella Bond is less than 150% of the estimated costs to complete the work for the current permitted work to which the Bond applies. Any increase to an Umbrella Bond shall not exceed an amount greater than 150% of the estimated costs of completing such work. The City shall not be obligated to process plats or permit applications if the Umbrella Bond does not equal or exceed 150% of the costs of completing the work to which it applies. Upon request, the Developer shall provide periodic completion estimates for the current projects covered by this rolling Umbrella Bond.

In the event the Developer shall transfer a parcel to a subdeveloper, the same process and procedure will apply, with the subdeveloper posting two, separate Umbrella Bonds that shall relate solely to such subdeveloper's project(s). The amount of the initial Umbrella Bonds will be an amount equal to 150% of the estimated costs of completing the work to which the Bond applies, and may be increased or decreased during the construction of the subdeveloper's project(s), so long as the 150% ratio of Bond to outstanding work is maintained. The Developer's Umbrella Bonds shall not cover projects that are covered by subdevelopers' bonds.

## **2.17 Venning Cemetery**

The Venning Cemetery is located within the Cainhoy-ST PUD Master Plan property and is currently accessed over roads located in the Cainhoy Land & Timber PUD. The Venning Cemetery shall be transferred to a nonprofit organization pursuant to a 90 year lease with appropriate access easements and restrictions. When development is adjacent to the cemetery or there are public roads in close proximity to the Venning Cemetery, this cemetery shall be deeded to a nonprofit organization with appropriate protections to assure continued access, management and maintenance of this cemetery for the benefit of the descendants of the persons buried there.

## **Section 3. Master Plan Development Concepts**

**3.1 Land Uses**The Master Plan is focused on these primary land uses: residential, mixed use, and Open Space. The boundaries of the Residential Zones, and the Mixed Use Zones are given their approximate locations on **Exhibit 10 (Map of Zones)**. The exact boundaries will be fixed as development progresses and subdivision plats are approved. The boundary of each such Zone can shift with the Transitional Overlay Zone as described in **Section 2.5(b)**. Open Space and Usable Open Space shall be located as development progresses. The Master Plan Zoning Text delineates the permitted uses in each Zone.

### 3.2 Open Space

(a) The development pursuant to this Master Plan will create a varied network of open space, parks and community facilities for diverse groups of citizens from the neighborhood, the Development, the City, and the region. There will be public and private recreational facilities, including community playgrounds, major parks, and a trail system to serve neighborhood residents. Within the Aggregated Property, there shall be at least one park that maintains and exhibits the unique characteristics of the Longleaf Pine timber management and Longleaf timber legacy which has a minimum of ten (10) contiguous acres and provides publicly accessible trails and interpretive signs that express the story of the Aggregated Property.

(b) Not less than 20% of the Gross Lot Acreage of the Property shall be Open Space. Not less than 25% of the Open Space shall be Usable Open Space. The Open Space and the Usable Open Space shall be delineated as development progresses. General locations will be identified when a conceptual subdivision plan is approved and specific locations will be determined when a preliminary subdivision plat is approved. The first phase of the development of the Usable Open Space shall be completed within one (1) year of the completion of the Dwelling Units to be served by the Usable Open Space.

(c) Residential communities at Cainhoy will be designed as a series of Neighborhoods oriented around parks and green spaces and made accessible by walkways, bikeways or nature trails.

(d) There will be several different types of open space.

(i) **Neighborhood Parks:** Each Neighborhoods shall be allocated one Neighborhood Focal Point Park. Neighborhood Focal Point Parks can be combined and can serve more than one Neighborhood, provided that each Neighborhood is within walking distance of the combined park (approximately 0.75 miles or 4,000 feet) and the size of the combined park is not less than 0.5 acres times the number of Neighborhoods served by the park.

(ii) **Internally Oriented Parks:** Other parks of an acre or more may, but not necessarily shall, be more internally oriented. Examples of this type park include the open space around an internal storm water retention lake, creeks and drainage ways or conservation areas. Existing features of the land shall determine the number and location of these type of parks.

(iii) **Greenways:** Greenways are features that connect neighborhoods or Parcels.

(iv) **Wetlands and Associated Buffers:** These areas are important because they support wildlife habitat, critical water resources and biodiversity.

## Section 4. Cainhoy Residential Zone

### 4.1 Allowed Uses

In a Residential Zone, land may be used and buildings may be erected, altered or used for the following permitted uses:

- (a) One-family detached dwellings, one family attached dwellings, town houses, two-family dwellings, residential condominiums and multifamily communities.
- (b) Recreational and athletic facilities, including parks, sports fields, playgrounds, golf courses, tennis courts, and club houses.
- (c) Civic uses, which are to be located proximate to neighborhood focal points.
- (d) Educational and academic institutions, other institutional uses, including schools for all grades, levels, degrees and ages, and organizations devoted to solving complex problems.
- (e) Live/Work Units
- (f) Specialized residential communities, including nursing homes, elderly housing, retirement communities, boarding schools
- (g) Marinas, Publicly Accessible uses, boat ramps and private docks along the waterfront.
- (h) Neighborhood Commercial Uses
- (i) Retail and Service Establishments that are located more than 150 feet from a Neighborhood;
- (j) Day care and temporary overnight care facilities for children and adults.
- (k) Cemeteries and graveyards
- (l) Agricultural and equestrian uses, including private and commercial stables
- (m) Community parking lots
- (n) Accessory uses, incidental to any of the principal uses above listed including home offices, guest quarters, apartments, garage apartments, private garages and carports not attached to the principal building, tool sheds and similar storage facilities, gazebos, private swimming pools adequately fenced, private docks, and the like. These accessory uses do not count as Dwelling Units for purposes of determining the maximum Dwelling Units allowed or in determining parking requirements.
- (o) Home occupations which do not have an adverse impact on traffic, noise, air quality and similar conditions for the other properties in the immediate vicinity.
- (p) Utility and communication facilities, including static electric transformer stations, water and sewage pumping stations, gas regulator stations, cell, television and other communication towers, ( so long as such towers are not located within 1,000 feet of the St. Thomas and St. Denis Church ), and telephone switching station.

- (q) Economic Development Projects

## 4.2 Accessory Buildings

(a) Accessory buildings may be habitable (which shall not count as a Dwelling Unit for determination of maximum density or parking requirements).

- (b) Accessory Buildings shall have the following setbacks:

Front:	50 feet
Rear:	2 feet
Side:	2 feet
Rear or side street:	5 feet

On corner lots, the Accessory Buildings in a residential Neighborhood along a street frontage must conform to the building placement requirements for Residential Zones.

- (c) The height of an Accessory Building shall not exceed 36 feet.

(d) The footprint of Accessory Buildings on lots of less than 2/3 acres (29,040 square feet) shall not exceed 750 square feet. The footprint of Accessory Buildings on lots 2/3 acres or greater shall not exceed 1,000 square feet.

## 4.3 Relationship of Homes to Street & Each Other

Special care and attention will be given in the planning of Cainhoj to integrate it with the natural features. Developers and builders will also strive to preserve existing vegetation, natural drainage systems and unusual topography. Neighborhoods will take into consideration the following:

(a) Lot widths and depths will vary within each Neighborhood based on the topography, existing vegetation, the target market, house sizes, locations of garages, and means of access to garages. Lots sizes shall be determined at the time of subdivision plat approval.

(b) Build-To-Lines: Front setback lines and side setback lines adjoining a street are also build-to-lines and are established to create and maintain continuity along the streets and help prevent architectural conflicts. In order to be able to create variety and spatial interest, the Developer shall have the right to have the build to line vary from the Front Setback Line by ten (10') feet in either direction as determined by the Developer at the time of preliminary subdivision plat submittal. Flag lots or other lots the Zoning Administrator determines are similarly irregular shall not have a front setback requirement. Setback lines may vary among Neighborhoods, based on lot sizes, house sizes and other considerations.

## 4.4 Lot Criteria

(a) Height All Single Family Residential Units in a Residential Zone shall have a maximum height of 50'. Multi-Family Residential Units shall have a maximum height of 5 stories; however, underground parking shall count as a story in the Residential Zone only.

(b) Lot Width/Frontage Minimum lot width at the Front Property Line shall be:

- 26' for single family detached
- 20' minimum "pole" width for flag lots for single family detached
- 16' for attached residential
- For lots located on a curve at the end of a cul de sac, the minimum lot width is 16 feet to accommodate the driveway.

(c) Lot Occupancy of a Building The maximum Lot Occupancy of a Building for a single family detached lot is 60% and for an attached residential lot is 90%.

(d) Setbacks All Single Family detached lots shall have the following setback standards for the primary structure:

- Unless the Developer shall design an area shown on the subdivision concept plan and delineated on the preliminary subdivision plat as a build to line of less than 10 feet from the front property line, a 10 foot Front Setback Line shall be the minimum.
- 12 feet total (3 feet minimum) side yard setback
- 20 foot rear yard setback, except as set forth in 4.5(e) below.  
HVAC equipment may be located within any building setback, not including the Critical Line Buffer

(e) Critical Line Buffer All lots that have a SCDHEC critical line shall have a Critical Line Buffer. Residential lots of this type shall have a ten (10) foot primary structure setback (which shall not apply to stairs, in-ground pools, patios and fences) from the Critical Line Buffer, however, the Zoning Administrator shall have authority to reduce this distance upon a finding that the specific configuration of the lot warrants special treatment and there is no additional direct storm water runoff into the critical area as a result of the reduction.

(f) Extensions beyond Setback Lines Stoops, stairs, bay windows, balconies, open porches, and roofs of the principal building may extend beyond the Front Setback Line, so long as they do not extend beyond the Lot boundary.

(h) Up to 14 single-family attached dwellings may be constructed or attached together in a continuous row.

(i) Mechanical equipment (other than equipment installed by utility companies) and waste containers above grade level shall not be located in the Front Setback Zone but may be located in a Side Setback Zone. Mechanical equipment and waste containers shall be screened from street view.

(j) Each lot shall be provided with access by means of a street or alley meeting the street standards of this Master Plan. Lot access by any one of these street types shall satisfy the requirements of the City for the approval of a subdivision plat.

(k) Utility and drainage lots shall be exempt from zoning district dimensional requirements, public road frontage requirements and street improvement requirements provided

herein; provided, however, that such lots shall be created in conformance with the subdivision review, approval and recordation requirements provided in the Zoning Ordinance. Lots created for the purpose of providing for utility and drainage facilities and structures shall be of a size, width, depth, shape and orientation appropriate for the proposed use. Each lot shall be served by either frontage on a public right-of-way or an access and maintenance easement to the lot from a public right-of-way. An application for subdivision approval shall be accompanied by a statement establishing that the proposed installation is necessary to accomplish a utility or drainage function. The subdivision plat creating a utility or drainage lot shall include a designation of the lot “for utility (or) drainage purposes only”.

#### **4.5 Parking Minimums**

At least one (1) off street parking space shall be provided for each Dwelling Unit, except as provided hereafter. Dwelling Units for the elderly shall provide not less than one space for each six Dwelling Units and Dwelling Units which are Affordable Housing shall provide not less than one parking space for every four Dwelling Units. All multifamily Dwelling Units shall have at least one (1) off-street parking space per Dwelling Unit.

#### **4.6 Residential Neighborhoods in other Zones**

Residential Neighborhoods in other Zones shall meet the lot and building requirements set forth in this Section.

#### **4.7 Non-Residential Uses in Residential Zones**

Non-residential uses in Residential Neighborhoods shall meet the lot and building requirements set forth in the Mixed Use Zone.

### **Section 5. Cainhoy Mixed Use Zone**

#### **5.1 Allowed Uses**

Within a Mixed Use Zone, land may only be used, and buildings or structures may only be erected, altered or used, for the following purposes:

- (a) All uses permitted in a Residential Zone; however, no detached or attached single family dwelling units shall front on either Clements Ferry Road or Cainhoy Road.
- (b) Retail and commercial facilities
- (c) Auto-dependent uses including service stations, auto repair and installation, building materials and storage yards, fast food stores with drive-in or drive-through facilities, moving and storage offices with on-site storage, auto sales and marine storage and repairs
- (d) Entertainment facilities, including movie theaters, and music and dance halls
- (e) Fitness, exercise and sports facilities, including bowling alleys

- (f) Wholesale trade establishments
- (g) Facilities that produce goods or materials which do not generate a greater adverse impact on the properties in the immediate vicinity with respect to noise, air pollution, emissions, traffic and other similar conditions than generated by the general categories of uses permitted within the Mixed Use Zone
- (h) Offices
- (i) Businesses that serve food and/or beverages, including restaurants and bars
- (j) Social and religious institutions and organizations, including places of worship, clubs, lodges, civic organizations
- (k) Medical and health facilities, including hospitals and medical and dental clinics and offices
- (l) Research and technology facilities and laboratories
- (m) Accommodation facilities, including hotels and inns.
- (n) Parking of any type and nature
- (o) Transportation facilities, including public transportation facilities and airplane or helicopter landing strips
- (p) Low Impact Businesses
- (q) Any use permitted in a Mixed Use Zone may be located anywhere within the Mixed Use Zone, however once a residential Neighborhood is established in a Mixed Use Zone, only those uses permitted in a Residential Zone shall be allowed in that Neighborhood.

## **5.2 Design Review for Clements Ferry and Cainhoy Roads**

The design of any buildings constructed on lots immediately adjacent to Clements Ferry Road (S-8-33) or Cainhoy Road (S-8-98) shall be subject to review and approval by the City planning staff. The building setback lines for buildings fronting on Clements Ferry Road and Cainhoy Road shall be established when the site plan is submitted; buildings in these locations may be built on the property line or may be set back from the property line, as determined by the Developer with approval by City planning staff. In the event that the applicant disagrees with the design requirements of the City planning staff, the applicant may appeal to the City's Design Review Board to resolve the dispute.

## **5.3 Open Space**

At least 5% of the Gross Lot Acreage of a Mixed Use Zone shall be allocated to Open Space which shall be delineated as development progresses in connection with the approval of subdivision concept plan or site plan approval.

## **5.4 Parking**

(a) Off-street parking spaces shall be provided for all developments in a Mixed Use Zone in accordance with the following minimum requirements:

(i) One space per Dwelling Unit, except none required for residential units located in commercial buildings;

(ii) One space per three hotel rooms in a hotel;

(iii) Two spaces per 1,000 square feet of gross floor space for all other uses.

(b) Parking spaces shall be located on the same lot as the principal building or on a properly zoned lot within 800 feet of the building, as measured between the nearest points of the two lots.

## **5.5 Front Set Back Lines**

The Front Set Back Lines for lots in the Mixed Use Zone shall be established at the time of preliminary subdivision plat submittal. Plazas and patios may serve as meeting the build to lines or front set back lines to allow outdoor dining and seating, if they are defined by an edge structure at the right of way line, such as a knee wall or fixed benches.

## **5.6 Rear and Side Setbacks**

A minimum rear setback of 10 feet is required for principal buildings. No side yards are required in the Mixed Use Zones unless mandated by the applicable fire code requirements. If a side setback is provided, its minimum width shall be 3 feet. Mechanical equipment and waste storage facilities may be located within the setback areas.

## **5.7 Height**

The maximum height for a principal building within the Mixed Use Zone shall be six stories.

## **5.8 Lot Occupancy**

There shall be no maximum Lot Occupancy of the Buildings in the Mixed Use Zone, unless it is a residential Neighborhood in which event the standards of the Residential Zone shall apply.

## **5.9 Accessory Buildings**

The same standards shall apply to Accessory Buildings in a Mixed Use Zone as in a Residential Zone.

## **Section 6. Church Preservation Zone**

The current uses are allowed within the Church Preservation Zone. If required for permitted development in the other Zones, the existing road in the vicinity of this Zone may be widened and infrastructure improvements may be installed. Otherwise, the property within the Church Preservation Zone shall be maintained in its current condition and no other improvements may be installed without the prior approval of the Zoning Administrator. This temporary Church Preservation Zone shall be replaced by a more detailed development plan after additional planning and the adoption of an amendment to this PUD Zoning Text.

## **Section 7. Tree Protection Requirements**

### **7.1 Exemptions**

The following trees or activities are exempt from the regulations of this Section and do not require any prior approvals, surveys, certifications or mitigation for the removal of any type or number of trees:

- (a) Commercial timber operations,
- (b) Wetland mitigation activities pursuant to the requirements of DHEC-OCRM or the Army Corps of Engineers,
- (c) Commercial tree nurseries,
- (d) Agricultural Land which is being actively managed,
- (e) Creation and maintenance of utility easements for water, sewer, electricity, gas, cable, telephone and similar utilities and stormwater facilities.
- (f) Airports

The Zoning Administrator shall be given advance notice when an area or operation is subject to an exemption, when there will be prescribed burning and when there is a major exempt activity within 1,000 feet of an existing residential subdivision.

### **7.2 Utility Providers**

Utility companies, electric suppliers and governmental agencies constructing or maintaining easements for water, sewer, electricity, gas, drainage, telephone or television transmission or rights-of-way shall be exempt from the provisions of this Ordinance if the applicable company, supplier or agency has executed an Agreement with the City which, at a minimum: 1) recognizes the need to minimize the cutting or trimming of Landmark Trees which do not frustrate or substantially interfere with the intended purpose of construction or maintenance; 2) establishes, to the extent feasible, design guidelines for construction and maintenance which identifies the saving of Landmark Trees as a factor to be considered in the design process; 3) allows for a consultation process with the City prior to the commencement of major construction or maintenance or the removal of Landmark Trees; and 4) provides that a breach of such Agreement constitutes a violation of this ordinance and a loss of exemption from the requirements of this Ordinance.

### **7.3 Landmark Tree Surveys and Non-Residential Parcel Tree Counts**

A Landmark Tree Survey shall be prepared with a subdivision concept plan, a subdivision approval application, a land disturbance permit and a building permit. In addition, a Non-Residential Parcel Tree Count shall be delivered with an application for building permit or a land disturbance permit for a Non-Residential Parcel.

### **7.4 Landmark Trees**

A Landmark Tree may not be destroyed, removed, intentionally damaged or relocated without prior written approval for the Zoning Administrator.

Each Landmark Tree shall be assigned a tree risk assessment rating and permitted for removal if it meets one of the following standards:

- a. A Landmark Tree that is determined to be dead or having a tree risk assessment rating of high or imminent,
- b. A Landmark tree that is determined to be a public hazard and threatens damage to people or an existing building(s),
- c. A Landmark Tree that is located in a proposed public street right-of-way and it is determined that there is no reasonable alternative design solution to save the tree,
- d. A Landmark Tree that is located in a proposed building footprint or parking area and it is determined that there is no reasonable alternative design solution to save the tree,
- e. A Landmark Tree that is located within a proposed golf course and if the golf designer attests in writing that the presence of the Landmark Tree materially impacts the design of the golf course,
- f. A Landmark Tree that is located in a proposed and/or required improvement on the development parcel such as a storm water feature, utility easement or other land disturbance improvement and it is determined that there is no reasonable alternative design solution to save the tree.
- g. A Landmark Tree that is located within the building footprint of a proposed building for an Economic Development Project

Where approval requires the Zoning Administrator's exercise of discretion, the Zoning Administrator shall balance the various goals of this Master Plan and the long term benefits of the required tree replacement mitigation plan.

An applicant may appeal the Zoning Administrator's decision to deny a permit to remove a Landmark Tree to the Board of Zoning Appeals – Site Design.

Each living Landmark Tree approved to be removed shall be mitigated with replacement canopy trees having a minimum caliper of 2 ½-inches based on the following:

Low risk assessment - 100 percent of the DBH inches removed,  
Moderate risk assessment - 75 percent of the DBH inches removed,  
High risk assessment - 25 percent of the DBH inches removed.  
Imminent risk-no mitigation obligation

### **7.5 Non-Residential Parcel Tree Minimum**

No tree with a diameter of 8” D.B.H. may be removed from a Non-Residential Lot without an approved mitigation plan, if such tree removal reduces the number of trees having an 8” D.B.H. or greater, including pine trees below the Non-Residential Parcel Tree Minimum. For Non-Residential Lots that have less than the Non-Residential Parcel Tree Minimum prior to the proposed activity or development, a landowner does not have any obligation to plant additional trees to reach the Non-Residential Parcel Tree Minimum. The landowner is only obligated to mitigate for each tree that is removed that has an 8” D.B.H. or greater and that is within the Non-Residential Parcel Tree Minimum.

If there is a mitigation requirement, the mitigation requirement for each such tree that is removed is two (2) Recommended Trees.

### **7.6 Tree Replacement Mitigation Plans**

Tree replacement mitigation plans shall be approved by the Zoning Administrator. An applicant may appeal the denial of a tree replacement mitigation plan to the Board of Zoning Appeals. The tree replacement mitigation plan on-site shall delineate the trees to be removed and the Recommended Trees to be planted in mitigation. The Zoning Administrator may approve the planting of the mitigation trees off-site at locations approved by the Zoning Administrator. In lieu of planting trees on-site or off-site, a cash contribution can be made to the City of Charleston Street Tree Planting Program in an amount equivalent to the City's cost for the type, size and number of trees that would otherwise be required to be planted in mitigation. The City will use the funds received from Cainhoy PUD Master Plan tree replacement mitigation plans to plant trees on the Aggregated Property and/or the Cainhoy peninsula region of the City.

### **7.7 Measurement Methodology**

For trees with multiple stems of the same species that split at the root flare, each trunk that is a minimum of 9” in DBH at 4.5-feet above grade shall be measured and added together to determine if the tree is Landmark Tree.

For trees with multiple stems that split below 4.5-feet above grade, measure the single stem at the narrowest point between the root flare and the split stems.

### **7.8 Protection during construction**

Protective barricades shall be placed around all protected and Landmark Trees located in the development area, and designated to be saved, prior to the start of development activities and

shall remain in place until development activities are complete or construction in accordance with standards set forth in this Section commences. The area within the protective barricade shall remain free of all building materials, dirt or other construction debris, vehicles and development activities. The barricades shall be constructed according to either Type A or B, on file in the City Zoning Office and as approved by the City. Barricades shall be erected at a minimum distance from the base of all protected and Landmark Trees and construction within the protective barricades shall be governed by the provisions of Sec.54-330 of the Zoning Ordinance; however, even if these provisions are changed in the future, the permitted protective barricades shall include orange mesh netting or wooden barriers

### **7.9 Penalties for Unlawful Removal**

For trees removed unlawfully, without prior, approval, the Zoning Administrator shall consider the health and specimen quality of the tree(s) wrongfully removed, the site specific conditions, and the factual circumstances under which the tree was removed to determine the mitigation required for the unlawful removal. The Zoning Administrator is authorized to grant after-the-fact approval, subject to an approved mitigation plan meeting the requirements of this Section or, in the alternative, the Zoning Administrator is authorized to require additional mitigation in excess of what would have otherwise been required. If additional mitigation is required for Landmark Tree unlawfully removed from a single-family zoned lot or a lot used exclusively for a single-family home or a tree removed in violation of Section 7.4 (Non-Residential Parcel Tree Minimum), the Zoning Administrator is authorized to require up to three (3) times the total mitigation that would have been required if prior removal permission had been obtained. For a Landmark Tree unlawfully removed from any other type of lot, the Zoning Administrator is authorized to require up to ten (10) times the total mitigation that would have been required if prior removal permission had been obtained.

### **7.10 Invasive Tree Species**

The planting of Invasive Tree Species is prohibited. When a parcel is developed, any Invasive Tree Species shall be removed.

### **7.11 National Forest Green Belt**

The National Forest Green Belt shall be maintained in a relatively natural state, planted in pine trees and such other indigenous trees as are found in the Francis Marion National Forest. The area may be managed to allow management of the underbrush, removal of trees as may be needed for the uses permitted within the National Forest Green Belt and the replanting trees, all in accordance with accepted timber management practices. The permitted uses within the National Forest Green Belt are (i) walking trails, interpretive signs and other similar activities to qualify the area as usable open space, (2) creation of ponds for stormwater management, and (3) roads to service the uses permitted by this PUD Zoning Text.

## **Section 8. Standards for Streets and Street Trees**

### **8.1 General Street Design Standards**

(a) The layout and design of streets as to arrangement, character, width, grade and location shall be required to conform to the Master Plan, to adjoining street systems of adjoining properties, to the topography, natural features and drainage systems to be provided, adjoining land uses and anticipated traffic capacity. The neighborhoods shall relate to each other in an interconnected system where other streets also tie parcels together. The plat for a parcel shall take such streets to the parcel's boundary line; the subsequent design of the adjacent parcel shall continue the development of these streets.

(b) The streets, including pavement widths, right of way widths, and locations and widths of sidewalks, will be in accordance with the typical details provided in **Exhibit 9 (Street Types)** and elsewhere in this Master Plan.

(c) The final subdivision plat shall delineate whether a street is public or private. If the street is private, the street must be conveyed to a property owners association which will have the responsibility to maintain the private street.

(d) The design of the street system in a Neighborhood shall help to create a neighborhood with an individual identity. The majority of streets shall visibly go somewhere, towards a view of the proposed lake or wetland, a significant intersection, a public open space, to other streets, or a civic building located so that it terminates views down a street.

(e) Angled, head-in, rear-in and parallel parking on street parking will be allowed in accordance with street type, with review and approval by the City of Charleston's Department Traffic and Transportation.

(f) Cul de sacs or dead end streets shall be no longer than eight hundred (800') feet except where land cannot be subdivided practicably.

(g) Dead end streets shall be provided at the closed end with a turn-around having a street property line diameter of at least eighty (80) feet or another street design, such as a hammerhead, "T", or planted island to allow vehicles, including emergency and public service vehicles, to safely turn around.

(h) The spacing of curb-cuts and other types of access points to and from Cainhoy Road and Clements Ferry Road shall be allowed as may approved by the SC Department of Transportation.

### **8.2 Sidewalks**

(a) Sidewalks shall be constructed with an impervious surface on the side of the street where buildings front and shall be the minimum width for the street type shown on **Exhibit 9 (Street Types)**. There shall be a sidewalk or multi-use trail on at least one side of each street. The permitted impervious sidewalk surfaces shall include concrete and any other form of impervious surface as may be approved by the City Design Review Committee (i) for Daniel

Island, (ii) for city wide use, (iii) for the Aggregated Property or (iv) for a specific area of the Property.

(b) The sidewalk section in front of a building shall be completed by the lot owner before a certificate of occupancy is issued for the building that fronts the sidewalk. The City may deny a certificate of occupancy if this sidewalk has not been completed. The owner of the lot shall not be obligated to post a bond to cover the cost of completing the sidewalk.

(c) Utility lots and open space located between lots shall have sidewalks that connect with the sidewalks in front of lots with buildings. Within twenty four (24) months of the issuance of the first certificate of occupancy for a building on a Block, the Developer shall construct and connect the sidewalk on the remainder of the lots within the block for which certificates of occupancy have not been issued and for utility lots and open space lots within such Block. The obligation to construct such Developer sidewalks shall be subject to an Umbrella Bond.

(d) For a Block designed for commercial buildings, during the interim period before all buildings on the Block have been issued certificates of occupancy and the permanent sidewalk for the Block is fully completed, the Developer shall provide A.D.A. Compliant access at the time the streets are constructed which shall be sufficient for acceptance of the public street by the City. This does not abrogate the lot owner's obligation to construct the permanent sidewalk pursuant to Section 9.2(b) above.

(e) Residential streets in Neighborhoods which are physically isolated by freshwater wetlands or lakes from other development areas and in Neighborhoods where the minimum lot size is 40,000 s.f. shall not require sidewalks.

(f) So long as the sidewalk remains ADA compliant, a tree well or tree planter may encroach within the minimum sidewalk width.

### **8.3 Street Trees**

Street trees shall be planted in regular patterns of approximately 50' to 60' feet from center no later than the last quarter of the year following the completion of the buildings within a Block. New trees that are planted shall be a Street Tree Species. Each street tree shall include a 12 month guaranty of survival. If a street tree fails to survive the 12 month guaranty period, another street tree shall be replanted with another 12 month survival guaranty.

### **8.4 Lighting**

Street lights shall be placed in the right-of-way to promote extended use of the sidewalks. The City street policies for Daniel Island shall apply, including the placement of street lights between 150 feet and 165 feet apart and on alternating sides of the street.

### **8.5 Private Pervious Roads**

Private roads made from pervious natural material, such as dirt and ROC, and which are ADA Compliant shall be permitted in Neighborhoods having lots with a minimum size greater

than one (1) acre. Prior to construction of a pervious road, an additional street section shall be added to **Exhibit 9 (Drawings of Street Types)** specifying the required construction methods and materials based on geotechnical data of the road proposed location shall be submitted to the city engineer for approval. Maintenance of pervious roads shall be the responsibility of the property owners association governing the Neighborhood of such road. The pervious road and right of way, including ditches shall be constructed and maintained to Berkeley County standards to ensure safe passage of vehicles, including fire, emergency services and garbage collection vehicles. Existing pervious roads are exempt until development commences which incorporates a segment of an existing pervious road.

## **8.6 Infrastructure Bonds**

In the event that the infrastructure otherwise required to be complete for the approval of a final subdivision plat (“Infrastructure”) has not been fully constructed by the Developer and approved by the City, the Developer shall have the right to post sufficient financial guaranties to insure completion of the Infrastructure within a stated period of time. The Developer shall supply all information required by City policy and soil analysis to sufficient level to evaluate mucking and filling requirements of construction. The Developer may post a cashier's check, letter of credit, performance bond or acceptable surety in an amount equal to 150% of the estimated cost of completion if under \$1 million dollars or equal to 125% of the estimated cost of completion if in excess of \$1 million dollars. The form and sufficiency of such financial guaranties shall be subject to the City's approval and review. Upon the posting of such financial guaranties with the City, the City shall approve and issue a final subdivision plat of the property to be improved. The Developer may sell lots by a recorded final plat.

The City agrees to issue building permits for lots after the recordation of the final plat. However, the City shall have no obligation to issue a certificate of occupancy for any non-residential lot until the curbing, guttering and base course road bed (the "Base Road Bed") has been constructed by the Developer and approved by the City and the City shall have no obligation to issue a certificate of occupancy for any residential lot until the curbing, guttering, base course road bed and final wearing surface (the "Surfaced Road Bed") has been constructed by the Developer and approved by the City. The final plat shall contain a notation which delineates the applicable restrictions on the issuance of certificates of occupancy and the City acceptance of the completed Surfaced Road Bed or the Base Road Bed. After the City has approved the construction for the Base Road Bed, there shall be no further restriction on the issuance of certificates of occupancy for non-residential lots sold pursuant to the final plat because of the condition of the Infrastructure construction. After the City has approved the construction for the Surfaced Road Bed, there shall be no further restriction on the issuance of certificates of occupancy for residential lots sold pursuant to the final plat because of the condition of the Infrastructure construction.

The City's policy shall provide that such financial guaranties may be segregated by the Developer into the phases of the Infrastructure construction, with corresponding release rights for such guaranties.

## EXHIBIT 9

Property owned by Tract 7, LLC  
(1,573.5 total acres)

ALL that certain piece, parcel or tract of land, situate, lying and being in Berkeley County, South Carolina, containing 1323.5 acres, more or less, of highland and 250 acres, more or less, of marshland, as is more particularly shown on a plat entitled "PLAT OF 1,323.5 ACRES ONWED BY THE ESTATE OF HARRY F. GUGGENHEIM ABOUT TO BE CONVEYED TO PETER O. LAWSON-JOHNSTON" dated April 9, 1982 by C.D.S. Land Surveying and Forestry, J. Hugh Campbell, Jr., R.L.S. and recorded on April 13, 1982 in Cabinet D, Page 375, in the Berkeley County R.M.C. Office.

According to the said plat, the said property is bounded generally on the north by the center line of Flagg Creek and by property of Amoco; on the east generally by S.C. Highway 8-98, property of St. Thomas Church, and property of Cain Hoy Plantation; on the south by other property of Cain Hoy Plantation, the center line of a woods road hereinafter referred to being the property line; and on the west by property belonging to Peter O. Lawson-Johnston and Morgan Guaranty Trust Company of New York, as Trustees of the Trust created by Paragraph (E) of Article FIRST of the Last Will and Testament of Harry F. Guggenheim, deceased, and by the waters of Slack Reach of the Cooper River, all as will more particularly appear by reference to said plat, the details of which, including bearings and distances, are as fully incorporated herein as if they were fully set out herein. This property is conveyed subject to an easement sixty feet in width thirty feet on either side of a roadway which runs in a general westerly direction from S.C. Road 8-98 from Station 1 on the said plat to Station 71 on the said plat. The said easement was created by a deed dated the 30th day of April, 1982 and recorded in the Office of the Clerk of Court for Berkeley County, South Carolina, in Book A-469, Page 143, and is for purposes of ingress and egress and for the installation and maintenance of public utilities and runs with the land and is for the benefit of the tract of land herein conveyed and for the remaining portion of Cain Hoy Plantation lying generally south of the said road which belongs to Peter O. Lawson-Johnston and Morgan Guaranty Trust Company of New York, as Trustees of the charitable remainder unitrust created by Article NINTH of the Last Will and Testament of Harry F. Guggenheim, and for the benefit of the tract of land lying immediately to the west of Station 71 belonging to Peter O. Lawson-Johnston and Morgan Guaranty Trust Company of New York, as Trustees of the Trust created by Paragraph (E) of Article FIRST of the Last Will and Testament of Harry F. Guggenheim, deceased.

TMS No. 262-00-00-009

BP COOPER RIVER PLANT

FRANCIS MARION NATIONAL FOREST

RESIDENTIAL

MIXED-USE

T1

T2

Cainhoj Rd.

Clements Ferry Rd.

CHARLESTON REGIONAL BUSINESS CENTER

BERESFORD HALL

RIVERTOWNE

Nonesuch Creek

Wando River

DANIEL ISLAND

**DENSITY SUMMARY**  
 RESIDENTIAL DENSITY: 3,304 DWELLING UNITS

**OPEN SPACE SUMMARY**

- MINIMUM GENERAL OPEN SPACE SHALL BE 20% OF GROSS LOT ACREAGE.
- USEABLE OPEN SPACE SHALL BE 25% OF GENERAL OPEN SPACE

**DEVELOPMENT SUMMARY**

POD	OWNER	ZONING	GROSS ACREAGE
T1	TRACT 7, LLC	RESIDENTIAL	±1,404 AC.
T2	TRACT 7, LLC	MIXED USE	±169 AC.
<b>TOTAL</b>			<b>±1,573 AC.</b>

**NOTES:**  
 1. Acreages shown above are approximate and are based on best available data to date.  
 2. Wetlands shown on this plan provided by Sabine & Waters

**MAP KEY**

**LAND USE**

- RESIDENTIAL [Yellow Box]
- MIXED USE [Light Green Box]

**LAND USE TRANSITION ZONES**

- 500' TRANSITION ZONE [Cross-hatched Box]

**ENVIRONMENTAL**

- WETLAND [Green Box]
- MARSH [Light Green Box]
- WATER [Blue Box]

**BOUNDARY LINES**

- INTERNAL PROPERTY LINE [Dashed Line]
- OVERALL BOUNDARY LINE [Thick Dashed Line]

**ROADS**

- EXISTING [Thin Grey Line]
- PROPOSED [Thick Red Line]

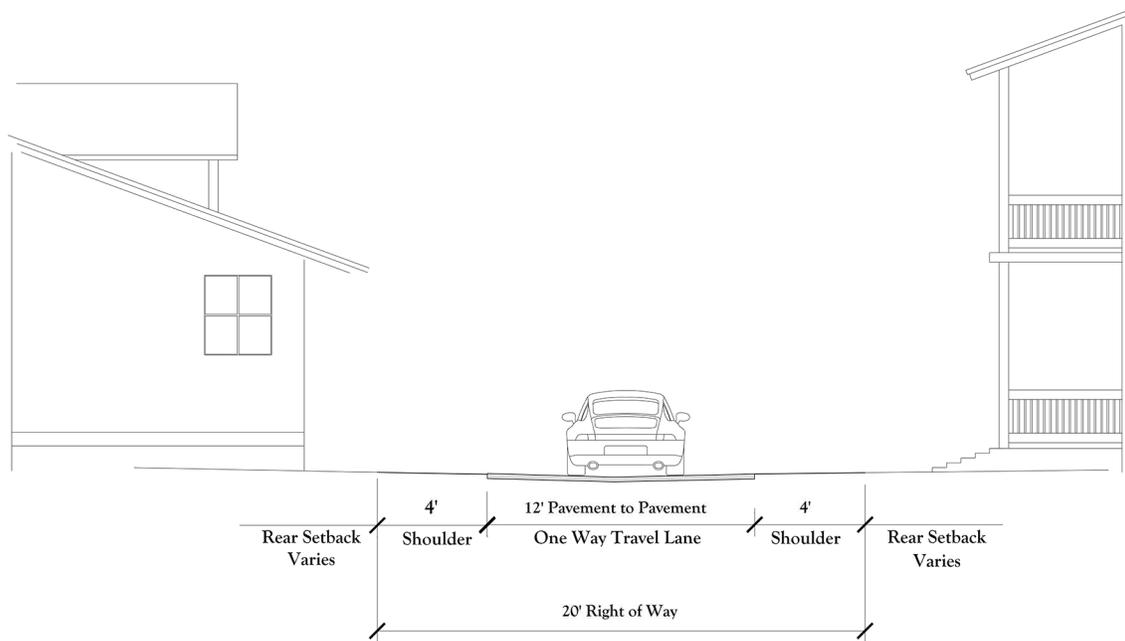
Prepared for:  
Tract 7, LLC.

MAP OF ZONES  
CAINHOJ - T7 PUD

Berkeley County, South Carolina  
JANUARY 24, 2014

1,000 0 500 1,000 2,000 4,000  
SCALE: 1" = 1,000' (8.5" x 11": 1" = 4,000')

THOMAS & HUTTON  
Engineering | Surveying | Planning | GIS | Consulting



**REAR LANE-20-12**

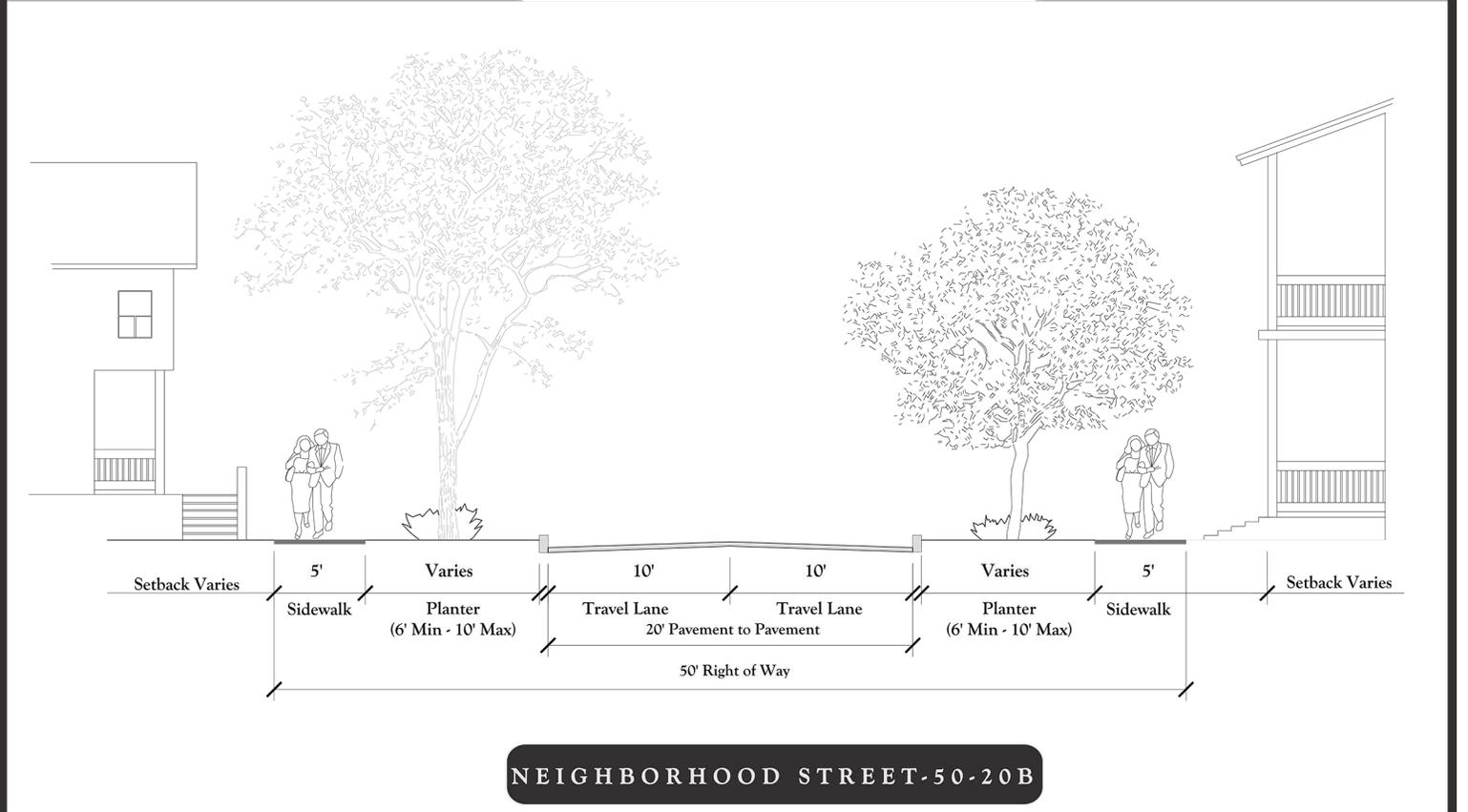
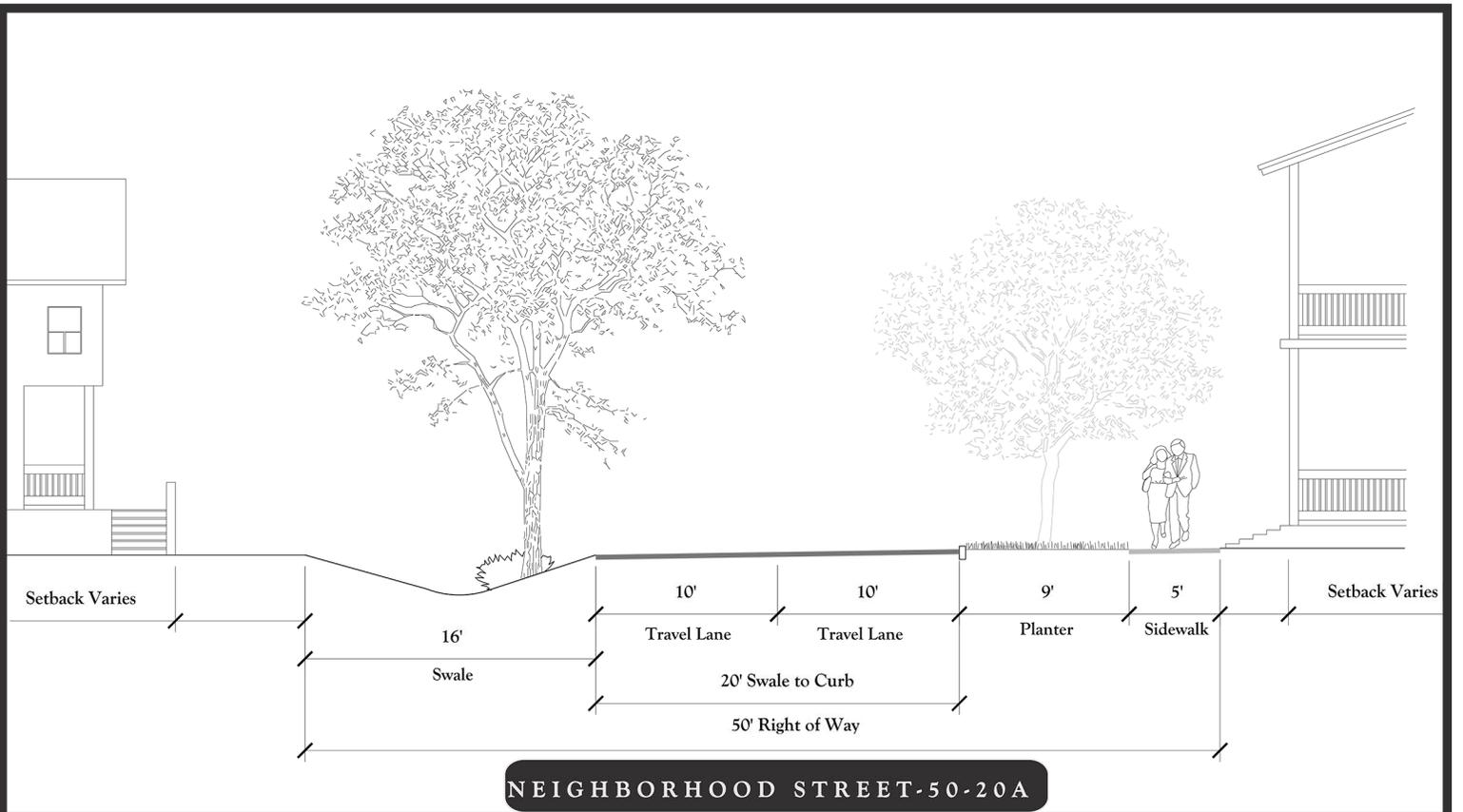
Prepared for:  
Tract 7, LLC.

**ROAD / STREET SECTIONS**

**CAINHOY - T7 PUD**

Berkeley County, South Carolina  
January 24, 2014

**THOMAS & HUTTON**  
Engineering | Surveying | Planning | GIS | Consulting



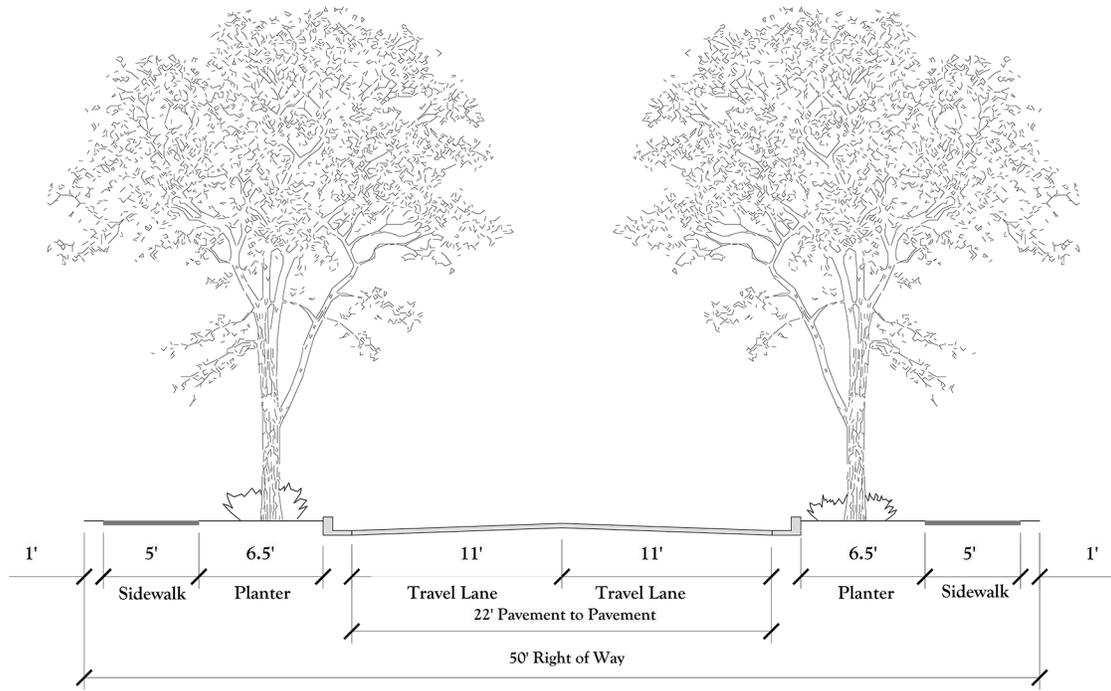
Prepared for:  
Tract 7, LLC.

**DRAWINGS OF STREET TYPES**

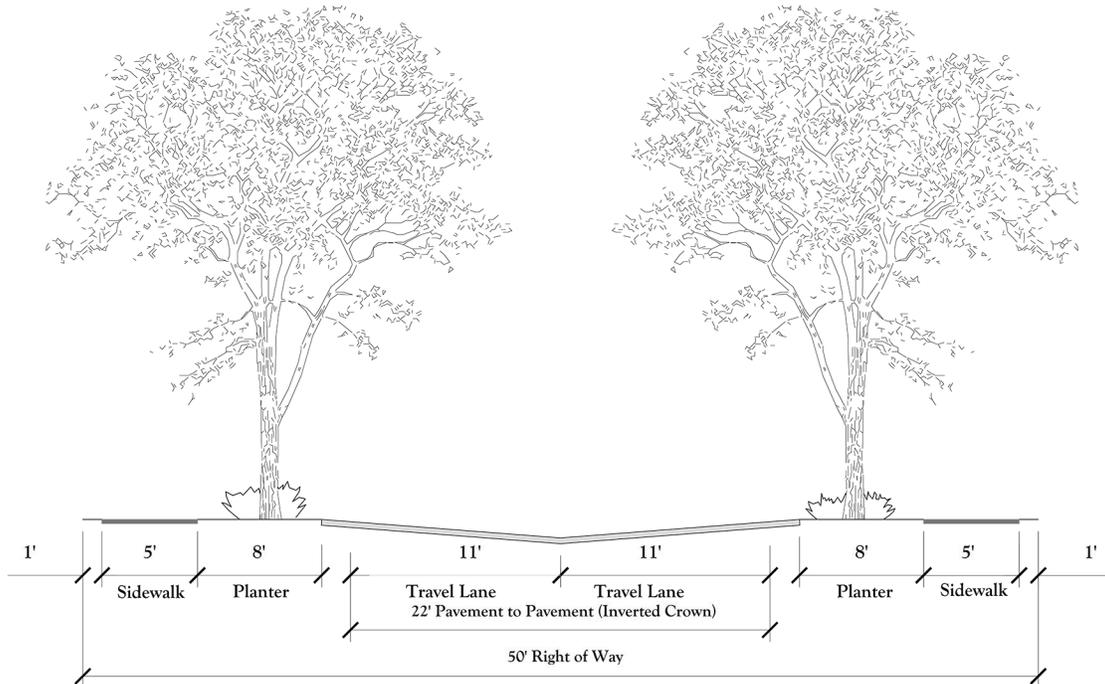
**CAINHOY - T7 PUD**

Berkeley County, South Carolina  
January 24, 2014

**THOMAS & HUTTON**  
Engineering | Surveying | Planning | GIS | Consulting



NEIGHBORHOOD STREET-50-22A



NEIGHBORHOOD STREET-50-22B

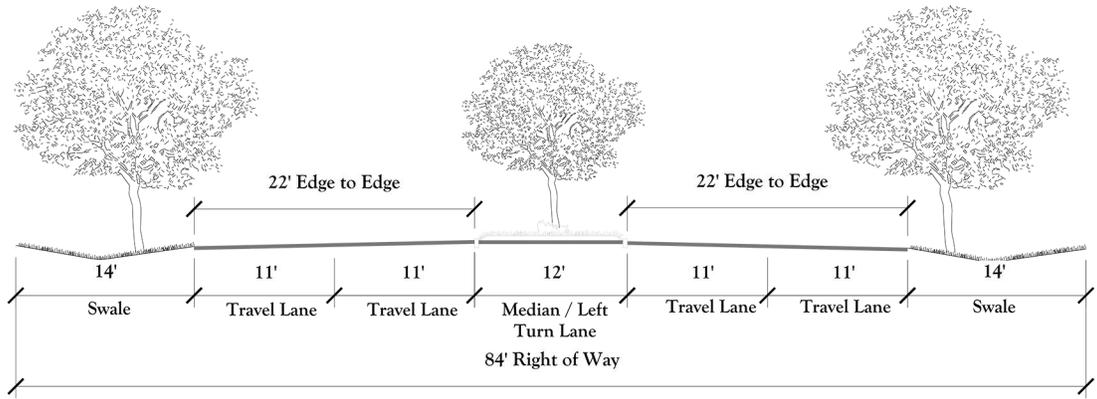
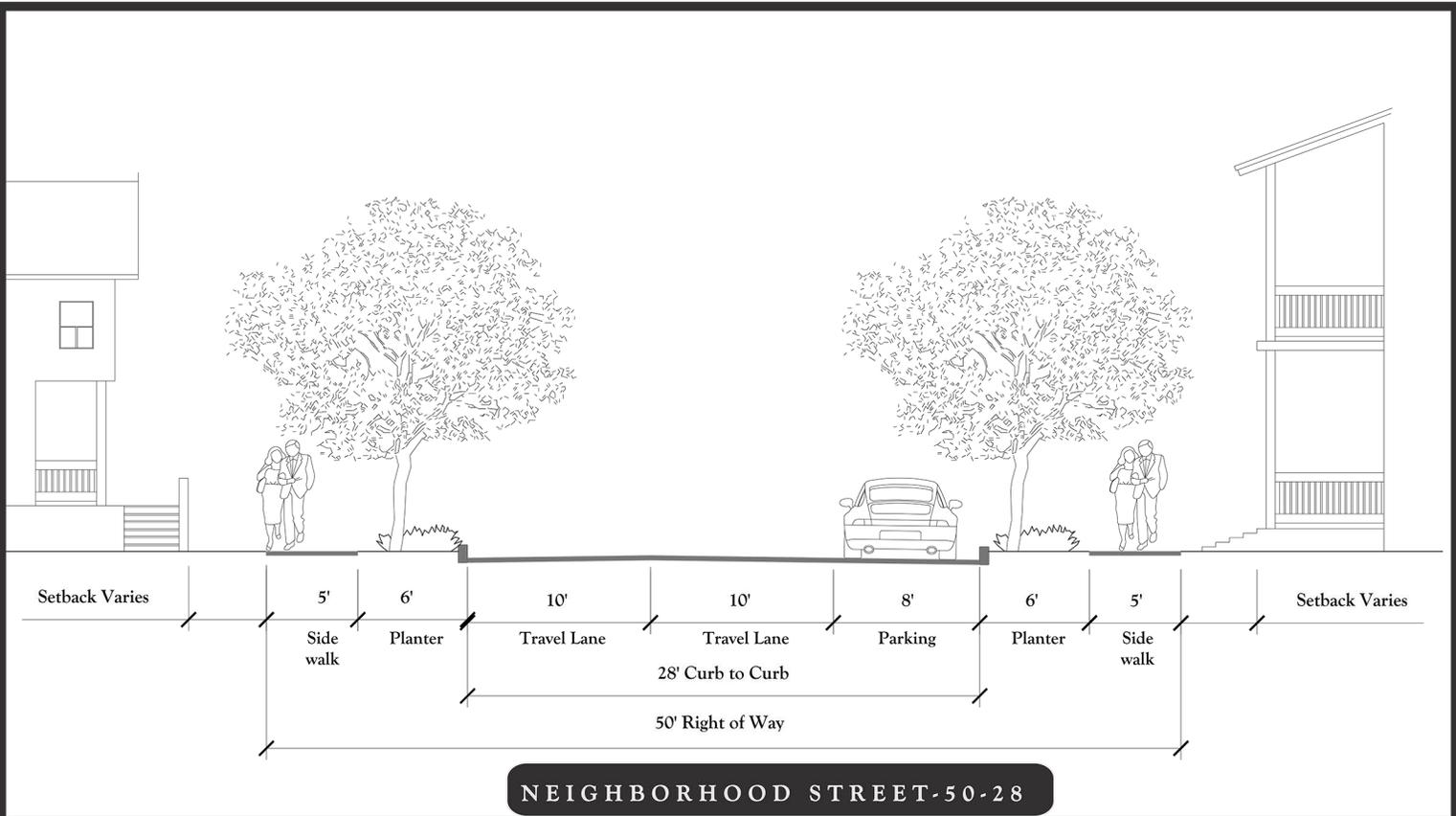
Prepared for:  
Tract 7, LLC.

**DRAWINGS OF STREET TYPES**

**CAINHOY - T7 PUD**

Berkeley County, South Carolina  
January 24, 2014

**THOMAS & HUTTON**  
Engineering | Surveying | Planning | GIS | Consulting



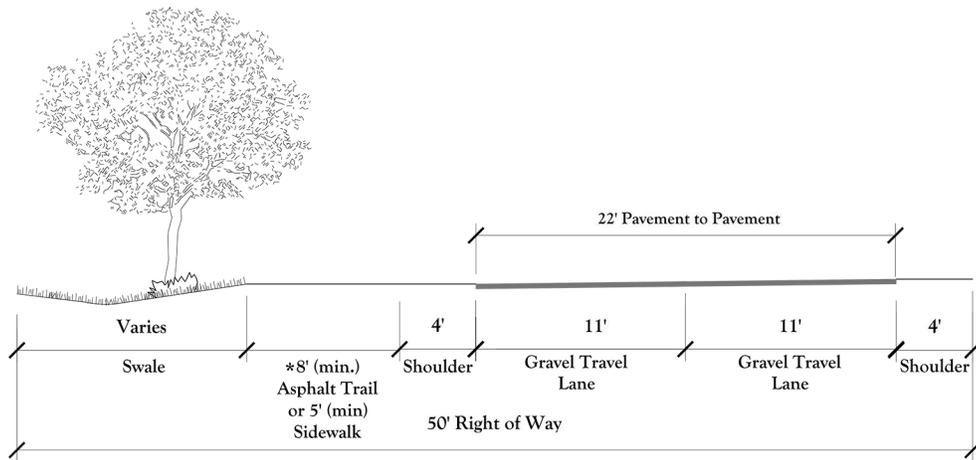
Prepared for:  
Tract 7, LLC.

**DRAWINGS OF STREET TYPES**

**CAINHOY - T7 PUD**

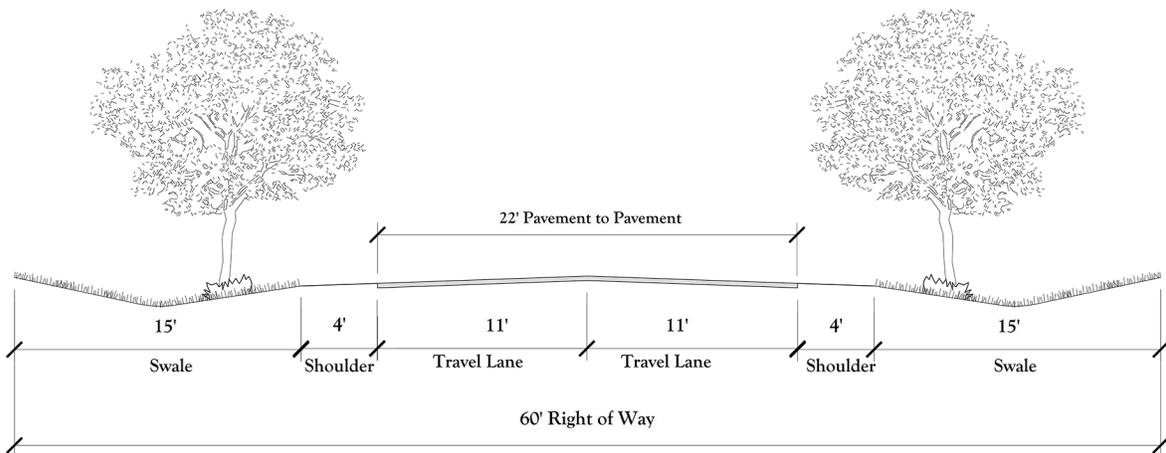
Berkeley County, South Carolina  
January 24, 2014

**THOMAS & HUTTON**  
Engineering | Surveying | Planning | GIS | Consulting



\*One Side of Road only

**RURAL ROAD-50-22-GV**



**RURAL ROAD-60-22**

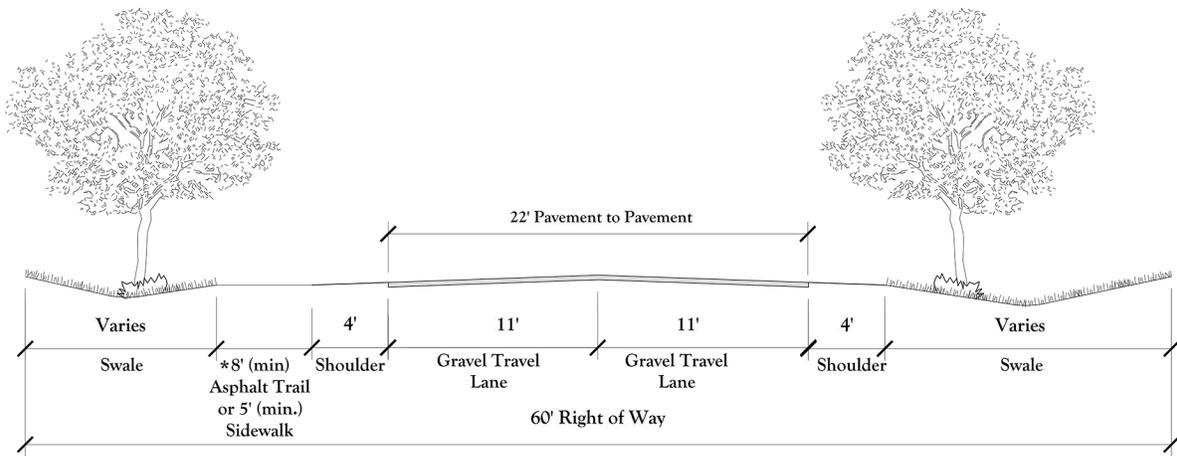
Prepared for:  
Tract 7, LLC.

**DRAWINGS OF STREET TYPES**

**CAINHOY - T7 PUD**

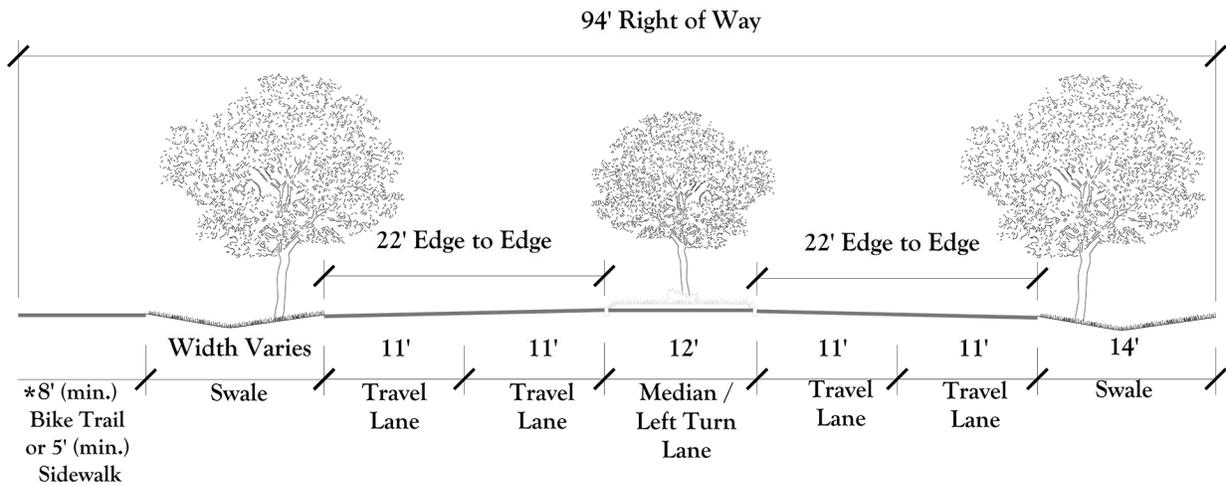
Berkeley County, South Carolina  
January 24, 2014

**THOMAS & HUTTON**  
Engineering | Surveying | Planning | GIS | Consulting



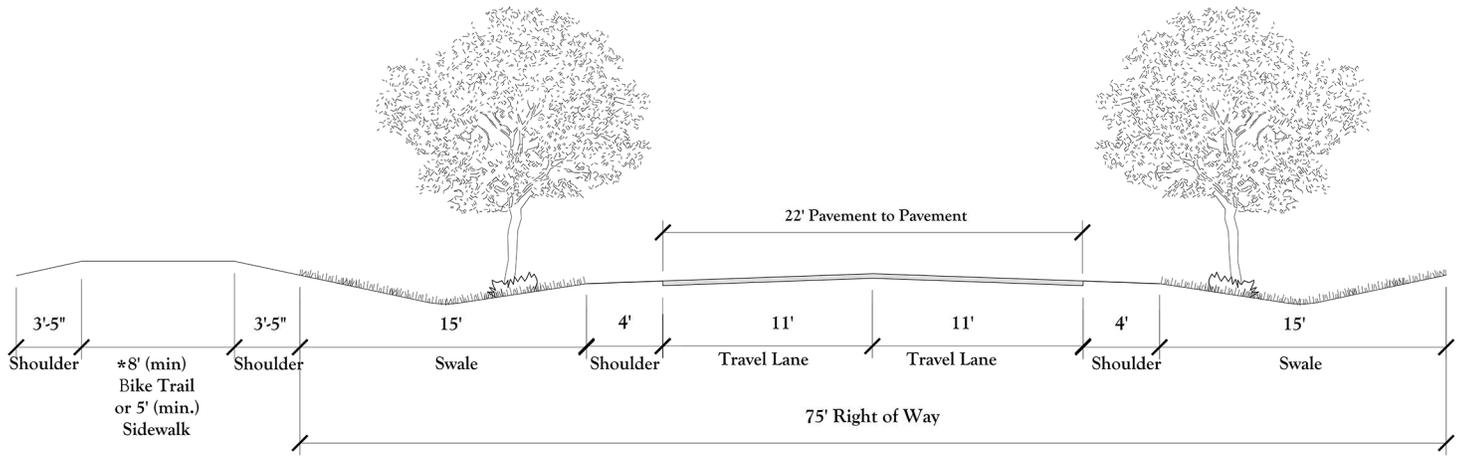
\*One Side of Road only

**RURAL ROAD-60-22-GV**



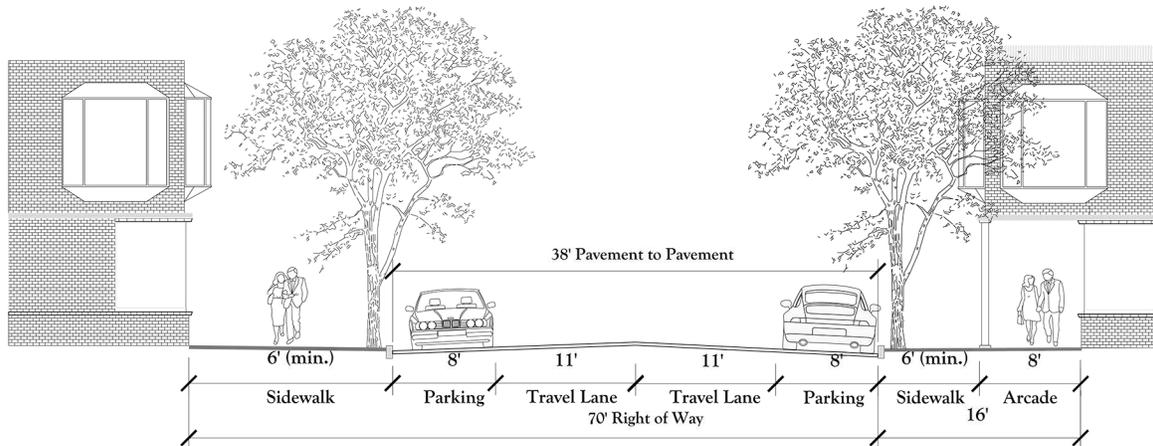
\*One Side of Road only

**PRIMARY ROAD-94-56-BT**



\* One Side of Road only

**PRIMARY ROAD-75-22**



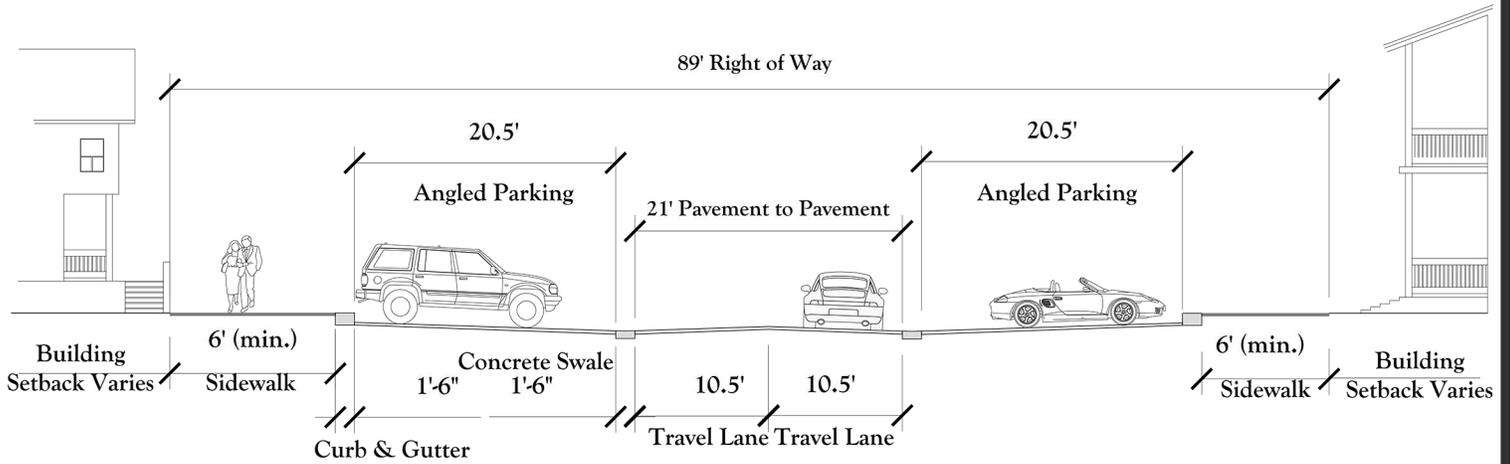
**COMMERCIAL STREET-70-38**

Prepared for:  
Tract 7, LLC.

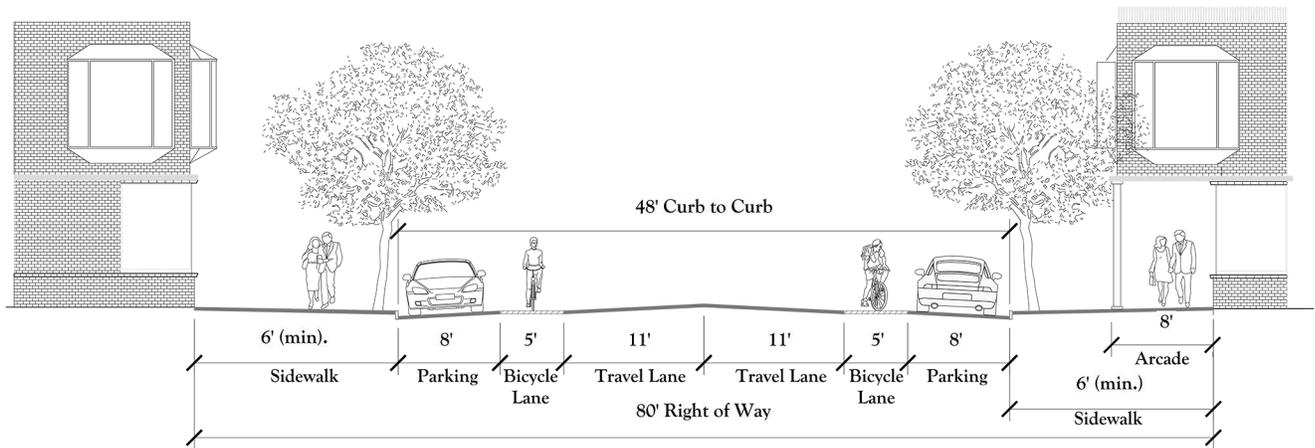
**DRAWINGS OF STREET TYPES**

**CAINHOY - T7 PUD**

Berkeley County, South Carolina  
January 24, 2014



COMMERCIAL STREET-89-62



COMMERCIAL STREET-80-48-BL

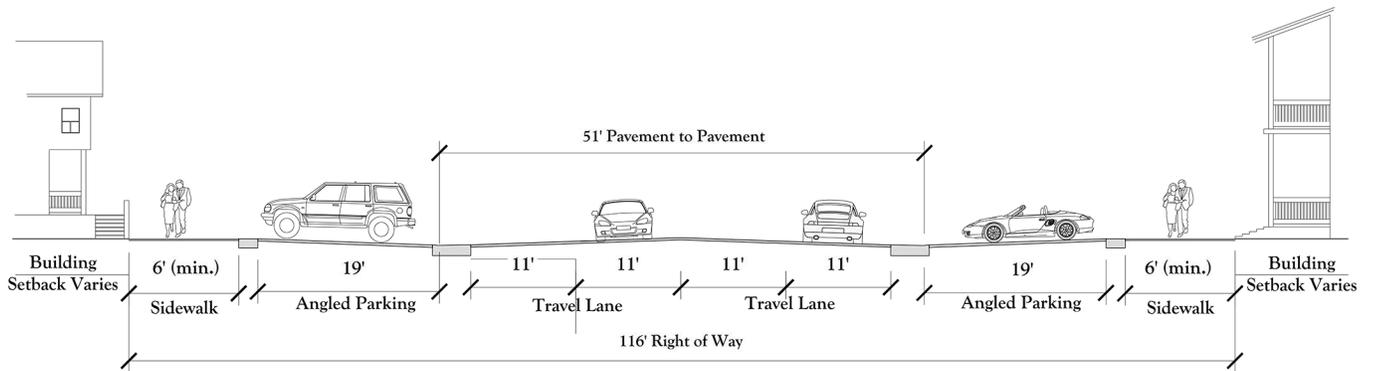
Prepared for:  
Tract 7, LLC.

DRAWINGS OF STREET TYPES

CAINHOY - T7 PUD

Berkeley County, South Carolina  
January 24, 2014

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**COMMERCIAL STREET-116-89**

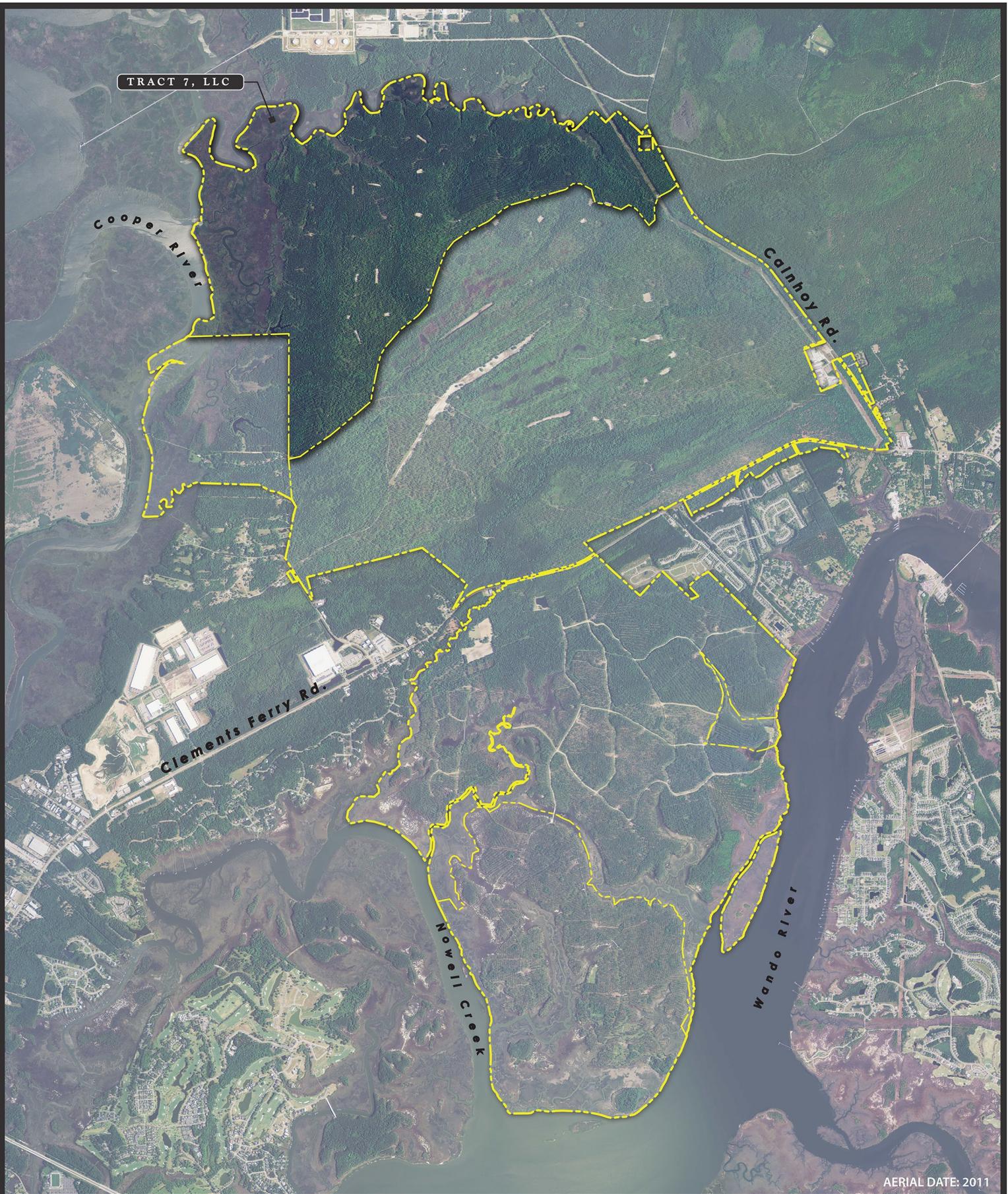
Prepared for:  
Tract 7, LLC.

**DRAWINGS OF STREET TYPES**

**CAINHOY - T7 PUD**

Berkeley County, South Carolina  
January 24, 2014





AERIAL DATE: 2011

Prepared for:  
Tract 7, LLC.

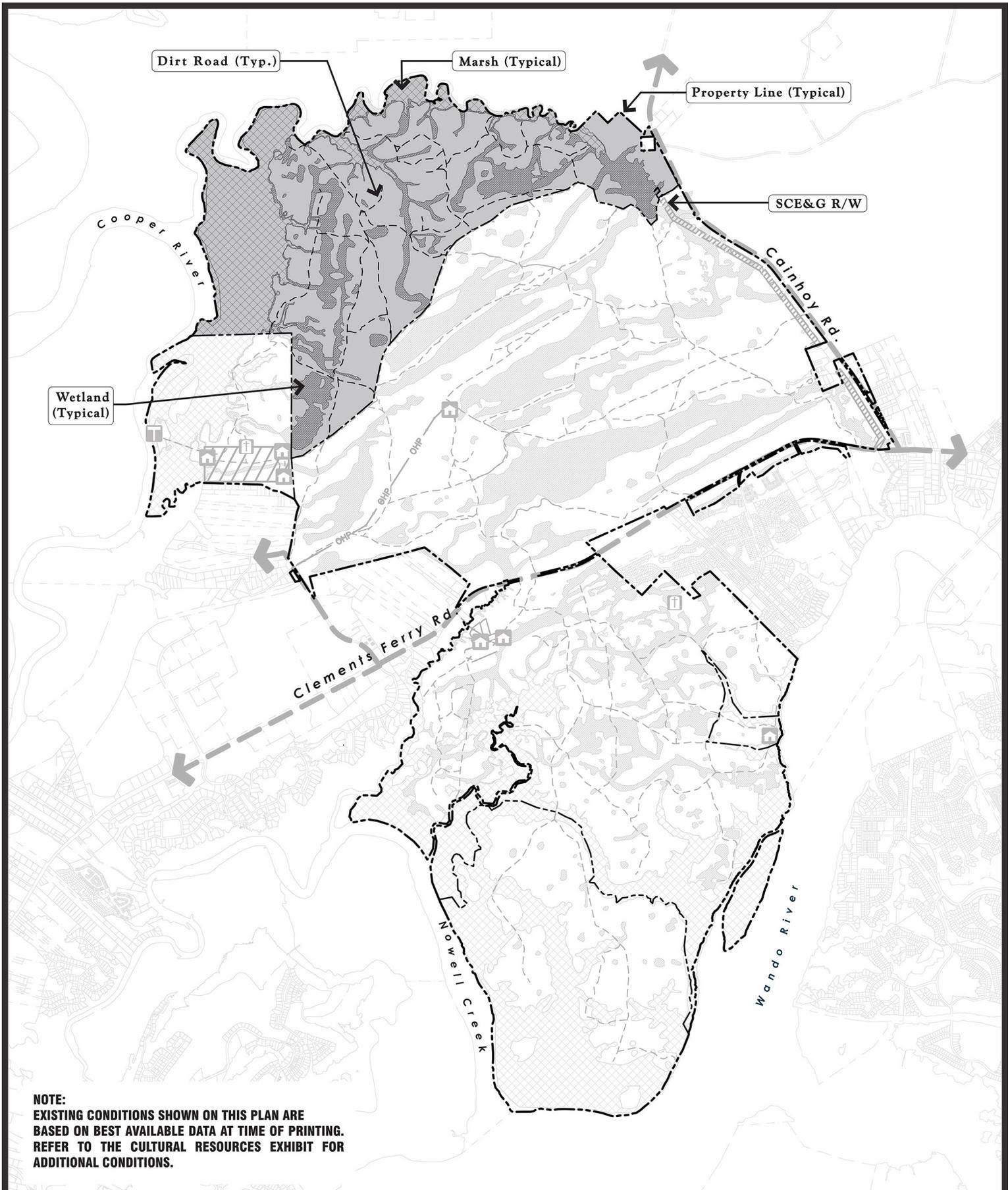
AERIAL

**CAINHOY - T7 PUD**

Berkeley County, South Carolina  
January 24, 2014



**THOMAS & HUTTON**  
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Wetland (Typical)

Dirt Road (Typ.)

Marsh (Typical)

Property Line (Typical)

SCE&G R/W

Cooper River

Cainhoi Rd.

Clements Ferry Rd

Nowell Creek

Wando River

**NOTE:**  
 EXISTING CONDITIONS SHOWN ON THIS PLAN ARE  
 BASED ON BEST AVAILABLE DATA AT TIME OF PRINTING.  
 REFER TO THE CULTURAL RESOURCES EXHIBIT FOR  
 ADDITIONAL CONDITIONS.

Prepared for:  
 Tract 7, LLC.

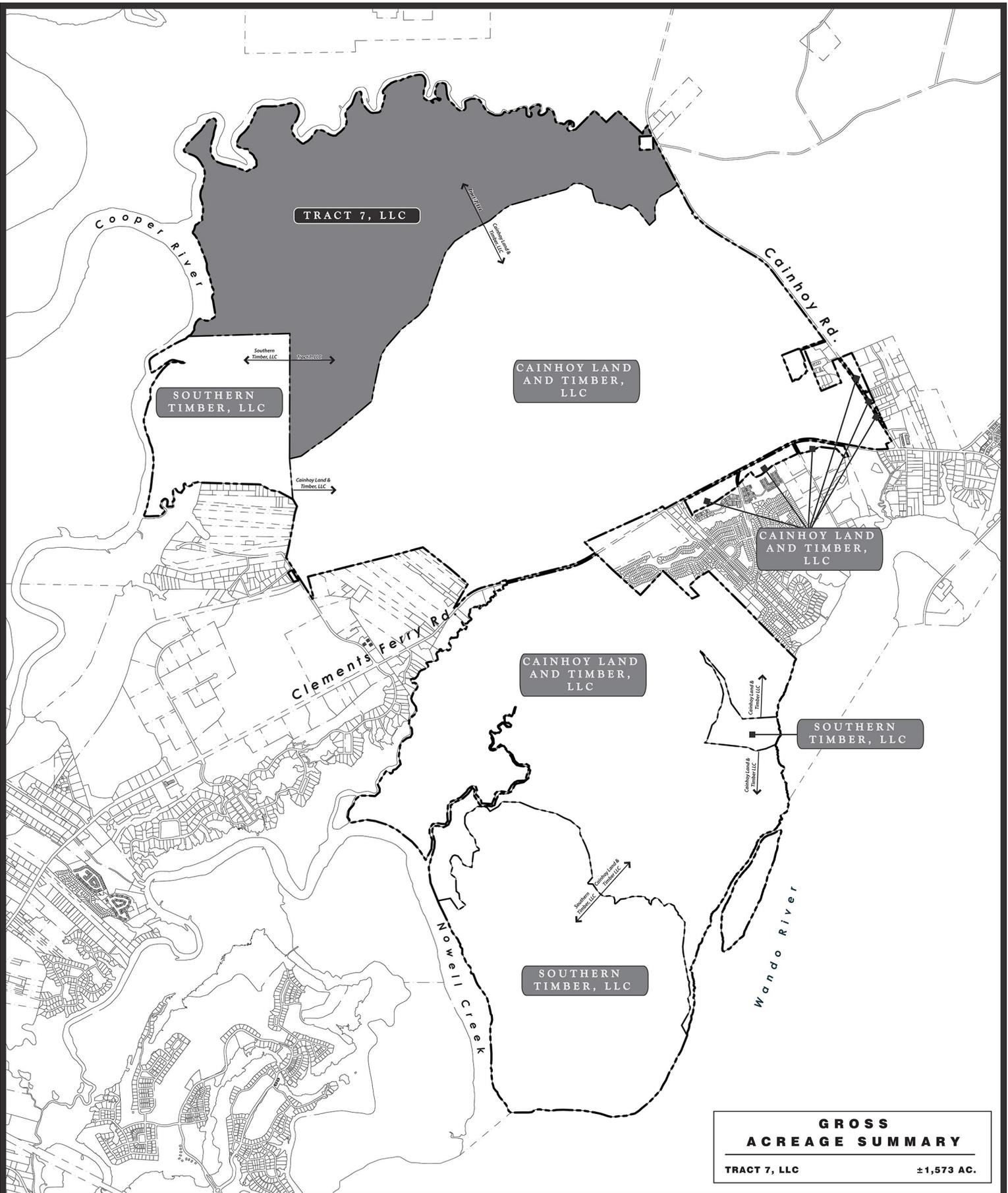
**EXISTING CONDITIONS**

**CAINHOI - T7 PUD**

Berkeley County, South Carolina  
 January 24, 2014



**THOMAS & HUTTON**  
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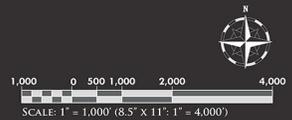
GROSS ACREAGE SUMMARY	
TRACT 7, LLC	±1,573 AC.

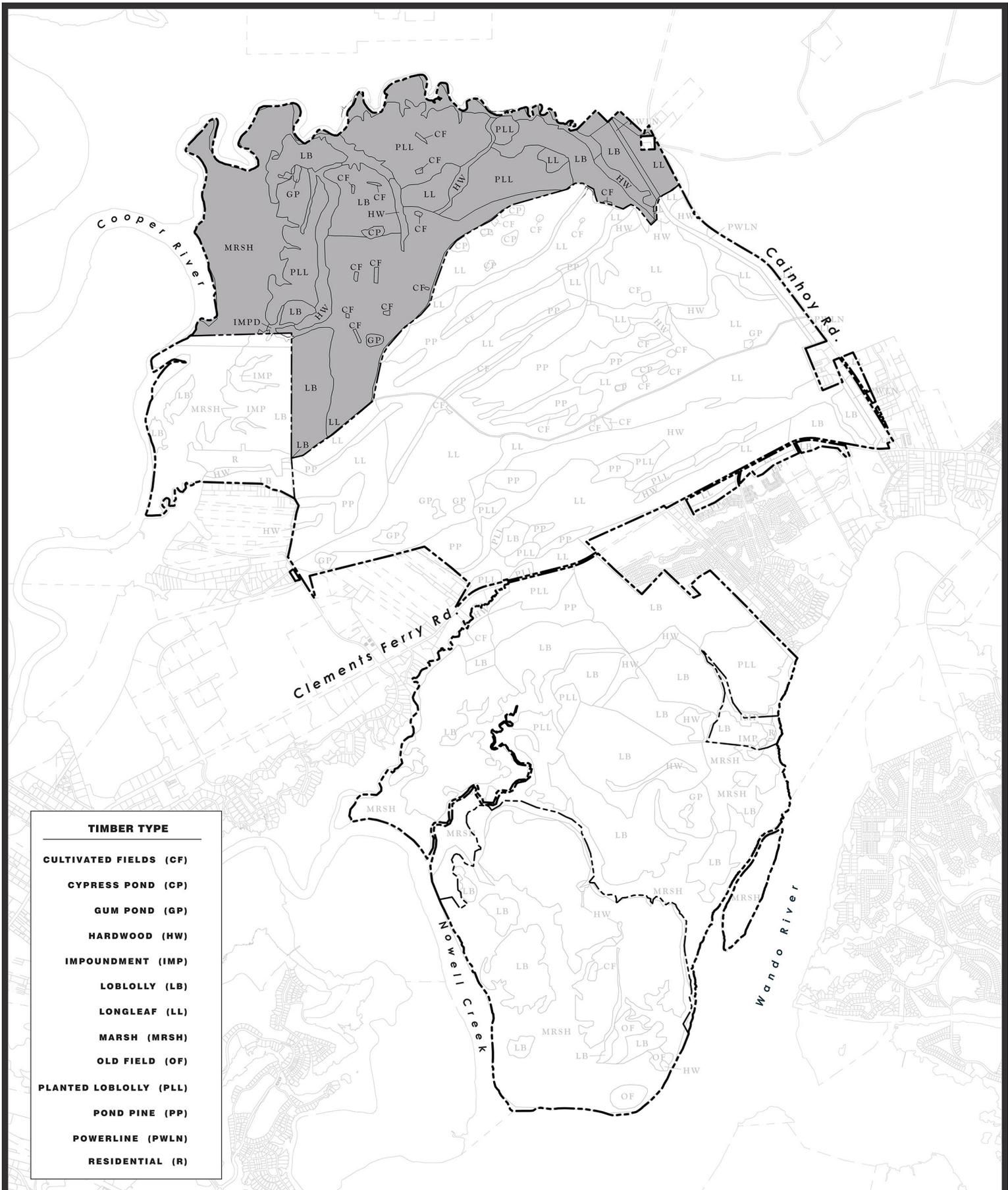
Prepared for:  
Tract 7, LLC.

**OWNERSHIP**

**CAINHOY - T7 PUD**

Berkeley County, South Carolina  
January 24, 2014





**TIMBER TYPE**

- CULTIVATED FIELDS (CF)**
- CYPRESS POND (CP)**
- GUM POND (GP)**
- HARDWOOD (HW)**
- IMPOUNDMENT (IMP)**
- LOBLOLLY (LB)**
- LONGLEAF (LL)**
- MARSH (MRSH)**
- OLD FIELD (OF)**
- PLANTED LOBLOLLY (PLL)**
- POND PINE (PP)**
- POWERLINE (PWLN)**
- RESIDENTIAL (R)**

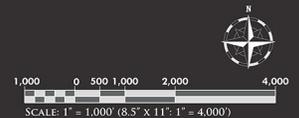
**TIMBER TYPES**

**CAINHOY - T7 PUD**

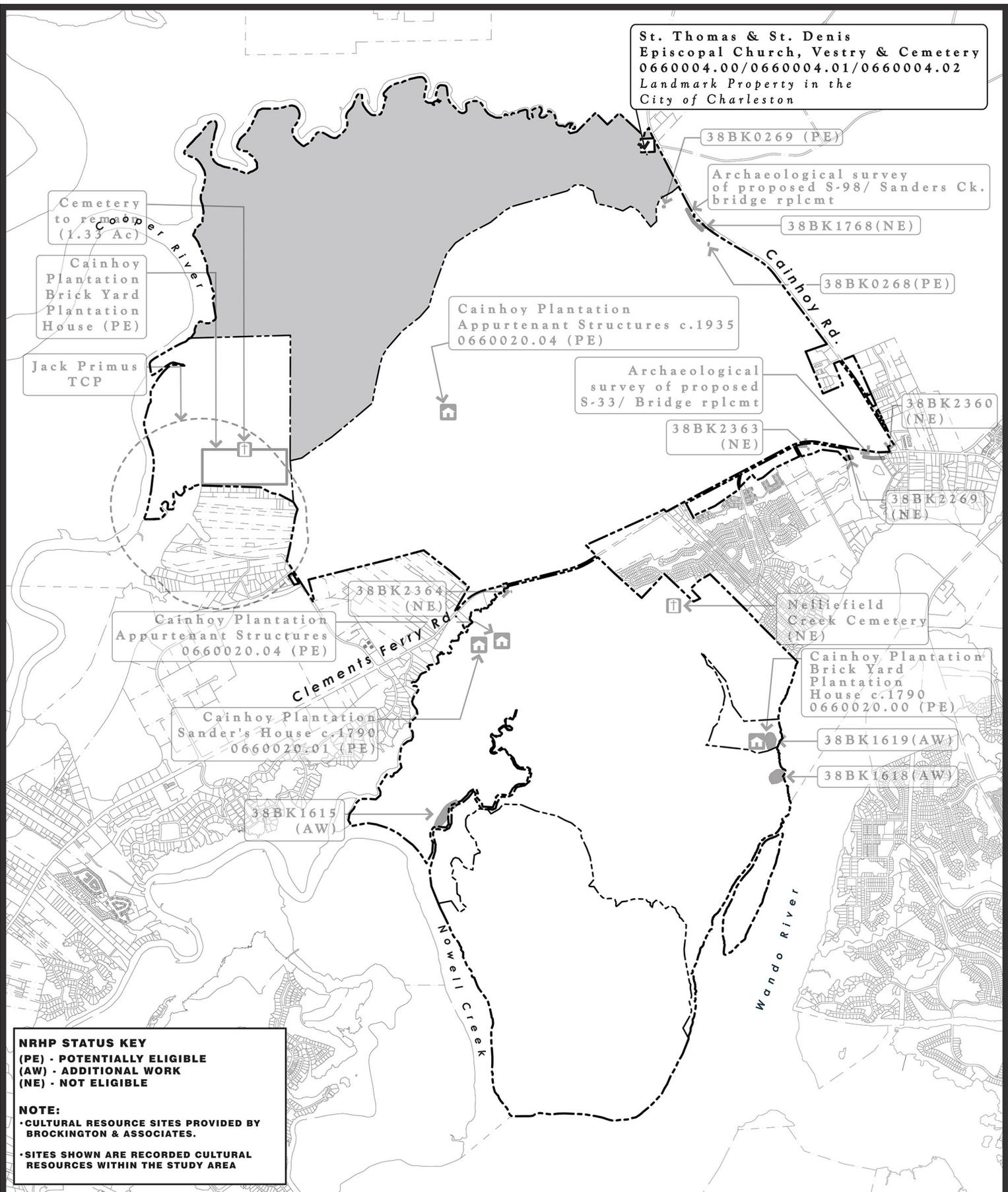
Berkeley County, South Carolina  
January 24, 2014

Prepared for:  
Tract 7, LLC.

**EXHIBIT 15**



**THOMAS & HUTTON**  
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St. Thomas & St. Denis  
Episcopal Church, Vestry & Cemetery  
0660004.00/0660004.01/0660004.02  
Landmark Property in the  
City of Charleston

Cemetery  
to be removed  
(1.33 Ac)

Cainho  
Plantation  
Brick Yard  
Plantation  
House (PE)

Jack Primus  
TCP

Cainho Plantation  
Appurtenant Structures c.1935  
0660020.04 (PE)

Archaeological  
survey of proposed  
S-33/ Bridge rplcmt

38BK2363  
(NE)

38BK2360  
(NE)

38BK2269  
(NE)

Cainho Plantation  
Appurtenant Structures  
0660020.04 (PE)

38BK2364  
(NE)

Cainho Plantation  
Sander's House c.1790  
0660020.01 (PE)

Netfield  
Creek Cemetery  
(NE)

Cainho Plantation  
Brick Yard  
Plantation  
House c.1790  
0660020.00 (PE)

38BK1619(AW)

38BK1618(AW)

38BK1615  
(AW)

**NRHP STATUS KEY**  
(PE) - POTENTIALLY ELIGIBLE  
(AW) - ADDITIONAL WORK  
(NE) - NOT ELIGIBLE

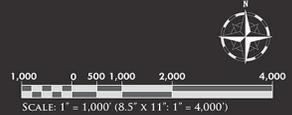
**NOTE:**  
• CULTURAL RESOURCE SITES PROVIDED BY  
BROCKINGTON & ASSOCIATES.  
• SITES SHOWN ARE RECORDED CULTURAL  
RESOURCES WITHIN THE STUDY AREA

Prepared for:  
Tract 7, LLC.

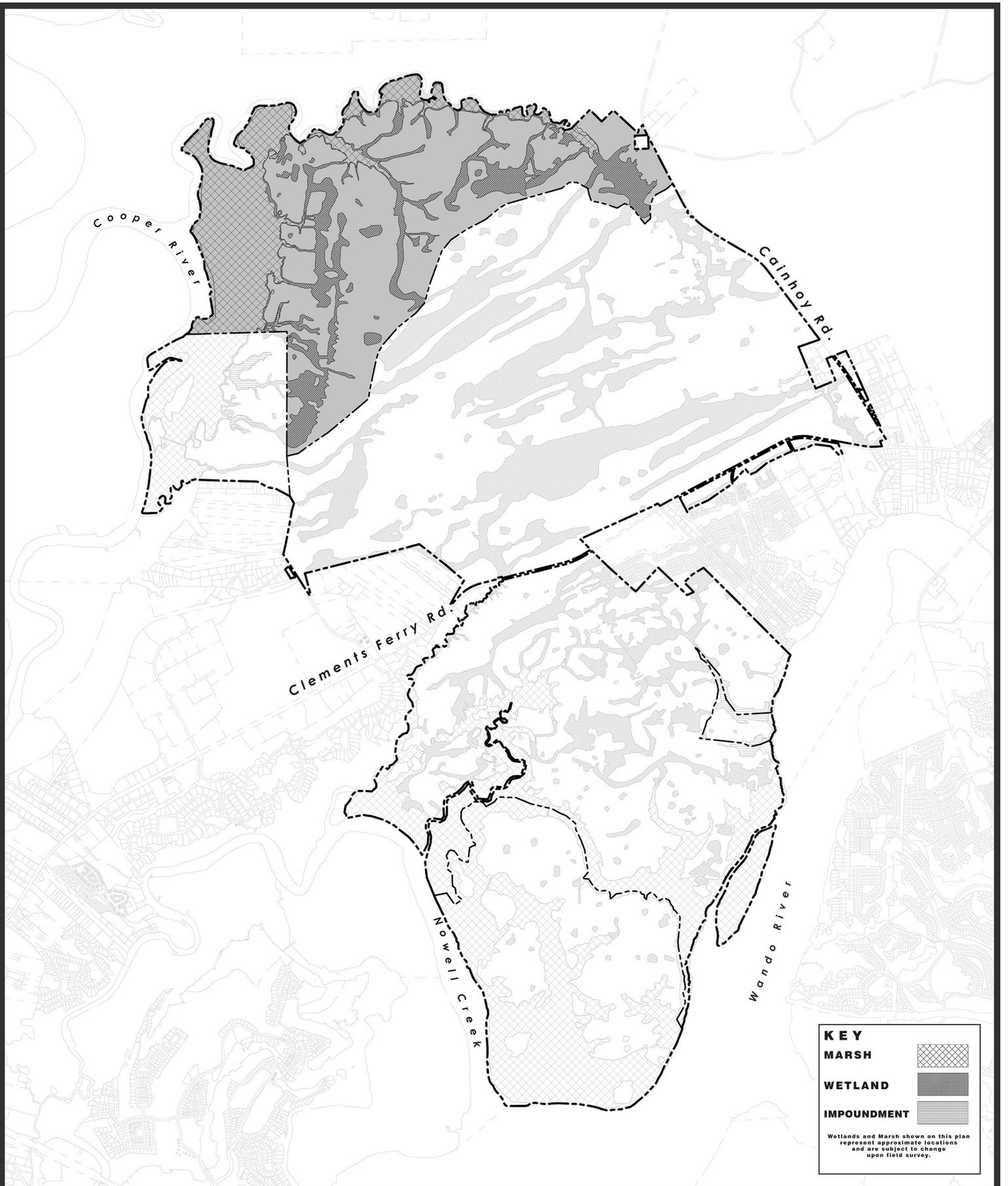
**CULTURAL RESOURCES**

**CAINHOY - T7 PUD**

Berkeley County, South Carolina  
January 24, 2014



**THOMAS & HUTTON**  
Engineering | Surveying | Planning | GIS | Consulting



**KEY**

**MARSH** 

**WETLAND** 

**IMPOUNDMENT** 

Wetlands and Marsh shown on this plan represent approximate locations and are subject to change upon field survey.

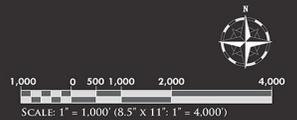
Prepared for:  
Tract 7, LLC.

**WETLANDS**

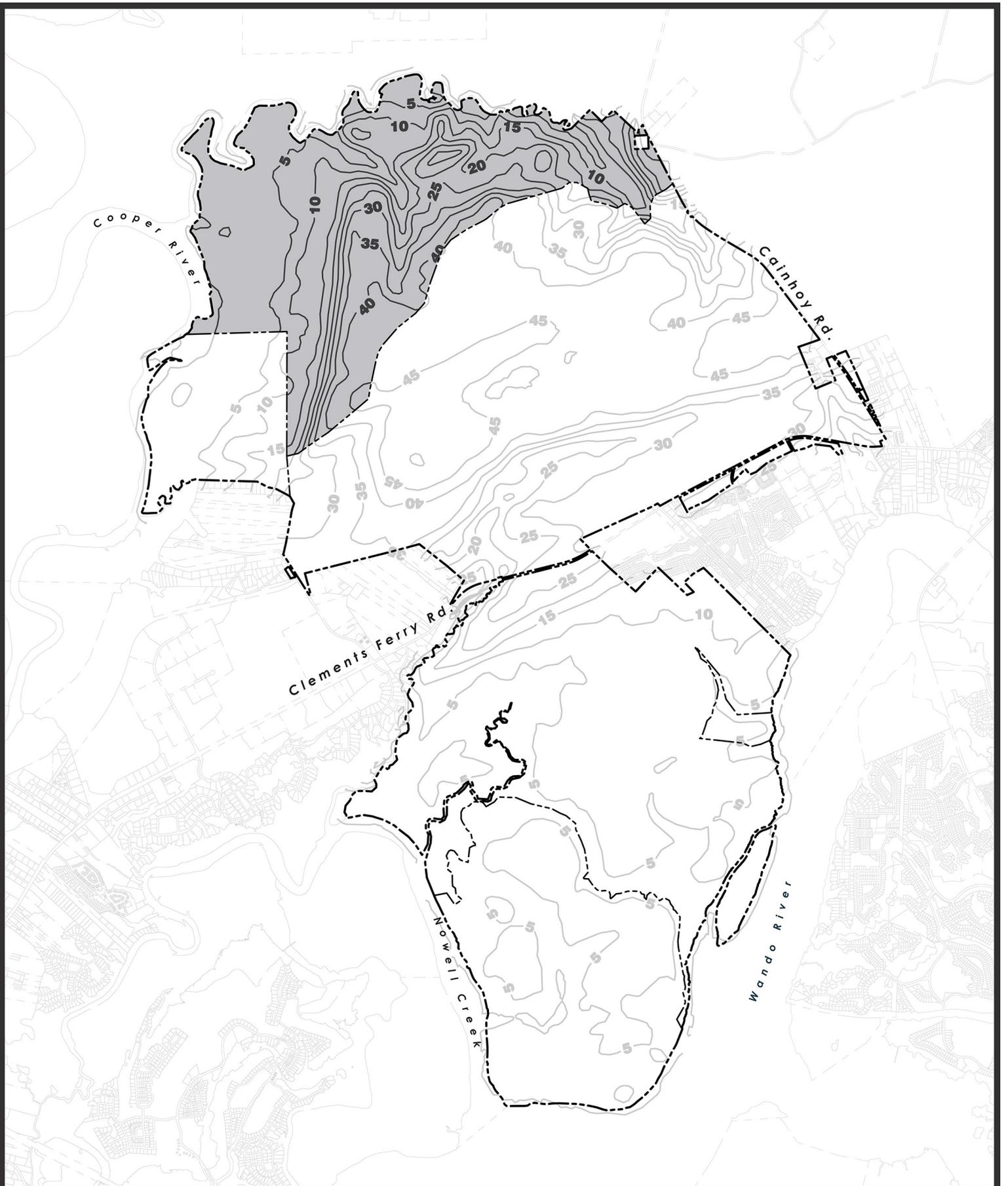
**CAINHOY - T7 PUD**

Berkeley County, South Carolina  
January 24, 2014

**EXHIBIT 17**



**THOMAS & HUTTON**  
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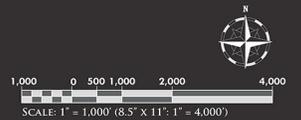


Prepared for:  
Tract 7, LLC.

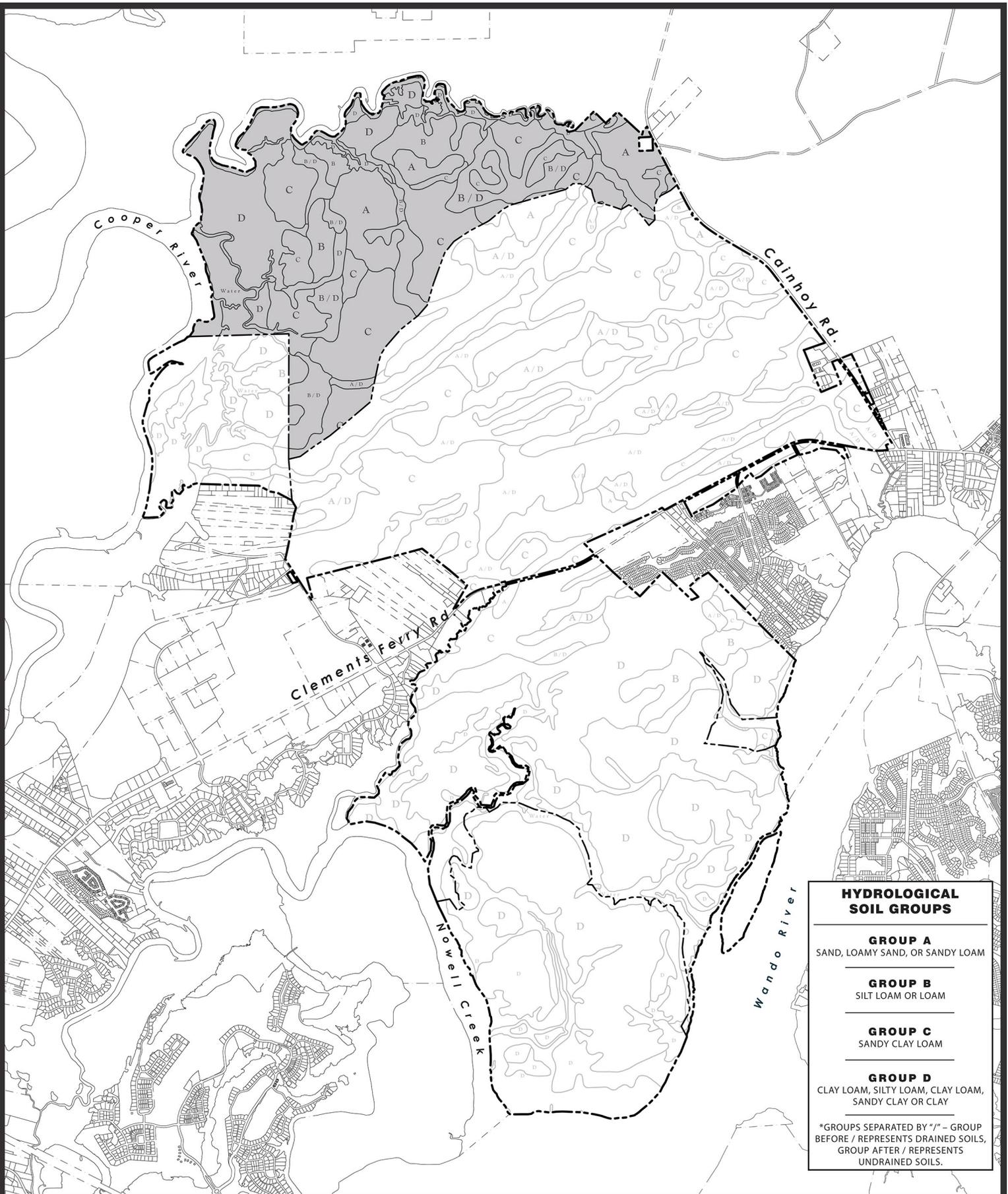
**TOPOGRAPHY**

**CAINHOY - T7 PUD**

Berkeley County, South Carolina  
January 24, 2014



**THOMAS & HUTTON**  
Engineering | Surveying | Planning | GIS | Consulting



**HYDROLOGICAL SOIL GROUPS**

**GROUP A**  
SAND, LOAMY SAND, OR SANDY LOAM

**GROUP B**  
SILT LOAM OR LOAM

**GROUP C**  
SANDY CLAY LOAM

**GROUP D**  
CLAY LOAM, SILTY LOAM, CLAY LOAM, SANDY CLAY OR CLAY

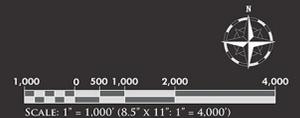
\*GROUPS SEPARATED BY "/" - GROUP BEFORE / REPRESENTS DRAINED SOILS, GROUP AFTER / REPRESENTS UNDRAINED SOILS.

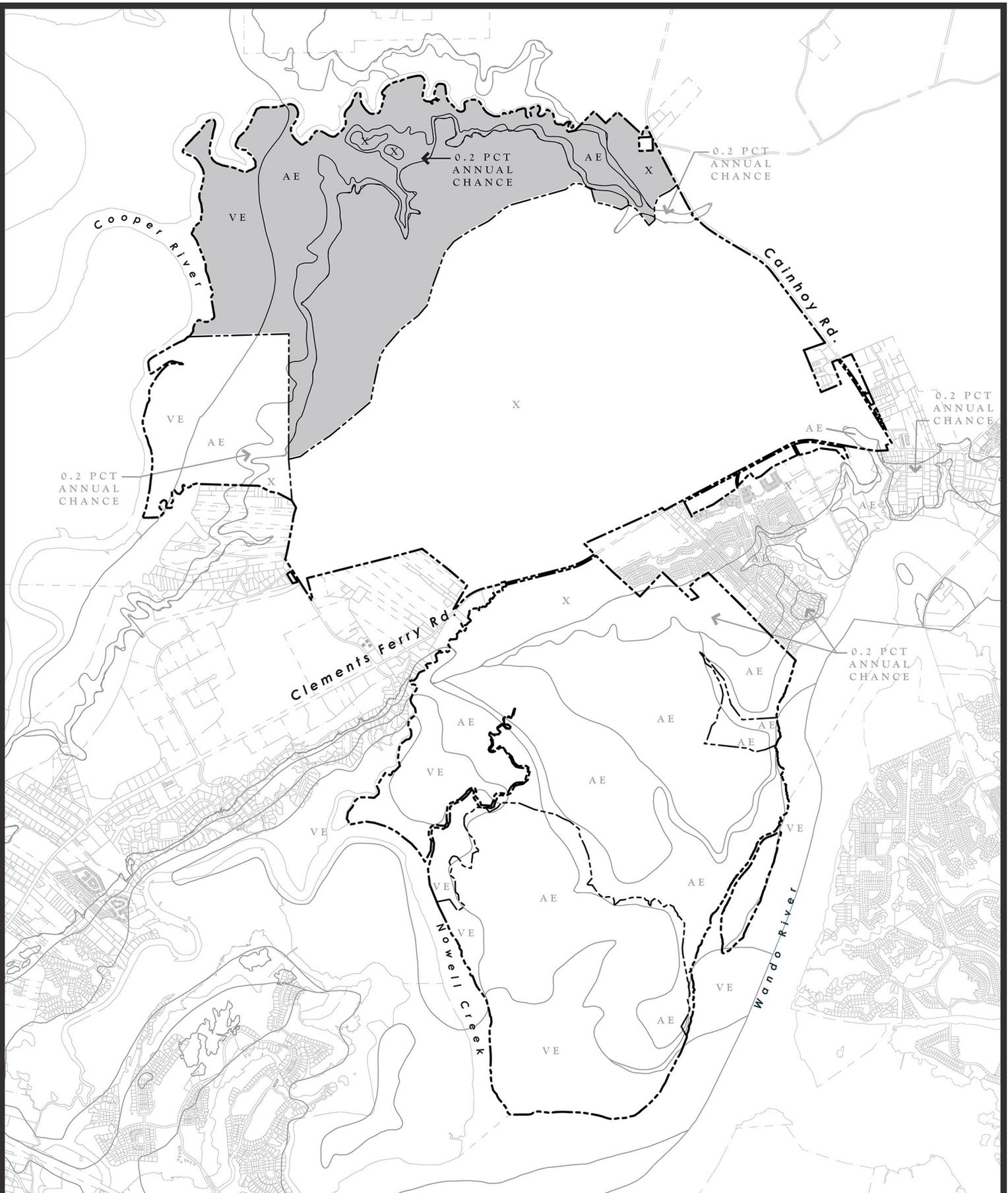
Prepared for:  
Tract 7, LLC.

**SOILS**

**CAINHOY - T7 PUD**

Berkeley County, South Carolina  
January 24, 2014





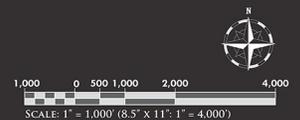
Prepared for:  
Tract 7, LLC.

**FLOOD ZONES**

**CAINHOI - T7 PUD**

Berkeley County, South Carolina  
January 24, 2014

**EXHIBIT 20**



**THOMAS & HUTTON**  
Engineering | Surveying | Planning | GIS | Consulting

# Preliminary Traffic Report

## Introduction

The Cainhoy PUD Master Plan area consists of over 9,000 acres in Berkeley County and the City of Charleston. As part of the master plan, new roadway connections to Clements Ferry Road, Cainhoy Road, and Jack Primus Road are envisioned. Multiple internal roadways are planned to aid in the dispersion of area traffic.

## Existing Conditions

Clements Ferry Road is currently a three lane section with a two-way left turn lane (TWLTL) from near Marina Drive to Jack Primus Road. North of Jack Primus Road, Clements Ferry Road tapers to a two lane cross section. There are signals located at the I-526 westbound ramps, Charleston Regional Parkway, Jack Primus Road, and at Cainhoy Road.

There are several SCDOT count stations on Clements Ferry Road. Count stations are also located on other surrounding roadways such as I-526 and SC 41.

Over the past 5 years, volumes on the southern portion of Clement Ferry Road have risen significantly. Volumes at other surrounding count stations have shown relatively little change. Count station data provided by SCDOT is shown in Table 1.

Table 1 – SCDOT Count station data

Count station	County	Location	2008 ADT	2009 ADT	2010 ADT	2011 ADT	2012 ADT
270	Berkeley	Clements Ferry Road Jack Primus to St Thomas Island	20,500	20,300	27,400	28,600	28,500
269	Berkeley	Clements Ferry Road SC 41 to Jack Primus	15,400	15,300	15,200	14,800	14,800
272	Berkeley	Clements Ferry Road SC 41 to Reflectance	n/a	n/a	n/a	n/a	8,800
2517	Berkeley	I-526 Virginia Ave to Clements Ferry	60,300	59,000	61,300	62,400	64,400
2518	Berkeley	I-526 Clements Ferry to Seven Farms	48,900	48,200	50,400	52,600	51,600
198	Charleston	SC 41 Joe Rouse Road to County Line	13,300	13,300	11,600	11,800	12,100

## Planned Improvements

Numerous roadway improvement projects for the area have been discussed and evaluated. State (SCDOT), regional (MPO), County (Berkeley), and Town (Mt. Pleasant) governments have all envisioned and anticipated the need for specific roadway widening projects.

Berkeley County plans to widen Clements Ferry Road as part of their one percent sales tax initiative. On November 4, 2008, the voters of Berkeley County passed a one percent sales and use tax for "financing the costs of highways, roads, bridges, and other

transportation-related project facilities, and drainage facilities related thereto." This tax will last for seven years and all the revenue generated will be used to construct roadway improvements. The widening of Clements Ferry Road is included in the list of projects associated with the approved referendum. Collection began in May 2009 and the first revenue was received in October of 2009.

The Clements Ferry Road widening project is split into two phases. Phase 1 will widen approximately 3.6 miles of Clements Ferry Road (S-33) from I-526 to Jack Primus Road (S-119). The typical section is planned to include two travel lanes in each direction plus center turn lane or raised planted median (where feasible). A multi-purpose trail will be located on one side of the roadway. Intersections within the project limits will be evaluated and improved if warranted.

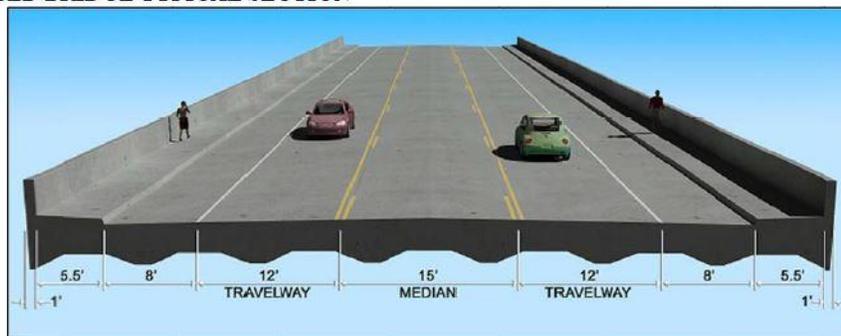
Preliminary engineering is ongoing and a public hearing is scheduled for the fall of 2013. Right of way acquisition is scheduled to begin in the spring of 2014.

Phase 2 of the Clements Ferry Road project will widen approximately 4.5 miles of Clements Ferry Road (S-33) from Jack Primus Road (S-119) to SC 41. The typical section is currently envisioned as a 4-lane curb and gutter section with a raised planted median with a multi-use path on one side of the roadway. A construction timeframe has not been determined; the project is in the planning stages.

South Carolina Department of Transportation (SCDOT) is currently planning a replacement and widening of the SC 41 bridge over the Wando River. The project is being funded through the Federal Highway Bridge Replacement and Rehabilitation Program.

The SCDOT proposes to replace the existing S.C. Route (SC) 41 moveable-span bridge over the Wando River in Berkeley and Charleston Counties, South Carolina. The new bridge would be a high level fixed span structure. The cross section and rendering shown at a design public hearing in December 2012 is shown below.

**PROPOSED BRIDGE TYPICAL SECTION**



**RENDERING OF 55' FIXED SPAN BRIDGE AT THE PROPOSED WANDO RIVER CROSSING**



The limits of the project extend from Harpers Ferry Way and along a portion of Clements Ferry Road to its intersection with Reflectance Road.

Currently, SC-41 is a two-lane roadway with earthen shoulders and roadside ditches oriented in a north-south direction. The posted speed limit for the existing SC 41 Bridge is 35 miles per hour (mph) and increases to 55 mph at the southern end of the project in Charleston County.

Initially, the bridge would provide one lane in each direction. The width planned, however, could allow modifications to include two lanes in each direction. The 2010 Environmental Assessment for the project (updated in 2013 to account for further discussions regarding the bridge height) included the following statement, "the proposal to construct a bridge with four travel lanes instead of two is a proactive response the Charleston Area Transportation Study's (CHATs) Long Range Transportation Plan that includes widening improvements to both SC-41 and Clements Ferry Road in the current project area."

The Town of Mount Pleasant updated their Long Range Transportation Plan in 2006. It stated the following with regard to SC 41: "The widening of SC 41 from US 17 to the County line has been analyzed as part of the 2006 Plan Update... Results of the technical analysis completed as part of the 2006 Plan Update indicates that SC 41 from US 17 to Bessemer Road should be widened from 2 to 4 lanes, and the section from Bessemer Road to Dunes West Boulevard should be widening from 2 to 3 lanes. Widening from Dunes West Boulevard to the County Line is not recommended based upon the results of the technical analysis..." These projects were also mentioned in the Town's 2011 Comprehensive Plan. No timetable for construction was established.

### **Future Volume Forecasts**

As part of the planning process for the Clements Ferry Road widening project, SCDOT estimated growth rates in the area. SCDOT assumed a 2% annual growth rate along Clements Ferry Road (Phase 1).

Other growth rates for area roadways can be derived from information from the regional transportation model. The Berkeley Charleston Dorchester Council of Governments (BCDCOG) maintains and updates the model. The Long-Range Transportation Plan (LRTP), which is used as the guide for the way the region plans to invest in the transportation system over a twenty-five year period, is developed with the aid of forecasts from the regional model. Based on the most recent model information, the BCDCOG estimates that traffic along Clements Ferry Road and in the area will grow at roughly 20% to 30% over the next 20 years (1-1.5% annually).

As the Cainhoy area develops, revisions to the area's regional model assumptions may be needed. In addition, detailed traffic impact studies will be needed as specific development proposals are identified. The more detailed studies will identify specific infrastructure improvements and the time frames associated with each.

## **Access Management**

The anticipated growth along the Clements Ferry Road corridor will require an efficient access plan be implemented. Proper intersection and signal spacing is vital to maximizing the throughput capacity. Potential development access points, signal locations, and internal roadway connections have been identified and are shown on the Proposed Roads Exhibit.

The internal roadway network is designed to provide efficient connectivity between different neighborhoods and land use types. Internal roadway alignments are designed to provide alternative routes to existing major roadways. Through connections between Cainhoy Road and Jack Primus Road will help limit the amount of site trips on to Clements Ferry Road.

Signal spacing is planned based on guidance found in the Transportation Research Board publication, Access Management Manual. Several potential signal locations have been identified. Most of the signals on Clements Ferry Road are envisioned to be approximately ½ mile apart, with a minimum spacing of ¼ mile apart. Signals evenly spaced at ¼ and/or ½ mile intervals will help Clements Ferry Road to operate with efficient progression speeds. Signals on Cainhoy Road are envisioned to be more than 1 mile apart. As is standard practice, no signals would be installed until a detailed signal warrant study demonstrates the need for signalization.

Median breaks and access points along area roadways would be governed by SCDOT guidelines found in the SCDOT Access and Roadside Management Standards (ARMS). The ARMS manual states that median crossover spacing should be at least 500 feet in urban areas and 1,000 feet in rural areas. Driveway spacing and right-in, right-out access points shall be a minimum of 325 feet apart for roadways with 45 mph speed limits and 220 feet apart for roadways with 35 mph speed limits.

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## Cultural Resources

Archaeologists and historians from Brockington and Associates compiled a summary of known cultural resources within and near the study area. Data was gathered from the state's ArchSite GIS database, the archaeological site files at the South Carolina Institute of Archaeology and Anthropology, published secondary sources, previous cultural resources reports from the area, and published historic maps. Secondary resources include Cross (1985), Frazier (2011), Stoney (1969) among others. Maps consulted include, Gaillard (1962), Mills (1979), and numerous USGS topographic maps, and county highway maps. The results of this research are compiled in Tables \*\* and \*\* below and in Figure \*\*. For this study we included all known cultural resources within the project tract regardless of their status with respect to National Register of Historic Places (NRHP) eligibility. We also included cultural resources within one half mile of the study area that are NRHP listed, eligible, or potentially eligible.

There have been no systematic, intensive cultural resources surveys conducted within the study area. Schneider et al. (1989) conducted a historic and architectural survey of Berkeley County. The survey identified several architectural resources in and around the project (see Tables \*\* and \*\*. The Cainhoy Plantation/Brickyard Plantation Historic Area was identified as a rectangular area in the western area of the project tract (see Figure \*\*). Historic areas such as this typically are not precisely defined or assessed, do not have specific resource numbers, and serve essentially as a place holder to alert future researchers that resources related to these plantations likely exist in the immediate area.

In recent years, scholars, consultants, and cultural resources managers from the State Historic Preservation Office (SHPO) and the South Carolina Department of Transportation (DOT) have been studying small African American communities in the region as possible Traditional Cultural Properties (TCPs). In the *National Register Bulletin 38*, the National Park Service defines a TCP as, "one that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community" (Parker and King 1998:1). In 2012 the SHPO and DOT visited the Jack Primus community and conducted interviews with community leaders. This community consists of a small cluster of homes, a church, a cemetery, roads, and access to Yellow House Creek (see Figure \*\*). The SHPO and DOT have stated that this community, although not formerly assessed, is likely to be eligible for the NRHP as a TCP.

Local journalist and author Herb Frazier recently published a history of the African American cultural in the region that deals with the Jack Primus as several other similar communities. Frazier 2011:251 states:

. . .people who settled Jack Primus made a monumental shift when they went from slavery to freedom and then landowners. ‘The old-timers say that this is the first property we owned, and that was the factor that made you free,’ he said. ‘Land separated a free man from a slave. Because these are the first properties former slaves owned there is an emotional attachment to the land,’ Lincoln explained.

Most property owners want their land value to rise, but he said ‘if you don’t plan to sell your ancestral property you want your value to decrease because of tax concerns.’ Developers don’t easily grasp that concept. ‘They say (development) is going to appreciate your property so they are ready to put a commercial development next to these communities because, in their eyes, this will help you, but it doesn’t help us, it helps force us off our property.’

Planners should be particularly sensitive to local communities such as Jack Primus and strive for open communication and cooperation throughout the planning process.

St. Thomas and St. Denis Episcopal Church vestry and graveyard lie on a small parcel surrounded by the project tract and bordering on Clements Ferry Road in the northeast corner of the project tract (see Figure \*\*). These resources (0660004.01 and 00660004.02, respectively) are listed on the NRHP. Due to the proximity of the project to these resources, planners should be careful to avoid direct and indirect impacts to these resources. Possible impacts include visual or auditory intrusions to the resources’ setting.

Environmental surveyors for the project recently identified several potential cultural resources on the tract (see Figure \*\*). These include the former Road to Calais and two granite mile markers associated with that former road, as well as two former brick kilns and an unnamed cemetery. The unnamed cemetery also appears on the USGS topographic map. The road, road markers, and brick kiln have not been formerly defined or assessed. It is likely that additional kilns, clay borrow pits, landings and other sites associated with the manufacture of bricks exist on the tract as this was a major industry in project area. The cemetery should be preserved and assessed within the larger context of the Jack Primus community and possibly also the Cainhoy Plantation/Brickyard Plantation Historic Area.

Several formal cultural resources studies have been done in the southern portion of the study area along Clements Ferry Road and in the vicinity of Cainhoy (see Figure \*\*). The Cainhoy Historic District lies outside the Study area but within the one half mile buffer. It is unlikely that development within the study area will directly impact the historic district, however, planners should be aware of this resource and avoid direct or indirect impacts.

**Table 1. Recorded Cultural Resources Within the Study Area.**

Resource	Description	NRHP Status
38BK268	Unknown Prehistoric scatter	Potentially Eligible
38BK269	Late Archaic, Late Woodland	Potentially Eligible
38BK1615	18 <sup>th</sup> -19 <sup>th</sup> century Addison Brickyard	Additional work
38BK1618	18 <sup>th</sup> -19 <sup>th</sup> century Brick kiln and landing	Additional work
38BK1619	18 <sup>th</sup> -19 <sup>th</sup> century Brick kiln	Additional work
38BK1768	Mississippian and Woodland scatter	Not Eligible
38BK2269	Late Archaic, Early-Middle Woodland, 18 <sup>th</sup> -19 <sup>th</sup> century scatter	Not Eligible
38BK2360	Middle-Late Woodland, 18 <sup>th</sup> -19 <sup>th</sup> century scatter	Not Eligible
38BK2363	20 <sup>th</sup> century scatter	Not Eligible
38BK2364	Middle-Late Woodland scatter	Not Eligible
0660019	Nelliefield Creek Cemetery	Not Eligible
0660020.00	Cainhoy Plantation Brickyard Plantation House Historic Area	Potentially Eligible
0660020.00	Cainhoy Plantation Brickyard Plantation House c.1790	Potentially Eligible
0660020.01	Cainhoy Plantation Sander's House c.1790	Potentially Eligible
0660020.04	Cainhoy Plantation (3) Appurtenant Structures c.1935 (1 razed)	Potentially Eligible
Jack Primus TCP	Late 19 <sup>th</sup> century-present African American community	Potentially Eligible

Table 2. Recorded Cultural Resources within the ½ Mile Buffer that are Potentially Eligible, Eligible, or Listed on the NRHP.

Resource	Description	NRHP Status
38BK58	19 <sup>th</sup> century church and vestry	Listed
38BK264	18 <sup>th</sup> -19 <sup>th</sup> century artifact scatter	Potentially Eligible
38BK265	18 <sup>th</sup> -19 <sup>th</sup> century artifact scatter	Potentially Eligible
38BK266	Late Archaic scatter	Potentially Eligible
38BK267	Mississippian, Late Woodland, 18 <sup>th</sup> -20 <sup>th</sup> century cemetery	Potentially Eligible
38BK875	18 <sup>th</sup> -19 <sup>th</sup> century artifact scatter	Potentially Eligible
38BK1349	18 <sup>th</sup> -19 <sup>th</sup> century artifact scatter	Eligible
38BK1479	Early 18 <sup>th</sup> century plantation settlement	Eligible
38BK1585	Remains of the Thomas Lynch House	Eligible
38BK1785	Middle-Late Woodland, 18 <sup>th</sup> -20 <sup>th</sup> century cemetery	Potentially Eligible
0660004.01	St. Thomas and St. Denis Episcopal Church vestry c.1819	Listed
0660004.02	St. Thomas and St. Denis Episcopal Church graveyard c.1782	Listed
82003832	Cainhoy Historic District (7) contributing structures	Listed

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