PLANNED DEVELOPMENT GUIDELINES

CAROLINA BAY

Charleston, South Carolina

March 22, 2006

Applicant:

Centex Homes

2430 Mall Drive

Suite 450

North Charleston, SC 29406

Prepared By:

Seamon, Whiteside & Associates, Inc

501 Wando Park Boulevard

Suite 200

Mt. Pleasant, SC 29464

843/884-1667

SWA Project No 4801

Conditions for Carolina Bay PUD Master Plan Approval

(As recommended by City staff and modified per the
Planning Commission's conditional approval March 15, 2006)

1. Size of the school site and park area within the overall designated 18 acre school and park site will be subject to further discussions between the City, the Charleston County School District, and the developer. The City's intention is to have enough land for a "Community" sized park as described in the City's Parks Plan. Should a school not be located on he designated 18 acre site for the school and park, the developer will agree that the City will receive at least 12 acres to build the proposed "Community" park. The developer will also help the City with negotiations with the Charleston County School District concerning any unneeded school district land on the northern side of the C E Williams school site that could potentially be added to the City's Community Park site.

2. The fire station location will be determined in consultation with the City's Fire Chief. The timing of the land donation for the fire station will assure the City's Class 1 ISO is maintained.

3. The right-of-way width for the central connection street running through the development, connecting the West Wildcat area on the north, the Essex Farms area on the east, and to Savannah Highway and Croghans Landing to the south shall be at least 60 feet.

4. The central connection street shall be completed to the northern and eastern edges of the development before the buildout of the development exceeds 50% of the total allocated units

5. The right-of-way for the street leading to the school and park site shall be at least 60 feet

6. The connection to Sanders Road to the northwest shall be completed, but not opened to traffic until the central connection through the development and leading out to West Wildcat is fully open to traffic.

7. The bike/pedestrian path connecting from the West Wildcat area to the north, through the development, and out along the central connecting road to Savannah Highway shall strive to be at least 10 feet in width, with exceptions made for environmentally sensitive areas. The developer will work with the City's Parks and Planning and Neighborhoods Departments to achieve a design that is feasible. This bike/pedestrian route shall be fully completed by the completion of the central connector street. ~~These conditions do not apply to phases for which Preliminary Plats were approved in Charleston County (Phases 1,3,4, and 5).~~

8. Building heights are limited to ~~40~~ 42 ~~feet with flood zone provisions found in the City's SR-1 districts~~, with the following exceptions: multi-family structures' heights are 55 feet for heated space with up to 60 feet for parapet or ridge line; live-work and mixed-use buildings have a 50 foot height limit.

9. There are a number of technical issues in the PUD that staff would like to work with the developer on and resolve before the PUD gets final reading by City Council.

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PLANNED UNIT DEVELOPMENT

MASTER PLAN REQUIREMENTS

CITY OF CHARLESTON

RELATIONSHIP TO THE CITY OF CHARLESTON ZONING ORDINANCE

The Development Guidelines and Land Use Plan for the Carolina Bay Planned Unit Development (PUD), attached hereto and made a part hereof, are part of the PUD conditional use Master Plan application submitted in accordance with the Zoning Ordinance of the City of Charleston, Article 2, Part 7 Sections 54-250, et seq. The Zoning Ordinance of the City of Charleston is incorporated herein by reference, except as amended herein.

No person shall erect or alter any building, structure, or sign on any tract of land or use any tract of land within the Carolina Bay PUD except in conformance with these guidelines and regulations. Unless modified herein, definitions of terms used in the Carolina Bay PUD Development Guidelines shall follow definitions listed in the Zoning Ordinance of the City of Charleston, as amended from time to time. Administration and enforcement of the adopted Carolina Bay PUD Master Plan shall follow Article 9 of the Zoning Ordinance of the City of Charleston.

The Carolina Bay PUD Master Plan was approved by the City of Charleston on _____, Ordinance Number _____.

I. Statement of Purpose, Intent, Objectives

A PUD was originally approved in Charleston County in 2004 for the 233 acre Bradham Tract, with an amendment approved in 2005 for the 223 acre Bolton Tract and an adjacent 10 acre tract. These tracts are identified as TMS numbers 307-00-00-005, 307-05-00-014, 307-10-00-073, 307-00-00-004, and 307-05-00-001, as found on the tax maps included as Appendix A of this report. Sanders Road, single-family homes, a multi-family development, and vacant land bound the property to the north. Essex Farms, which has an approved PUD in the City, bounds the property to the east. The USDA, C E. Williams School, single-family lots, a church, and US Highway 17 bound the property to the south. The Ponderosa subdivision and vacant land bound the property to the west. In the late fall of 2005, Centex Homes made the decision to annex into the City of Charleston

The Bradham Tract was approved for 750 residential units. The Bolton Tract amendment was also approved for 750 residential units, for a total approved development of 1500 residential units on 466 acres. These 1500 residential units will be divided between single-family detached homes, town homes, multi-family homes, and condominiums not to exceed an overall density of 3.6 units per net acre. The Village Commercial area will not exceed 50,000 total square feet. Locations of land uses may be slightly adjusted to meet site concerns. Current Charleston County zoning of these properties (RSL) would allow a maximum density of 4 units per acre, or 1864 residential units versus the 1500 proposed in this planned development

This planned development is intended to allow flexibility in neighborhood design. The goal is a neo-traditional neighborhood (TND) of human scale that encourages an accessible walking community with mixed housing types and densities, a small village commercial core, a school site to be reserved for Charleston County School District, parks, walking trails and sidewalks. This neighborhood will have more potential to keep traffic within the neighborhood, reducing the amount of external trips onto Highway 17 and the Glenn McConnell Parkway. The property will connect to adjacent tracts to allow road interconnectivity and alignment

Upon City approval, these Planned Development Guidelines shall apply to the entire combined tracts of 466 acres. Any zoning details not outlined in these guidelines adhere to the current City of Charleston zoning ordinance. The owner worked successfully with the Charleston County School District, SCDOT, and the City of Charleston, including the Department of Traffic and Transportation, to develop these Planned Development Guidelines. A Conceptual Master Plan has been included as Appendix B of this report

II. Land Uses, Setback Criteria

A. Land Uses

The proposed development will contain residential land uses, neighborhood commercial uses, school site, amenity centers, and open spaces. The open spaces will include ponds, fields, trails, and wetlands. Allowable land uses include the following

1. Single-family detached homes (R-1)
2. TND includes single-family homes, townhomes (TH), multi-family (MF), duplexes, condominiums, apartments, Live-work, and Village Commercial.
3. Duplexes may be side by side or on the first and second floors of a two-story building.
4. Village Commercial (VC). 50,000 maximum total building square footage. VC will allow all those uses indicated under current Limited Business (LB) zoning in the City of Charleston. Building sizes and buffers required in LB regulations do not apply
5. Condominiums or apartments shall be allowed above the first floor of non-residential uses in TND areas
6. Model homes, sales centers, and associated uses will be allowed in all TND areas.
7. The maximum number of town homes allowed in a row is eight

Site Tabulation

Centex					
LAND USE	TOTAL	WETLAND	HIGH	D.U.	NET DENSITY
R-1	44.2 A.	4.3 A.	39.9 A.	96	2.4 D.U./A.
TND	189.6 A.	24.6 A.	165.0 A.	554	3.4 D.U./A.
SUB-TOTALS	233.8 A.	28.9 A.	204.9 A.	650	3.2 D.U./A.

Rhodes					
LAND USE	TOTAL	WETLAND	HIGH	D.U.	NET DENSITY
TND**	199.5 A.	21.7 A.	177.8 A.	796	4.5 D.U./A.
VC	4.7 A.	0.0 A.	4.7 A.	N/A	N/A
SCHOOL & PARK*	18.0 A.	0.0 A.	16.6 A.	N/A	N/A
FIRE STATION	1.0 A.	0.0 A.	1.0 A.	N/A	N/A
SUB-TOTALS	223.2 A.	23.1 A.	200.1 A.	796	4.0 D.U./A.

Pella					
LAND USE	TOTAL	WETLAND	HIGH	D.U.	NET DENSITY
TND	10.6 A.	0.0 A.	10.6 A.	54	5.1 D.U./A.
SUB-TOTALS	10.6 A.	0.0 A.	10.6 A.	54	5.1 D.U./A.

CENTEX, RHODES & PELLA					
LAND USE	TOTAL	WETLAND	HIGH	D.U.	NET DENSITY
R-1	44.2 A.	4.3 A.	39.9 A.	96	2.4 D.U./A.
TND**	399.7 A.	46.3 A.	353.4 A.	1404	4.0 D.U./A.
VC	4.7 A.	0.0 A.	4.7 A.	N/A	N/A
SCHOOL & PARK*	18.0 A.	1.4 A.	16.6 A.	N/A	N/A
FIRE STATION	1.0 A.	0.0 A.	1.0 A.	N/A	N/A
SUB-TOTALS	467.6 A.	52.0 A.	415.6 A.	1500	3.6 D.U./A.

*The exact locations of the park and fire station have not been determined. Once sites that are mutually agreed upon between the City and the Owner have been determined, the final acreage calculations will be adjusted.

**The overall unit count will not be greater than 1500 units Overall density is 3.6 dwelling units per net acre. However, approximately 50% may be single-family attached, and approximately 50% shall be single-family detached units.

***A Running Unit Count will be established and kept current indicating the difference in the number of units platted, recorded and number of units remaining

B. Development Requirements

All lots must conform to dimensional, density, and zoning requirements as found in the following chart:

	R-1 (Moderate Density Residential)	TND (Traditional Neighborhood Residential)	MF (Condominiums))	Commercial
Min Lot Width (ft)	40	25 (Detached Single Family) 16 (Attached Single Family)	N/A	N/A
Min Lot Depth (ft)	100	90	N/A	N/A
Min Front Yd: Setback (ft)*	20	0 25 (front parking at townhomes)	N/A	N/A
Min Side Yard Setback (ft) from Property	5	0	N/A	N/A
Min Street Side Yard Setback (ft) from Property Line	10	0	N/A	N/A
Min Rear Yard (ft)	10	10	N/A	N/A
Alley Loaded Rear Yard (ftl)	N/A	5	N/A	N/A
Min Distance between bldgs (ft) (not inc. acc Structures)	10	6	10	10
Wetland Line & OCRM Buffer (ft)	35 avg 15 min	35 avg 15 min	35 avg 15 min	35 avg 15 min
Building setback from OCRM Critical Line (ft)	35	35	35	35
Maximum Ht (ft)	35	~~50~~ 42	60	60
Building Coverage (Max %)	50	75	N/A	N/A

	R-1 (Moderate Density Residential)	TND (Traditional Neighborhood Residential)			
Minimum Lot Area (square feet)	4,000	1-Family Detached	1-Family Attached	Multi-Family	1-Family Attached
		3600	Townhouse	N/A	Duplex
			1500 per unit		2000 per unit

1. Accessory buildings shall adhere to existing City of Charleston Residential District ordinances with the exception that there shall be no minimum requirements for side or rear setbacks of accessory buildings aside from meeting minimum building code standards.
2. Corner lots shall meet City of Charleston vision clearance triangle requirements.
3. Front yard setbacks do not apply to alleys. Side yard or rear yard setbacks apply on alleys
4. Where possible, wetland and critical line buffers will be outside of platted lots and will be owned and maintained by the POA (Property Owner's Association).
5. Steps, open stairways, and decks may extend up to 5' into setbacks, but in no instance can they extend into the right of way
6. Maximum height of buildings for multi-family buildings is 60' Multi-family buildings located within a Flood Insurance Rate Map (FIRM) special flood hazard area shall be permitted to have dwellings with a maximum height, not to exceed 60', as measured from the FIRM base flood elevation or natural grade, whichever is higher.
7. Driveways shall be a maximum of 11 feet in width from the back of curb to the building for single-family attached homes. Driveways for all other lots shall be a maximum of 11 feet from the back of curb and within the front 10 feet of the lot but may flare after that There shall be no maximum width for driveways off of rear alleys.
8. The wetland line and OCRM buffer requirements are designated by OCRM and supersede any City of Charleston requirements

III. Surveys

A tree and wetland survey of all the tracts was completed by March of 2005. A survey of all hardwoods 24" and larger has been completed for the entire tract, exclusive of wetlands Wetland limits have been surveyed and are reflected on the survey. The tree and wetland survey can be found in the Appendix.

IV. Traffic Study

A traffic study has been completed and is included in the Appendix Traffic signalization will be installed at the main entrance at Highway 17. An additional signal will be installed and at the intersection of McLeod Road and Highway 17, if a school is built and when warranted by SCDOT.

V. Streets and Drainage

All streets and drainage systems shall be public and maintained by the City of Charleston if accepted. The site drainage system must meet all applicable City, State, and Federal storm water regulations The proposed roadway construction must comply with the requirements of the City's Zoning Ordinance Section 54-821, Table 8.1 or Table 8-2 1 (Neighborhood District).

In TND, VC, and TH areas, rear alleys are allowed for parking access to detached garages or carports The maximum required right of way on all rear alleys shall be 20'. Curb and gutter is not required on rear alleys All rear alleys shall be public rights of way and maintained by the City. Shared and off-site parking shall be allowed and will count towards on-site parking requirements.

Textured (i.e concrete unit paver) crosswalks will be allowed and shall be maintained by the City of Charleston, if accepted Textured crosswalks are subject to approval of the Design Review Committee (DRC).

This development may include an extension of McLeod Road.

In MF areas, parking and drainage systems shall be private and maintained by the POA, except when connecting to a public drainage system or as required by the Public Works Department.

There are multiple access points to the adjacent properties as shown on the Road Exhibit in the Appendix

Sidewalks throughout the development will be a minimum of 5 feet in width, on both sides of the street, and meet ADA requirements Sidewalks are not required on both sides of the street where there is an off-street path. A pedestrian or sidewalk connection will be provided to the adjacent Saint Andrews Park Sidewalks are not required on both sides of the street, and may remain 4 feet in width, in phases for which Preliminary plats were approved in Charleston County (Phases 1,3,4,and 5).

VI. Signs

A master entrance subdivision sign shall be constructed where the property fronts U S. Highway 17. The master entrance subdivision sign may be 75 square feet maximum per sign face, maximum 10' height to top of sign face, well landscaped, lighted, and approved by the zoning administrator as part of site plan review process.

There will be subdivision/multi-family I.D. signs located throughout the tract. Entrance signs will be constructed at each subentry. Entry and I D signs will be allowed in the right of way All signs and associated landscaping will be maintained by the POA. All signage will be submitted for site plan and encroachment permit review All other items will be in accordance with the City of Charleston standards.

In addition, there will be directional, and traffic signage located throughout the subdivision.

VII. Wetland Buffers

Wetland buffers shall average 35', with a minimum of 15', measured from the OCRM critical line and the fresh water wetland line. Wetland buffers on the original Bradham Tract are approximately 12 acres in total area These buffer requirements are designated by OCRM and supersede any City of Charleston requirements Paved or non-paved walking trails, six feet wide or less will be allowed within the wetland buffers subject to SCDHEC-OCRM approval A site plan of any proposed improvements must also be submitted to the City of Charleston Land Resource Planner for review and approval.

VIII. Amenity Areas

Parks, passive recreation areas, walking trails, and ponds as well as an amenities center that includes a clubhouse, recreational swimming pool, and playground area will be created for the enjoyment of all residents. These areas shall be owned and maintained by the POA. All amenity centers shall be submitted for site plan review. Any amenity areas within TND zoning shall adhere to the TND requirements within this document.

Once a mutually agreed upon area has been determined, an approximately six acre site will be provided for the City of Charleston Parks Department. This park will be owned and maintained by the City.

Open space is calculated as 20% of the gross acreage. Therefore, of the 466 acres, 93 acres is required to be open space. This plan currently indicates approximately 157 acres of open space, or roughly 30%.

Usable open space is calculated as 25% of the required open space. Therefore, 23 acres is required to be usable open space This plan meets or exceeds 23 acres of usable open space

IX. Additional Development Criteria

A site has been provided to Charleston County School District for a new elementary school and City of Charleston Park. This site is located adjacent to undeveloped Charleston County School District property located to the rear of C E. Williams Middle School. As a result, there is a potential for public park land within the combined Charleston County School District properties. Should the Charleston County School District not to utilize this site, this area can be utilized by the developer for residential land uses, amenities, centers, the six acre city park, or open space. However, the maximum of 1500 residential units shall not be exceeded

Sales and/or construction trailers are allowed on POA areas or designated lots prior to the recording of bonded plats. Site plan review and issuance of clearing and grading permits are required prior to the issuance of the required permit. Bondable items include drainage, water, sewer, base material, curb and gutter, asphalt, sidewalks, grassing, and street trees.

In all cases where sidewalks or tree plantings are required prior to the approval of a final plat for the property, sidewalks and tree mitigation shall either be installed, inspected and deemed acceptable by the City, or the Owner shall provide a performance bond, letter of credit, or other security acceptable to the City in the amount of 125% of construction as a guarantee that the work will be performed. Sidewalks and tree plantings shall be contingent upon approval of encroachment permit and construction plans by the City.

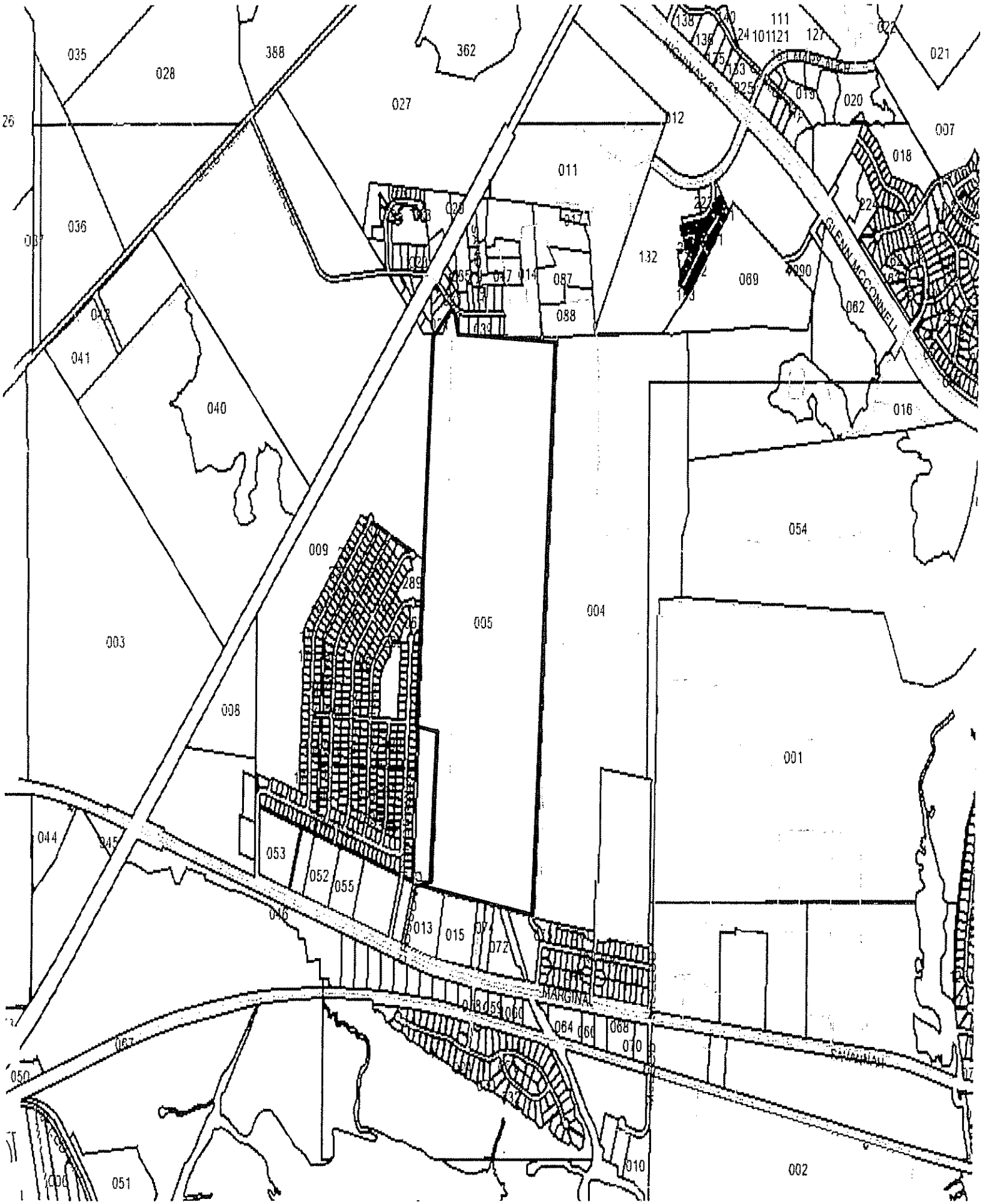
Canopy street trees will be allowed in the right of way between the sidewalk and curb, whether roll curb or straight curb. Street trees will be a minimum of three feet from face of curb and will be maintained by the City of Charleston. Street trees will count towards tree mitigation for tree variances

All trees previously permitted in the county to be removed or encroached upon, shall meet all Charleston County ZLDR requirements for tree protection and preservation, including grand tree removal requirements and shall be accepted by the City. All County approved documents and conditions must be submitted in copy form as part of the PUD amendment. Any subsequent tree removals or encroachments shall adhere to City of Charleston BZA requirements.

The owner will provide an approximately 1.5 acre site, suitable to the owner and the City, for a City of Charleston fire station. The owner recognizes the need for a fire station, and is committed to assisting the fire department locate a site for one, if it is not located within the PUD.

APPENDIX A

Tax Map 307-00-00-005



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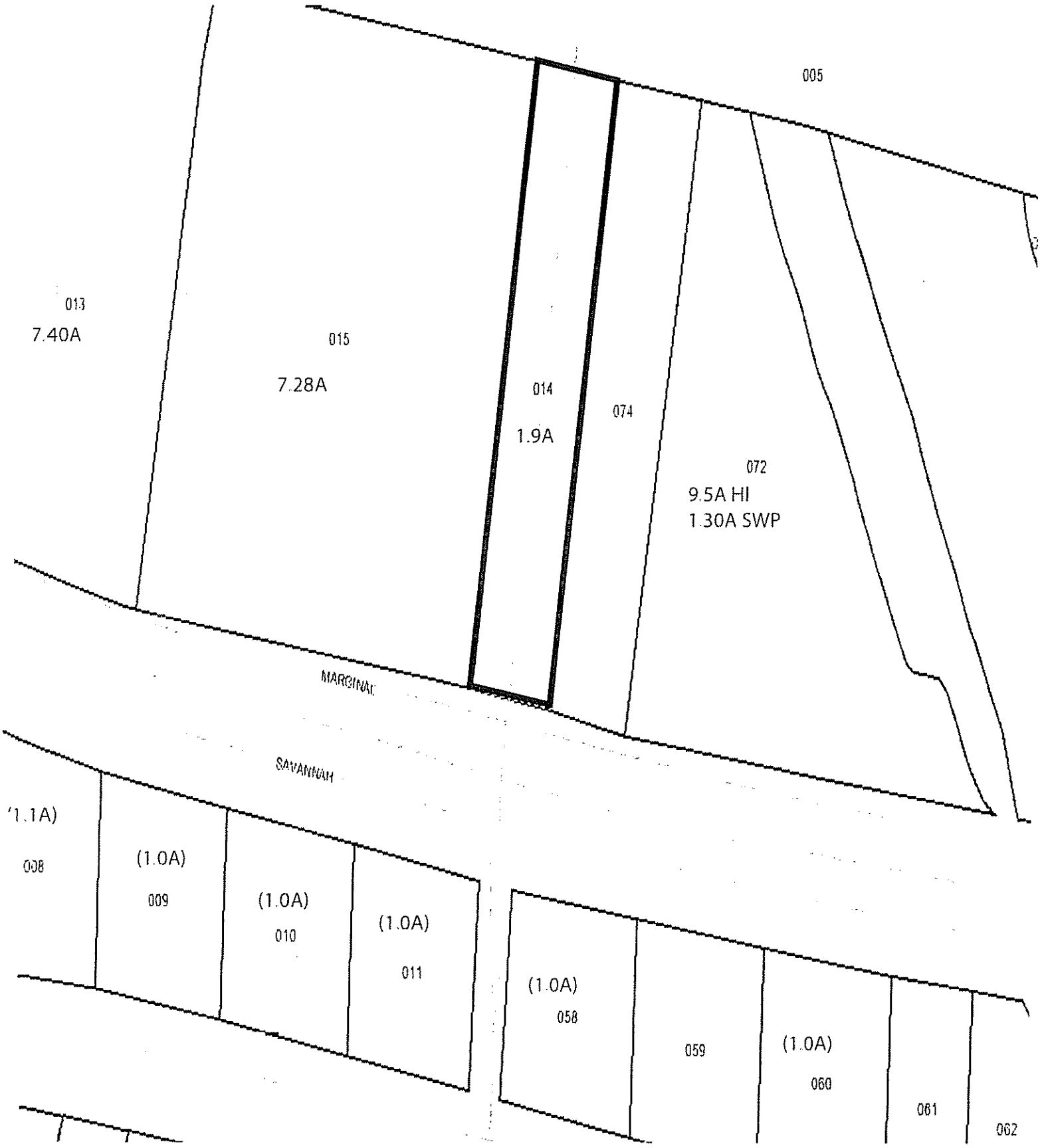


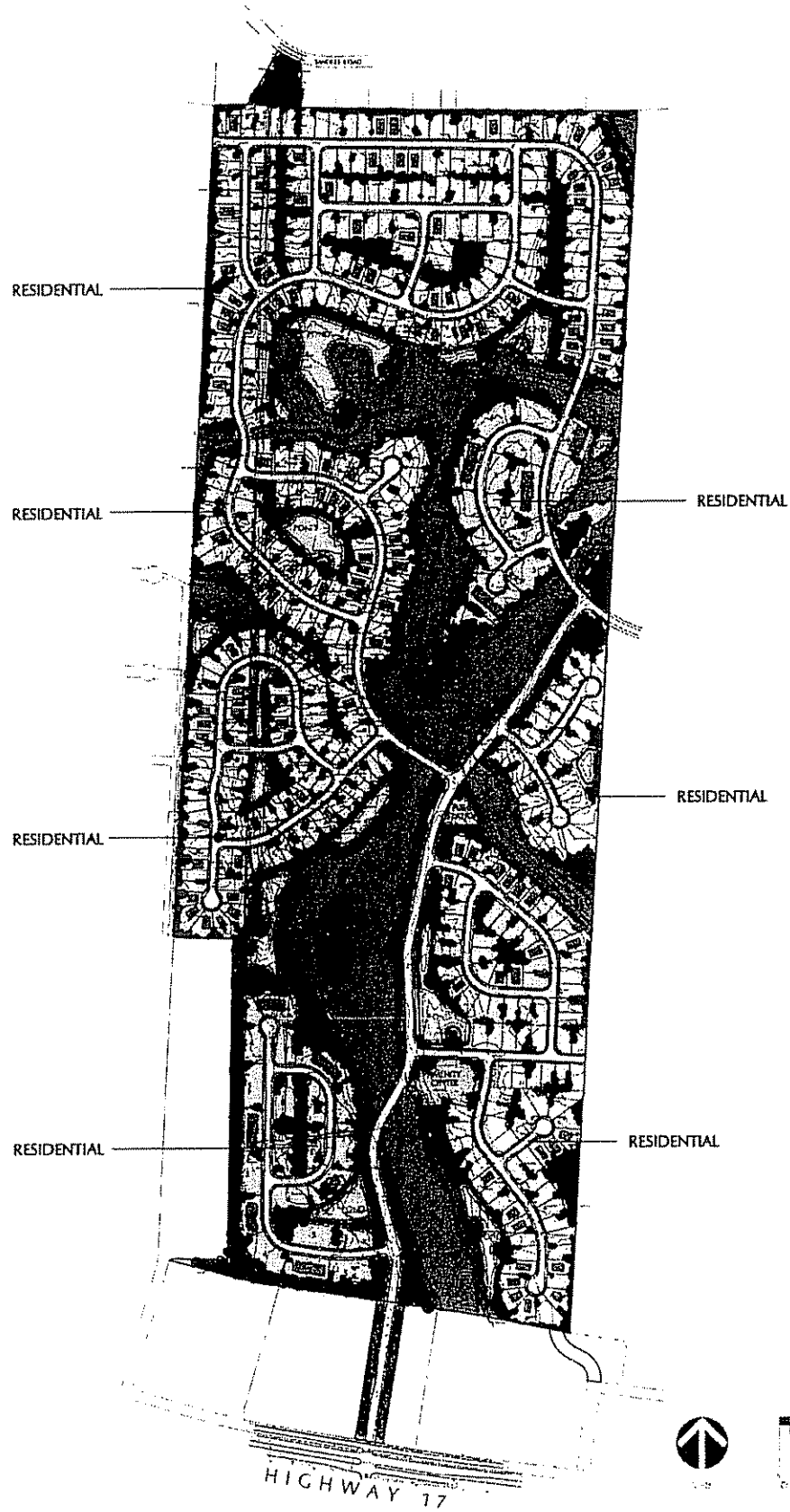
Tax Map 307-10-00-073

Tax Map 307-00-00-004

Tax Map 307-05-00-001

APPENDIX B

ORIGINAL PUD MASTER PLAN

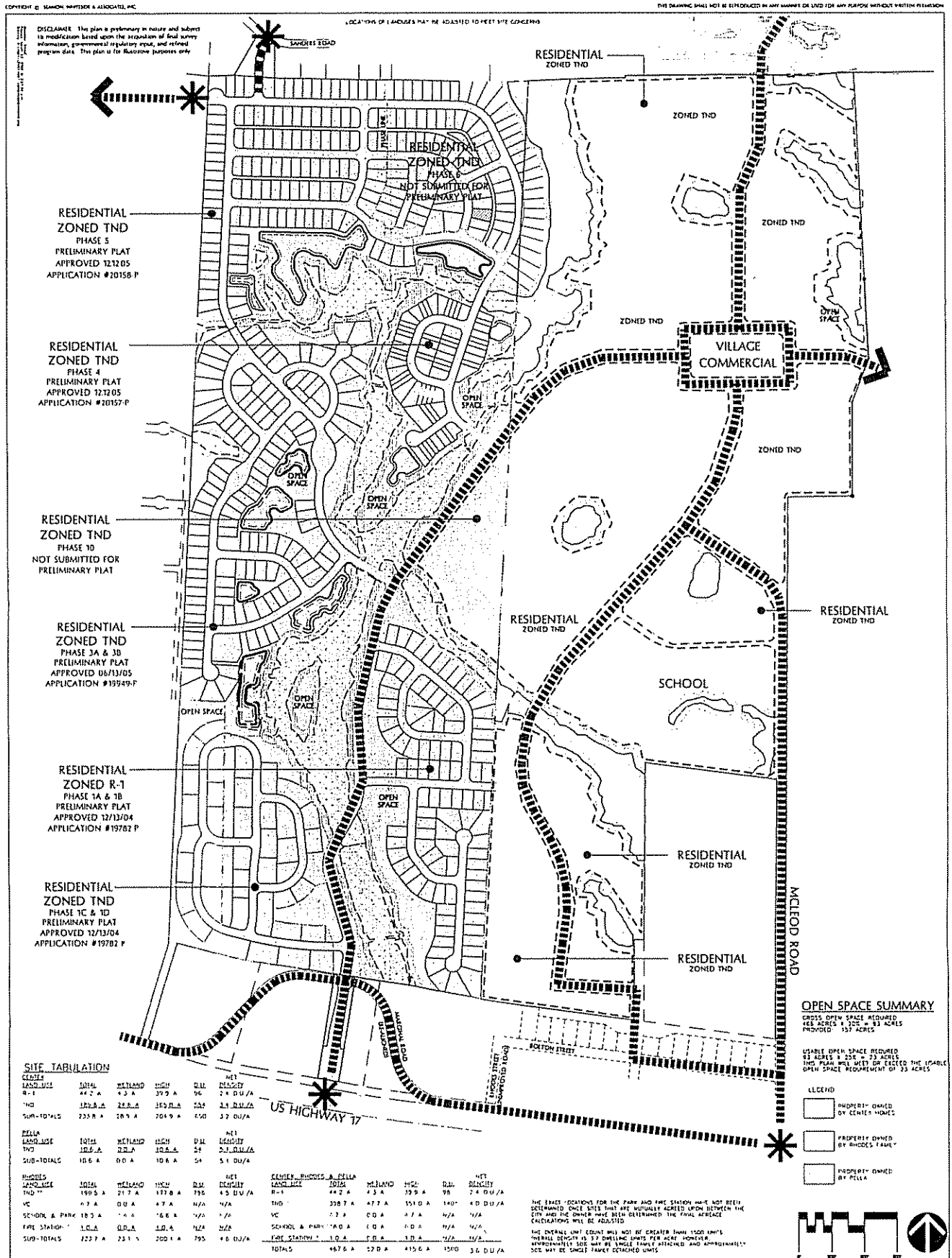


CONCEPTUAL MASTER PLAN

CONCEPTUAL MASTER PLAN
SHEET 1 OF 3

BRADHAM TRACT
CENTEX HOMES
CHARLESTON COUNTY, SOUTH CAROLINA

SEAMON, WHITESIDE & ASSOCIATES, INC



SITE TABULATION

CENTEX

LAND USE	TOTAL	WETLAND	HIGH	D.U.	NET DENSITY
R-1	44.2 A	4.3 A	39.9 A	96	2.4 DU/A
TND	689.5 A	24.8 A	360.8 A	1260	3.5 DU/A
SUB-TOTALS	733.8 A	28.5 A	704.9 A	1450	3.2 DU/A

PELLA

LAND USE	TOTAL	WETLAND	HIGH	D.U.	NET DENSITY
TND	10.6 A	0.0 A	10.6 A	54	5.1 DU/A
SUB-TOTALS	10.6 A	0.0 A	10.6 A	54	5.1 DU/A

RHODES

LAND USE	TOTAL	WETLAND	HIGH	D.U.	NET DENSITY
TND **	199.5 A	21.7 A	177.8 A	795	4.5 DU/A
VC	4.7 A	0.0 A	4.7 A	N/A	N/A
SCHOOL & PARK	18.5 A	1.4 A	16.6 A	N/A	N/A
FIRE STATION *	1.0 A	0.0 A	1.0 A	N/A	N/A
SUB-TOTALS	223.7 A	23.1 A	200.1 A	795	4.0 DU/A

CENTEX, RHODES & PELLA LAND USE	TOTAL	WETLAND	HIGH	D.U.	NET DENSITY
R-1	44.2 A	4.3 A	39.9 A	96	2.4 DU/A
TND *	398.7 A	47.7 A	351.0 A	1410*	4.0 DU/A
VC	4.7 A	0.0 A	4.7 A	N/A	N/A
SCHOOL & PARK *	18.0 A	1.0 A	17.0 A	N/A	N/A
FIRE STATION *	1.0 A	0.0 A	1.0 A	N/A	N/A
TOTALS	467.6 A	53.0 A	415.6 A	1506	3.6 DU/A

THE SPACE LOCATIONS FOR THE PARK AND FIRE STATION HAVE NOT BEEN DETERMINED ONCE SITES THAT ARE MUTUALLY AGREED UPON BETWEEN THE CITY AND THE OWNER HAVE BEEN DETERMINED THE FINAL ACREAGE CALCULATIONS WILL BE ADJUSTED

THE OVERALL UNIT COUNT WILL NOT BE GREATER THAN 1500 UNITS. THE GROSS DENSITY IS 3.2 DWELLING UNITS PER ACRE. HOWEVER, APPROXIMATELY 500 MAY BE SINGLE FAMILY ATTACHED AND APPROXIMATELY 500 MAY BE SINGLE FAMILY DETACHED UNITS.

OPEN SPACE SUMMARY

GROSS OPEN SPACE REQUIRED
468 ACRES X 20% = 93 ACRES
PROVIDED 157 ACRES

USABLE OPEN SPACE REQUIRED
93 ACRES X 35% = 33 ACRES
THIS PLAN WILL MEET OR EXCEED THE USABLE OPEN SPACE REQUIREMENT OF 33 ACRES

CONCEPTUAL MASTER PLAN

Sheet 1 of 1

CAROLINA BAY

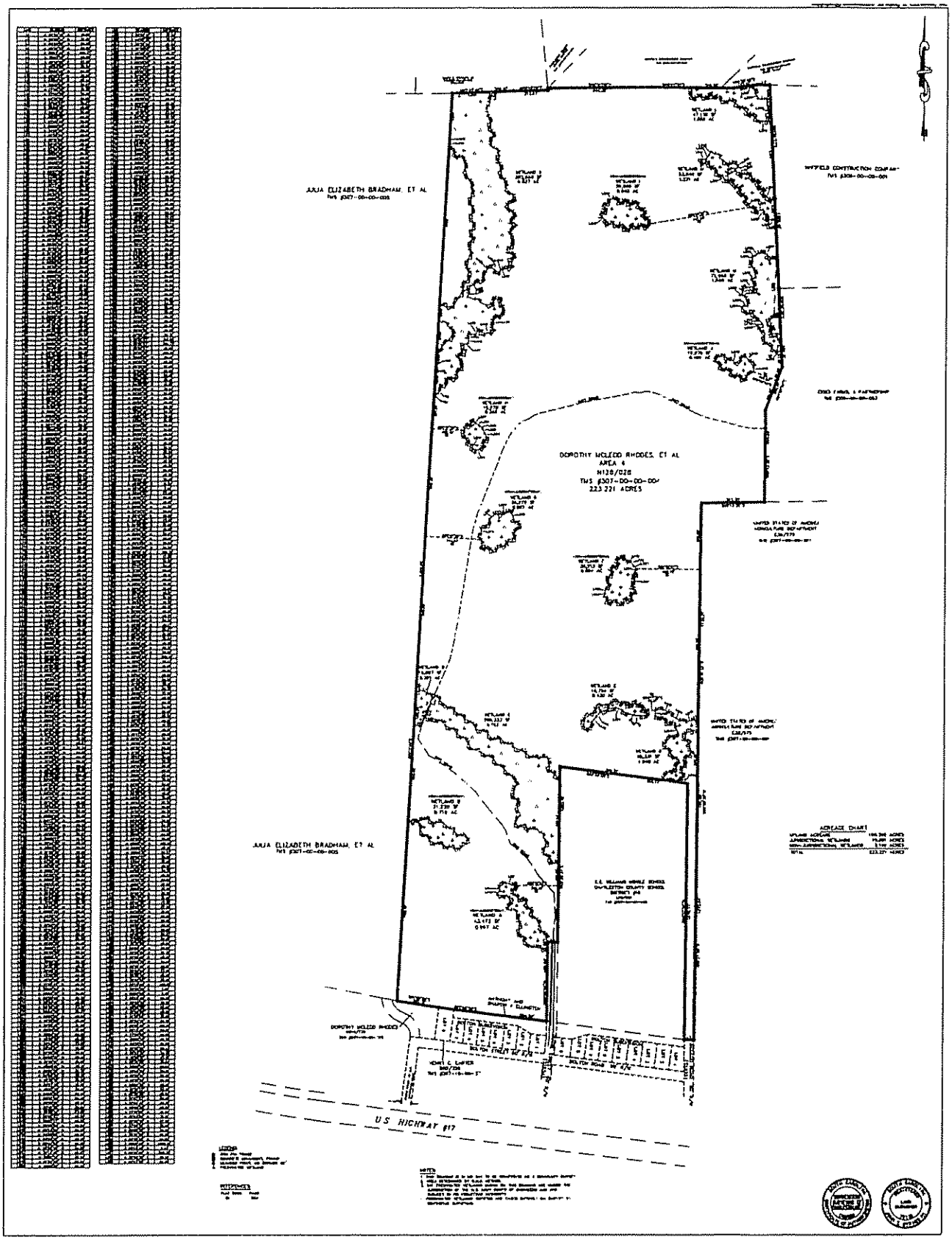
CENTEX HOMES

CHARLESTON, SOUTH CAROLINA

SEAMON, WHITESIDE & ASSOCIATES, INC

VILLAGE COMMERCIAL CHARACTER EXAMPLE

APPENDIX C

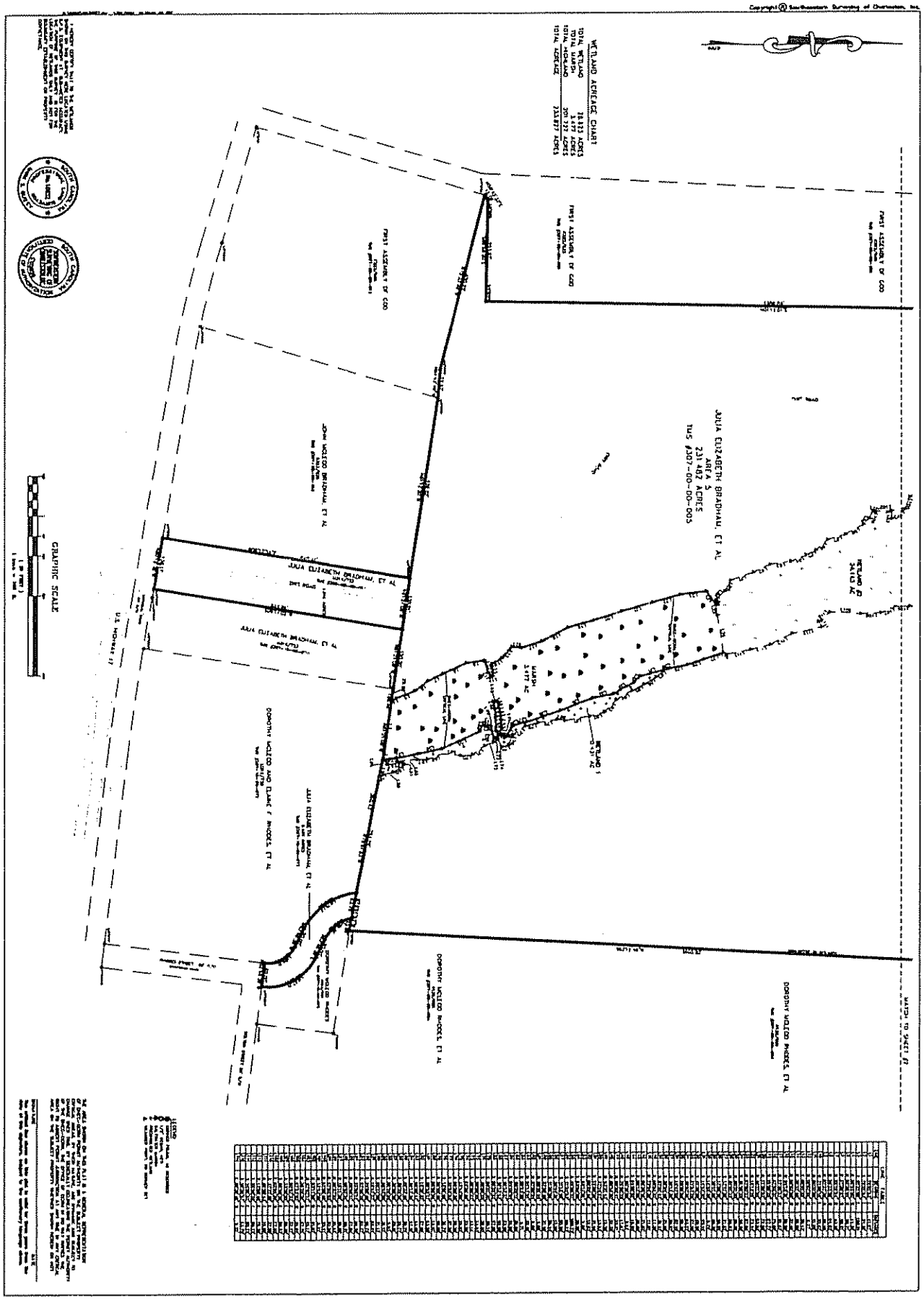


A WETLAND SURVEY OF
THE BOLTON TRACT
CONTAINING 223.221 ACRES

LOCATED IN ST. ANDREW'S PARISH
CHARLESTON COUNTY, SOUTH CAROLINA

Southeastern Surveying of Charleston, Inc.
147 Wappoo Creek Drive - Suite 102
Charleston, South Carolina 29412
(843) 795-8200 FAX 795-900

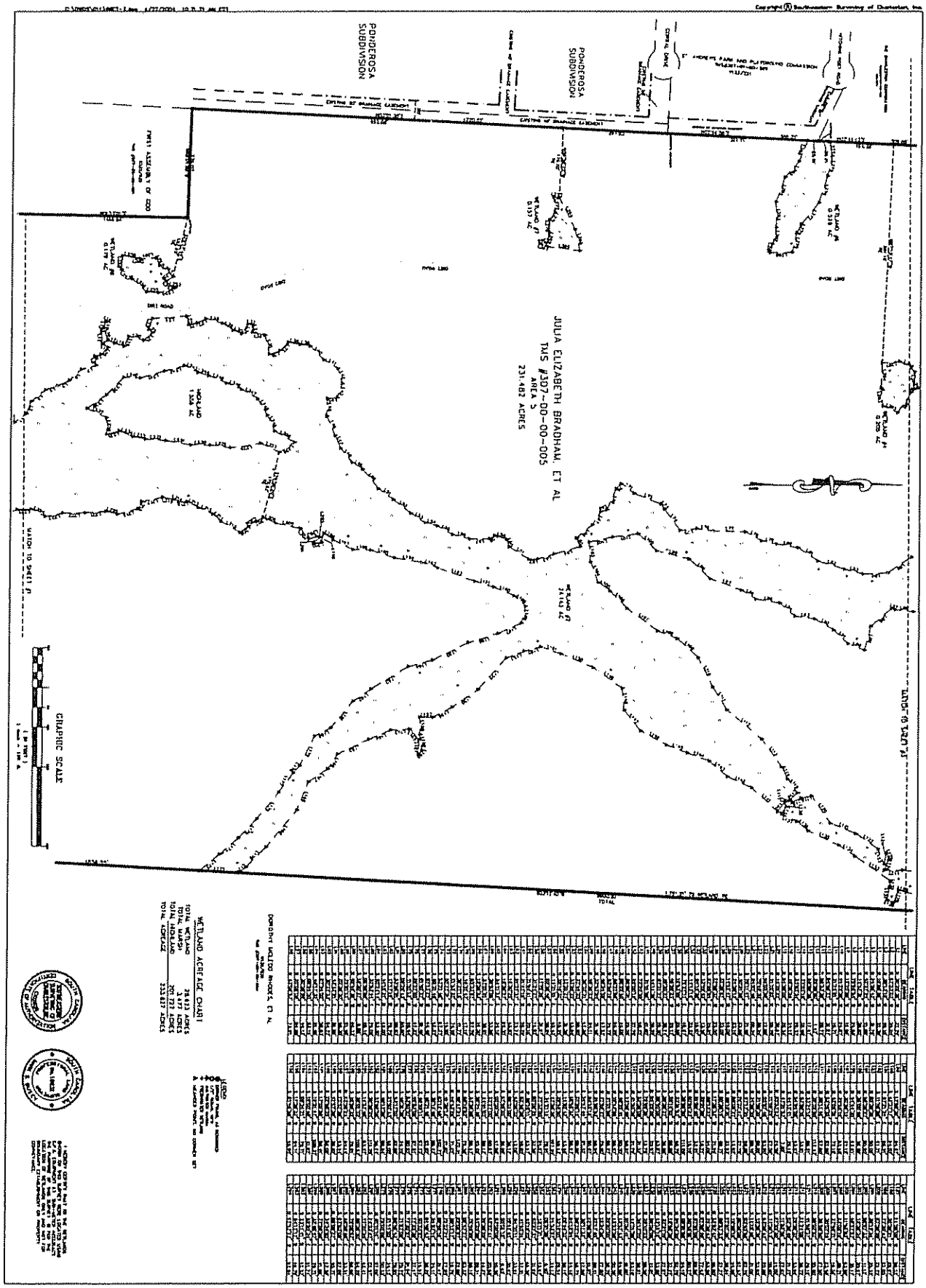
NO.	DATE	DESCRIPTION	BY



A WETLAND SURVEY OF
AREA 5, A 1.916 ACRES TRACT AND A 0.429 ACRES TRACT
AREA 5 CONTAINING 231.482 ACRES
OWNED BY JULIA ELIZABETH BRADHAM, ET AL
LOCATED IN ST. ANDREWS PARISH
CONTAINING 233.827 ACRES

Southeastern Surveying of Charleston, Inc.
147 Wappoo Creek Drive – Suite 102
Charleston, South Carolina 29412
843-795-6330 FAX 795-2007

NO	DATE	DESCRIPTION	BY



A WETLAND SURVEY OF
AREA 5 A 1.916 ACRES TRACT AND A 0.429 ACRES TRACT
AREA 5 CONTAINING 231.482 ACRES
OWNED BY JULIA ELIZABETH BRADHAM, ET AL
LOCATED IN ST. ANDREWS PARISH
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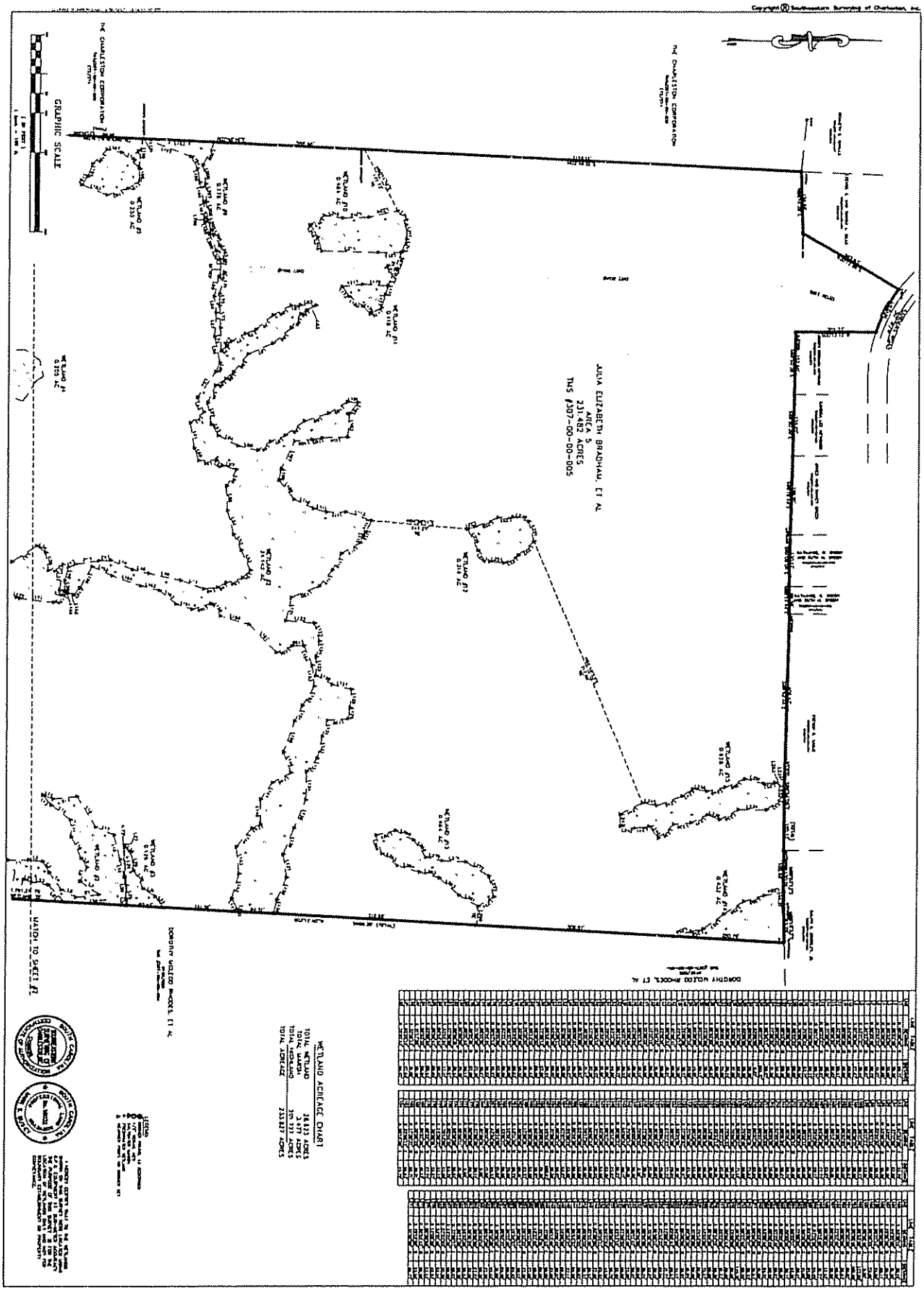
Southeastern Surveying of Charleston, Inc.
147 Wappoo Creek Drive – Suite 102
Charleston, South Carolina 29412
843-795-6330 FAX 795-3007

NO.	DATE	DESCRIPTION	BY



A WETLAND SURVEY OF
AREA 5, A 1.916 ACRES TRACT AND A 0.429 ACRES TRACT
AREA 5 CONTAINING 231.482 ACRES
OWNED BY JULIA ELIZABETH BRADHAM, ET AL
LOCATED IN ST. ANDREWS PARISH
CONTAINING 233.827 ACRES

Southeastern Surveying of Charleston, Inc.
147 Wappoo Creek Drive - Suite 102
Charleston, South Carolina 29412
843-795-8200 FAX 795-8207

NO.	DATE	DESCRIPTION	BY

APPENDIX D

Traffic, Transportation, & Parking Consultants
Mr Mike Ridgeway, PE,
SRS Engineering, LLC
1226 Bull Street, Suite 301
Columbia, SC 29201
803-252-1799
Fax: 803-252-1966

February 10, 2005

Mr. Gordon Geer
Centex Homes Charleston Division
2430 Mall Drive, Suite 450
North Charleston, SC 29406

RE: Bradham, Bolton, & Essex Tracts
Charleston County, SC
Traffic Impact Assessment

Dear Mr. Geer:

SRS Engineering, LLC (SRS) has completed an assessment of the traffic impacts anticipated by the proposed residential development on the Bradham, Bolton & Essex Tracts in Charleston County, South Carolina. This report identifies the impacts of traffic generated by the development and evaluates it with regard to capacity, safety, and roadway requirements. The following provides a summary of the study's findings.

Project Description

The project as proposed is to construct approximately 1,960 residential units on the three tracts consisting of 1,140 single-family units and 820 multi-family (townhome) units. There is a commercial component of the project to be located on the Essex Tract that has not been defined at this point and is not included in this study. It is understood that future development of the commercial portion will require additional study when developed. While some development on the site will likely begin this year, the project is expected to take between five and ten years to be completed depending on market conditions.

In general, the site is bounded by Glenn McConnell Parkway to the north, US 17 (Savannah Highway) to the south, the Department of Agriculture property to the east and existing development (i.e. Ponderosa Subdivision etc.) to the west.

As proposed, primary access for the development will be provided to US 17 directly opposite Croghan's Landing Road. Secondary access will be provided to Wildcat Boulevard via William E. Murray Blvd. Two direct connections to the Glenn McConnell Parkway are to be provided as the commercial component of the project develops. One of these connections will be utilized as the residential component of the project is initiated. It should be noted that median cuts and auxiliary lanes are already provided at these two access points even though the property has not developed.

Existing Conditions

A meeting was held in July of 2004 to discuss the project with SCDOT and City of Charleston staff. This meeting resulted in the definition of a study area for the project which includes the following intersections:

- US 17 at Croghan's Landing Road/Site Access;
- US 17 at McLeod Road;
- Glenn McConnell Parkway at Bees Ferry Road;
- Glenn McConnell Parkway at Wildcat Blvd; and
- Glenn McConnell Parkway at Magwood Road.

The following paragraphs detail the current traffic conditions and include a description of major roadways serving the site, intersections, and traffic flow within the study area.

Roadways

US 17 (Savannah Highway) - is a four-lane divided east/west oriented roadway within the study area consisting of two through lanes in each direction separated by a grassed median. This roadway has a posted speed limit of 55 miles-per-hour (mph) and is under the jurisdiction of the SCDOT.

Glenn McConnell Parkway

Is a four-lane divided principal arterial within the study area. This east/west oriented roadway connects Bees Ferry Road with Ashley River Road. The roadway is named Paul Cantrell Boulevard east of I 526. This roadway is under the jurisdiction of the South Carolina Department of Transportation (SCDOT) and the posted speed limit varies between 45 and 55 mph. Directional traffic is separated by a grass median.

Wildcat Boulevard

Is a four-lane divided road that currently serves as access to the West Ashley High School. This roadway has a posted speed limit of 25 mph, which is in effect during school hours. Directional traffic is separated by a raised landscaped median.

Intersections

US 17 at Croghan's Landing Road - is a four-legged unsignalized intersection where US 17 makes up the eastbound and westbound approaches, Croghan's Landing Road makes up the northbound approach and access to a frontage road (Marginal Road) makes up the southbound approach. The eastbound (US 17) approach provides for two through lanes, from which left turns are made from the inside through lane, and a separate right-turn lane. The westbound (US 17) approach provides for a separate left-turn lane, two through lanes, and a separate right-turn lane. The northbound (Croghan's Landing Road) and southbound (frontage road access) approaches each provide a single lane from which all turning movements are made. This intersection operates under STOP sign control where the northbound and southbound side-street approaches are required to stop. It should be noted that the frontage road (Marginal Road) parallels US 17 on its northern side in very close proximity with approximately 10-15 feet of separation between travel lanes.

US 17 at McLeod Road - is a three-legged unsignalized intersection where US 17 makes up the eastbound and westbound approaches, and McLeod Road makes up the southbound approach. The eastbound (US 17) approach provides for two through lanes and a separate left-turn lane. The westbound (US 17) approach provides for two through lanes, and a separate right-turn lane. The southbound McLeod Road approach provides for one lane from which left and right-turn movements are made. It should be noted that Marginal Road (frontage road) terminates at McLeod Road. There is a concrete island that prohibits left turns to/from McLeod Road to/from Marginal Road. This intersection operates under STOP sign control where the southbound side-street approach is required to stop.

Glenn McConnell Parkway at Bees Ferry Road

Is a three-legged signalized intersection where Bees Ferry Road makes up the northbound and southbound approaches, and Glenn McConnell Parkway makes up the westbound approach. The northbound approach of Bees Ferry Road provides a through lane, and a separate free-flow right-turn lane. The southbound approach of Bees Ferry Road provides a separate left-turn lane, and two through lanes. The westbound approach of Bees Ferry Road provides a separate left-turn lane, and a free-flow right-turn lane. The intersection operates under fully-actuated traffic signal control. Protected-permissive left-turn phasing is provided for the southbound Bees Ferry Road approach

Glenn McConnell Parkway at Wildcat Boulevard

Is a four-legged signalized intersection where Glenn McConnell Parkway makes up the eastbound and westbound approaches, Wildcat Boulevard makes up the northbound approach, and Mary Ader Avenue makes up the southbound approach. The westbound approach of Glenn McConnell Parkway provides dual left-turn lanes, two through lanes, and a separate right-turn lane. The eastbound approach of Glenn McConnell Parkway provides a separate left-turn lane, two through lanes, and a separate right-turn lane. The northbound approach of Wildcat Boulevard provides a separate left-turn lane, a shared left/through/right lane, and a separate right-turn lane. The southbound approach of Mary Ader Avenue provides for a separate left-turn lane, and a shared through/right lane. The intersection operates under fully-actuated traffic signal control. Split phasing is provided for the side-street approaches and protected left-turn phasing is provided for the dual left-turn lanes for the westbound approach heading towards the high school. Protected/permissive left-turn phasing is provided for the eastbound approach. Right-turn overlaps are provided for the eastbound, westbound, and northbound approaches

Glenn McConnell Parkway at Magwood Road

Is a four-legged signalized intersection where Glenn McConnell Parkway makes up the eastbound and westbound approaches, a commercial driveway makes up the northbound approach, and Magwood Road makes up the southbound approach. Both eastbound and westbound approaches of Glenn McConnell Parkway provide separate left-turn lanes, two through lanes, and separate right-turn lanes. The right-turn lane for the westbound approach is free flow. The northbound approach of the commercial driveway provides for a shared through/left lane and a separate right-turn lane. The southbound approach of Magwood Road provides for a separate left-turn lane, shared through/left lane, and a short separate right-turn lane. The intersection operates under fully-actuated traffic signal control. Split phasing is provided for the side-street approaches, and protected/permissive left-turn phasing is provided for the eastbound and westbound approaches. A right-turn overlap is provided for the eastbound approach.

Traffic Volumes

Turning movement counts were gathered at each of the study area intersections between the hours of 7:00 to 9:00 AM and 4:00 to 6:00 PM. Summarized count sheets for these five intersections are located in the Appendix of this report. The existing traffic flow networks for the AM and PM peak hours are shown graphically in **Figure 1** which follows this report.

Future Conditions

Future Traffic Volumes

While buildout of the site is expected to occur over approximately five to ten years, a build year of seven years out has been utilized. It is difficult to predict specific intersection traffic volumes for more than seven-years out. Traffic volumes for the study area intersections have been adjusted to anticipate future conditions assuming site build-out in Year 2012.

Future traffic volumes have been estimated based on an annual growth in traffic and specific approved developments currently planned within the study area. A previous report prepared for the Essex Farm Tract utilized a one-percent annual growth in background traffic. Based on a review of area count stations, a two-percent annual background growth rate has been used for this study.

In addition to the annual background growth of traffic, specific traffic related to the following two developments were included as background traffic:

- Ashley Village Townhomes (Wildcat Boulevard); and
- Wal-Mart Supercenter (Bees Ferry Road at Glenn McConnell Parkway).

The anticipated 2012 No-Build AM & PM peak-hour traffic volumes, which include the previously discussed background growth and specific approved development traffic are illustrated in **Figures 2.**

Planned Roadway Improvements

There are several roadway improvements currently planned within the study area that will have an impact on roadway/intersection capacity as the site begins to develop. Many are related to the Wal-Mart relocation to the intersection of Bees Ferry Road at Glenn McConnell Parkway from Magwood Road. These improvements are as follows:

- **Glenn McConnell Parkway at Bees Ferry Road** – The southbound approach of Bees Ferry Road and the westbound approach of Glenn McConnell Parkway will be widened for dual left-turn lanes

- **Ashley Circle** – Is a new proposed roadway that will be constructed connecting Glenn McConnell Parkway and Bees Ferry Road in the southeast quadrant of the intersection. Wal-Mart will access directly from this new roadway. A new traffic signal will be installed at the intersection of Ashley Circle and Bees Ferry Road. The approach of Ashley Circle at Glenn McConnell Parkway will be designated as right-in/right-out

- **Bees Ferry Road** – Will be widened to a four-lane cross section with turning lanes between Glenn McConnell Parkway and Grand Oaks Boulevard.

- **Glenn McConnell Parkway at Magwood Road** – The westbound approach of this intersection will be widened to provide for dual left-turn lanes

Site-Generated Traffic

Traffic volumes expected to be generated by the proposed development were forecasted using the Seventh Edition of the ITE *Trip Generation* manual[1] As proposed, the site would be developed to contain a total of 1,960 residential units consisting of 1,140 single-family units and 820 multi-family units.

The information contained in the ITE *Trip Generation* manual indicates that the development as a whole can be expected to generate 13,600 trips on a weekday daily basis, of which a total of 1,085 trips (249 entering, 836 exiting) can be expected during the AM peak-hour and 1,296 trips (830 entering, 466 exiting) can be expected during the PM peak-hour. It should be noted that a 10% reduction was applied to traffic volumes during the AM peak hour due to interconnectivity with schools (West Ashley High and C.E. Williams Middle). **Table 1** presents the summarized trip generation characteristics for the site

Table 1
PROJECT TRIP-GENERATION SUMMARY[1]
Bradham, Bolton, & Essex Tracts

Time Period	1,140 Single-Family Units (a)	820 Multi-Family Units (b)	Internal Capture with Schools[2] (c)	External Total (a+b-c)
Weekday Daily	9,760	3,840	-	13,600
AM Peak-Hour				
Enter	202	47	<54>	195
Exit	605	231	<54>	782
Total	807	278	<108>	977
PM Peak-Hour				
Enter	604	226	-	830
Exit	354	112	-	466
Total	958	338	-	1,296

1 Source: ITE Trip Generation manual, Seventh Edition; LUC's 210 & 230

2 10% Reduction for interaction with schools applied to AM peak hour only

Trip Distribution

The directional distribution of site-generated traffic on the study area roadways has been based on an evaluation of existing travel patterns within the study area. This distribution pattern is shown in **Table 2**. Separate patterns were developed for the AM & PM peak hours. The AM peak in this area is typically commuter driven with a heavy percentage oriented towards I 526 and Charleston. The PM peak, while heavy, is more balanced. Retail oriented trips are more likely to occur during the PM peak (i.e. trips to the new Wal-Mart at Bees Ferry/Glenn McConnell).

[1] *Trip Generation*, Seventh Edition; Institute of Transportation Engineers; Washington, DC; 2003

Table 2
TRIP DISTRIBUTION SUMMARY
Bradham, Bolton, & Essex Tracts

Roadway	Direction To/From	AM PEAK HOUR Enter/Exit	PM PEAK HOUR Enter/Exit
US 17 (Savannah Highway)	East	45	40
	West	15	15
Glenn McConnell Parkway	East	30	25
Magwood Road	North	5	5
Bees Ferry Road	North	5	5
	South	0	10
	Total	**100**	**100**

Note: Based on the existing traffic patterns

The site-generated traffic presented in Table 1 has been distributed within the study area roadway network as shown by the distribution patterns depicted in Table 2. This has resulted in the site-generated specific volumes illustrated by **Figure 3.**

2012 Build Traffic Volumes

The Future 2012 Build traffic volumes have been developed by adding the total site-generated traffic, as shown in Figure 3, together with the 2012 No-Build traffic volumes (Figure 2). The 2012 Build traffic volumes, which reflect the growth in background traffic, specific background development traffic, and the proposed site-generated traffic, are shown in **Figure 4.** These volumes were used as the basis to determine potential improvement measures necessary to offset project impacts.

Traffic Operations

Traffic Operations Methodology

A primary result of capacity analysis is the assignment of Level-of-Service (LOS) to traffic facilities under various traffic flow conditions. The concept of Level-of-Service is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A Level-of-Service designation provides an index to the quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six Levels-of-Service are defined for each type of facility (signalized and unsignalized intersections). They are given letter designations from A to F, with LOS A representing the best operating conditions and LOS F the worst.

Since the Level-of-Service of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of Levels-of-Service depending on the time of day, day of week, or period of a year.

Intersection Analysis

Intersection analyses have been completed for the AM & PM peak-hours for each of the study area intersections under Existing, 2012 No-Build and 2012 Build conditions. **Table 3** depicts the resultant Levels-of-Service. SYNCHRO analysis sheets are attached at the end of this report.

Table 3
LEVEL-OF-SERVICE SUMMARY[1]
Bradham, Bolton, & Essex Tracts

		Existing			2012 No-Build			2012 Build		
Signalized Intersections	Peak Hour	Delay[2]	V/C[3]	LOS[4]	Delay	V/C	LOS	Delay	V/C	LOS
Glenn McConnell Parkway at Bees Ferry Road	AM	69.2	1.16	E	30.8	0.80	C	31.6	0.80	C
	PM	14.9	0.83	B	17.6	0.80	B	18.4	0.82	B
Glenn McConnell Parkway at Wildact Blvd	AM	21.8	0.76	C	26.2	0.93	C	32.9	0.99	C
	PM	11.7	0.67	B	14.5	0.79	B	18.3	0.85	B
Glenn McConnell Parkway at Magwood Road	AM	64.7	1.06	E	101.8	1.19	F	130.3	1.29	F
	PM	51.4	1.09	D	94.4	1.23	F	117.3	1.35	F
Unsignalized Intersections										
US 17 at Croghan s Landing	AM	55.4	-	F	114.2	-	F	>500.0	-	F
	PM	95.7	-	F	215.5	-	F	>500.0	-	F
US 17 at McLeod Road	AM	25.7	-	D	43.2	-	E	60.9	-	F
	PM	56.7	-	F	107.5	-	F	244.4	-	F
Wildcat Blvd at William E Murray Blvd	AM				13.0	-	B	13.8	-	B
	PM				11.7	-	B	17.5	-	C
Gleen McConnell Parkway at Essex Access	AM							81.4	-	F
	PM							15.6	-	C

1. Calculations based on 2000 Highway Capacity Manual
2. Delay in seconds per vehicle
3. V/C = Volume to Capacity Ratio
4. Level-of Service.

GENERAL NOTES:

1. For unsignalized intersections delay is representative of the minor street approach
2. For signalized intersection delay is representative of the overall intersection

As shown, under Existing conditions, two of the existing signalized intersections (Glenn McConnell at Bees Ferry and Glenn McConnell at Magwood) currently operate at poor service levels during the AM peak hour. The intersection of Glenn McConnell at Magwood is also approaching poor operations during the PM peak hour. Both unsignalized intersections studied along US 17 operate at poor service levels during one or both peak hours. These poor service levels are dictated by side-street delays and difficulty accessing US 17 due to high traffic volumes

Future 2012 No-Build conditions, which include seven years of general background growth and specific traffic related to the Wal-Mart and Ashley Village Townhomes, indicate that operations will be improved at the Glenn McConnell at Bees Ferry intersection due to roadway improvements proposed with the Wal-Mart project. The intersection of Glenn McConnell at Magwood Road deteriorates to poor operations during both peak hours. The two unsignalized intersections studied along US 17 operate with increased delays.

Build conditions indicate that operations at study area intersections will be similar to that of No-Build conditions. The Glenn McConnell at Magwood Road intersection will continue to fail with higher delays. The proposed access drive for the Essex Tract is shown to operate poorly during the AM peak hour due to heavy inbound volumes on the Glenn McConnell Parkway, however this is not thought to be a significant problem since traffic at this intersection has an option for signalized access to Glenn McConnell via Wildcat Boulevard

RECOMMENDATIONS/CONCLUSIONS

The last step in the analysis process is to identify mitigating measures that may either minimize the impact of the project, or alleviate poor service levels that are not directly related to the project. Measures considered necessary to mitigate roadway system deficiencies are discussed below.

Project Access

The following paragraphs discuss each of the major access points for the site and projected mitigation associated with the development

US 17 at Croghan's Landing /Bradham Tract Access

This intersection will serve as primary access for the westernmost Bradham Tract portion of the project. This intersection will require significant improvements to the southbound project access approach for the intersection. The southbound approach will require dual left-turn lanes, and a shared through/right lane. The existing frontage road (Marginal Road) will be reconfigured to intersect the access drive approximately 300-400 ft. north of US 17. An eastbound left-turn lane for US 17 will need to be constructed out of the median to serve the project. Traffic signal control will be needed at this intersection as warranted and approved by SCDOT. This signalization will not only benefit the project, but existing development in the area including the Ponderosa Subdivision and the C.E. Williams Middle School. This is anticipated to result in a positive impact on the US 17 at McLeod Road intersection.

Wildcat Boulevard Access

Wildcat Boulevard will serve as a secondary access for the project. A connection to William E. Murray Blvd., which was constructed to serve the Ashley Village Townhomes, will be provided. This connection will allow for project related traffic to access West Ashley High School without impacting Glenn McConnell Parkway or US 17. This is a major benefit for this site from a traffic standpoint. The connection to Wildcat Boulevard will also allow for signalized access to Glenn McConnell Parkway for the project.

Essex Tract Access at Glenn McConnell Parkway

Two stubbed access drives for the project are already provided to Glenn McConnell Parkway with existing median cuts. For this study only one of the access drives has been analyzed as the second stubbed access will likely be activated when the commercial tract is developed. Left and right-turn lanes already exist for the Parkway at these locations. Separate left and right-turn lanes should be provided for the site access approaches to the Parkway. When the commercial tract fronting the Parkway is developed, further study will be needed, and traffic signalization will likely occur at one of the access drives to Glenn McConnell Parkway. In the short term, the access drive(s) should be placed under STOP sign control.

Off-Site Intersections

Glenn McConnell Parkway at Bees Ferry Road

Capacity analyses indicate that improvements related to the Wal-Mart will result in acceptable future operations at this intersection. The project has a minimal impact on this intersection. One long-range improvement that will greatly benefit this area is a grade-separated interchange at this location when the Glenn McConnell Parkway is extended towards Summerville. A circular ring road will be provided around the interchange of which the Wal-Mart is currently constructing one fourth of the ring road in the southeast quadrant of the intersection.

Glenn McConnell Parkway at Wildcat Boulevard

Capacity analyses indicate that the project has a minimal impact on this intersection and acceptable future operations are expected with or without the project. This intersection will serve the project well, most notably during the PM peak hour when the high school traffic has already peaked.

Wildcat Boulevard at William E. Murray Boulevard

This intersection is very important to the project in that it will provide interconnectivity with the West Ashley High School and will provide access to an existing traffic signal at Glenn McConnell Parkway. Capacity analyses indicate that this intersection will operate acceptably in the future with existing geometry in place with or without the project.

Glenn McConnell Parkway at Magwood Road

Capacity analyses indicate that this intersection has significant problems under Existing conditions that will worsen in the future with or without the project. Mitigation related to the Wal-Mart project will result in an additional left-turn lane for the westbound Glenn McConnell approach; however this improvement alone will not solve the capacity issues at this intersection. It is suggested that this intersection be monitored upon closure of the old (existing) Wal-Mart to see if significant changes in turning movements occur resulting in potential phasing changes for the intersection. The split-phase operation currently in place results in excessive delays for through movements along Glenn McConnell Parkway.

US 17 at McLeod Road

Installation of a traffic signal at US 17 at Croghan's Landing coupled with a relocated frontage road, is anticipated to have a positive impact on this intersection by providing left-turns currently served at this intersection access to signalization. There exists the potential for a future connection from the project to McLeod Road. If this were to occur it is likely that traffic signalization would occur at this intersection. In order to model for the shift of traffic expected from McLeod Road to the Bradham access drive opposite Croghan's Landing, half of the traffic for the southbound McLeod approach was diverted to the Bradham access approach and analyzed under a mitigated scenario.

Capacity Analyses incorporating recommended improvement measures have been conducted and are summarized in **Table 4**.

Table 4
MITIGATED LEVEL-OF-SERVICE SUMMARY[1]
Bradham, Bolton, & Essex Tracts

		2012 No-Build			2012 Build			2012 Build Mitigated		
Signalized Intersections	Peak Hour	Delay[2]	V/C[3]	LOS[4]	Delay	V/C	LOS	Delay	V/C	LOS
US 17 at Croghan's Landing/Bradham Access[5]	AM	114 2	-	F	>500 0	-	F	23 3	0 85	C
	PM	215 5	-	F	>500 0	-	F	19 4	0 76	B
US 17 at McLeod Road	AM	43 2	-	E	60 9	-	F	41 0	-	E
	PM	107 5	-	F	244 4	-	F	70 2	-	F

1 Calculations based on 2000 Highway Capacity Manual
2 Delay in seconds per vehicle
3 V/C = Volume to Capacity Ratio
4 Level-of-Service
5 Assumes Signal Control for Mitigated Condition

GENERAL NOTES:

1 For unsignalized intersections delay is representative of the minor street approach
2 For signalized intersection, delay is representative of the overall intersection

As shown in Table 4, operations at the Bradham Access intersection will be drastically improved with the inclusion of recommended geometry and traffic signal control. This signal will also likely result in improvements at the US 17/McLeod Road intersection since side street movements will likely divert to the traffic signal.

Project Transportation Benefits

While the project will generate a significant amount of traffic, there are a few notable benefits from a traffic standpoint that will be realized with the project:

- This large-scale residential project will have access to existing schools without impacting the major arterials of Glenn McConnell Parkway and US 17. School traffic can be a major issue during the AM peak hour, and this interconnectivity will result in a significant benefit for the site and adjacent roadway network.

- The roadway network for the project will allow for connections between the Glenn McConnell Parkway and US 17. While these connections are not planned as major thoroughfares, it is likely that some trips will be served between the two major roadways via this development.

- The project proposes to correct the existing deficient design of the Marginal Road intersection at the Bradham Tract access opposite Croghan's Landing. This improvement will provide an improvement for existing traffic in the area (i e. Ponderosa Subdivision, C E. Williams Middle School, etc), and other uses along frontage road.

- When the commercial component of the project develops, a certain amount of internal capture of trips will be realized. For example, residential trips destined to the grocery store, can do so without impacting the external roadway network.

If you have any questions, please contact me at (803) 252-1799.

Regards,

SRS ENGINEERING

Mike Ridgeway, P E
Principal

Attachments

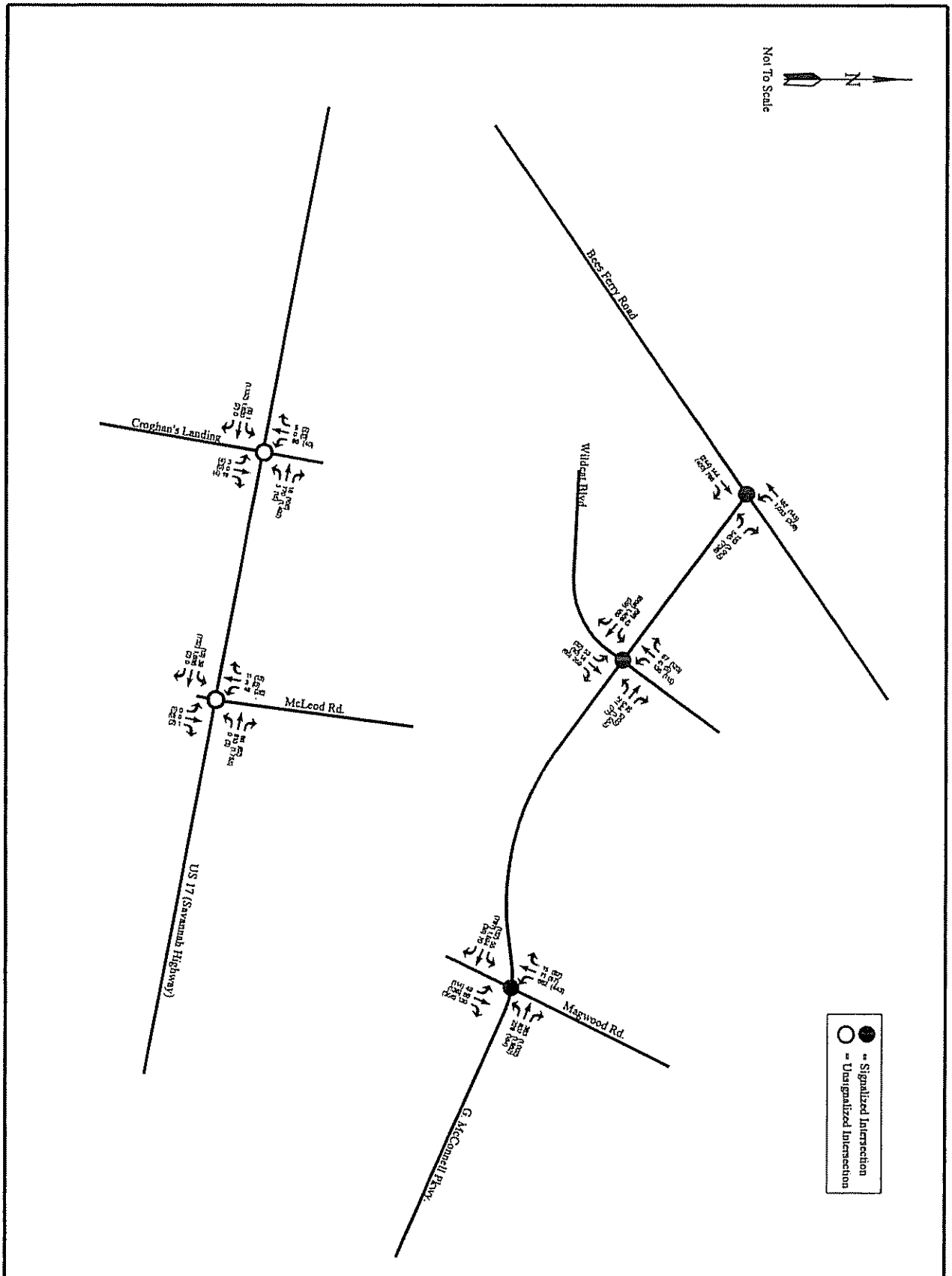


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Figure #1

EXISTING TRAFFIC VOLUMES AM & (PM) PEAK-HOURS

Bradham, Bolton, & Essex Tracts : Charleston, SC

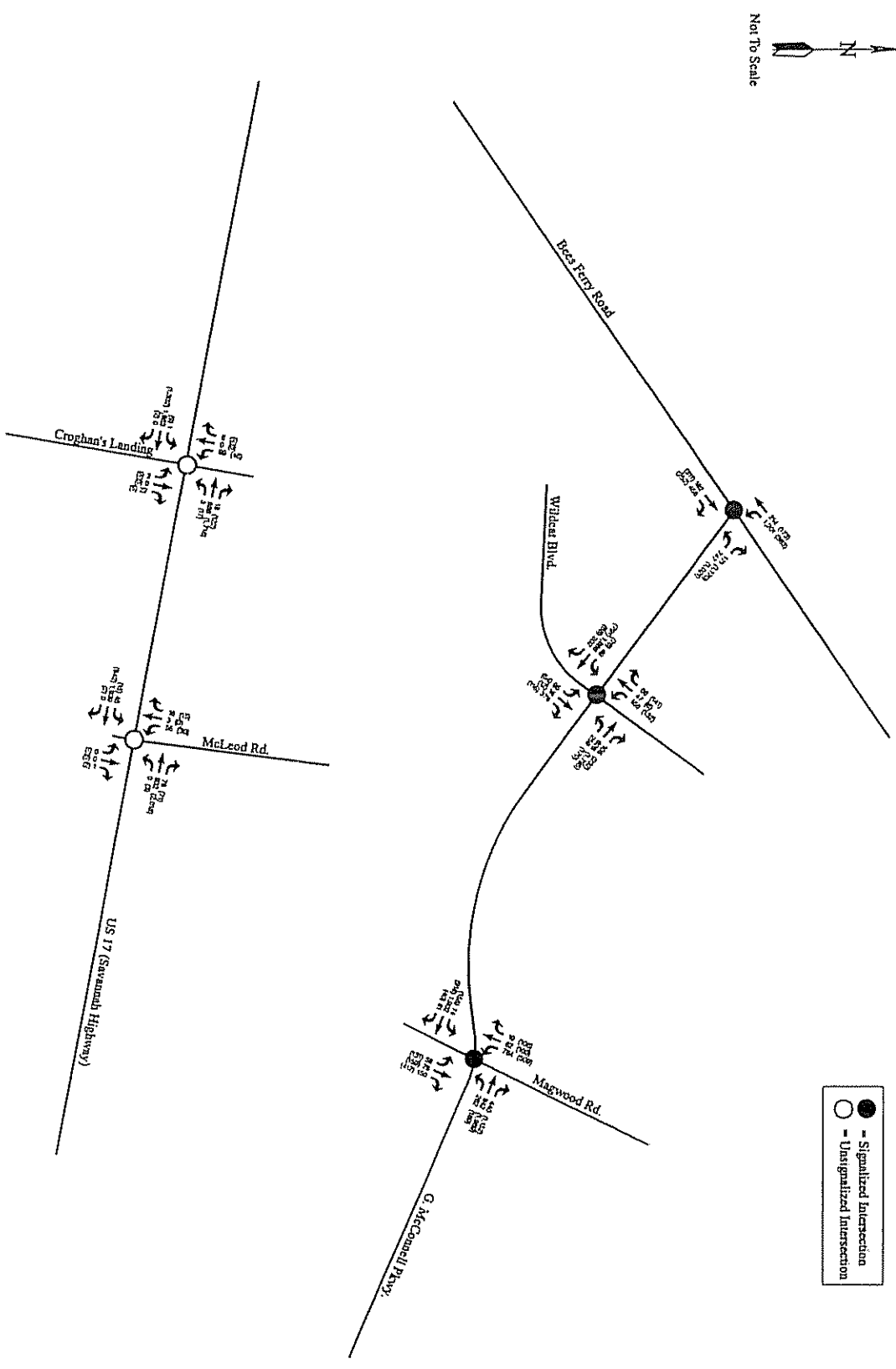

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Figure #2

2012 NO-BUILD TRAFFIC VOLUMES AM & (PM) PEAK-HOURS

Bradham, Bolton, & Essex Tracts : Charleston, SC

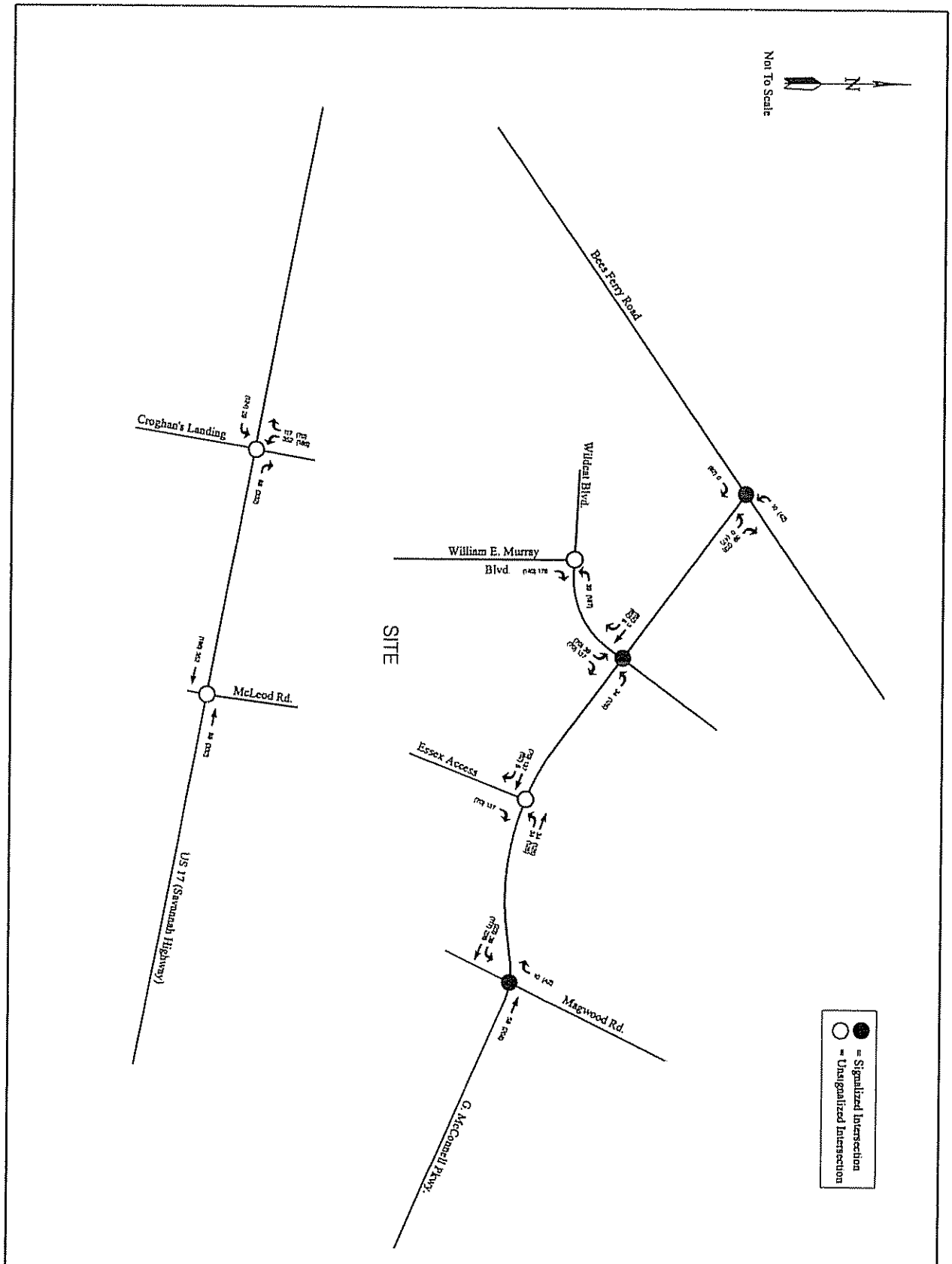

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Figure #3

SITE-GENERATED TRAFFIC VOLUMES AM & (PM) PEAK-HOURS

Bradham, Bolton, & Essex Tracts : Charleston, SC

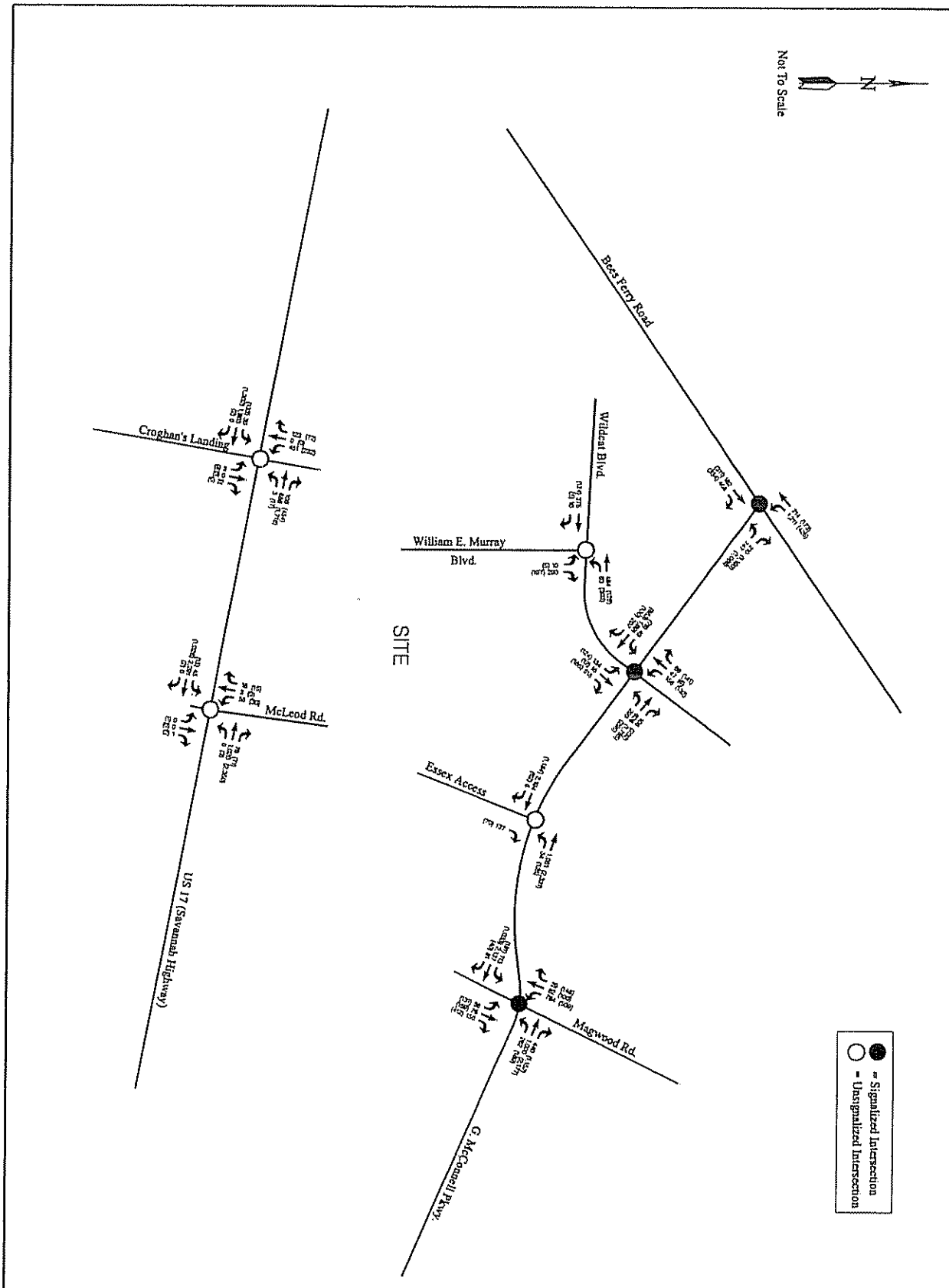

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Figure #4

2012 BUILD TRAFFIC VOLUMES AM & (PM) PEAK-HOURS

Bradham, Bolton, & Essex Tracts : Charleston, SC

APPENDIX E

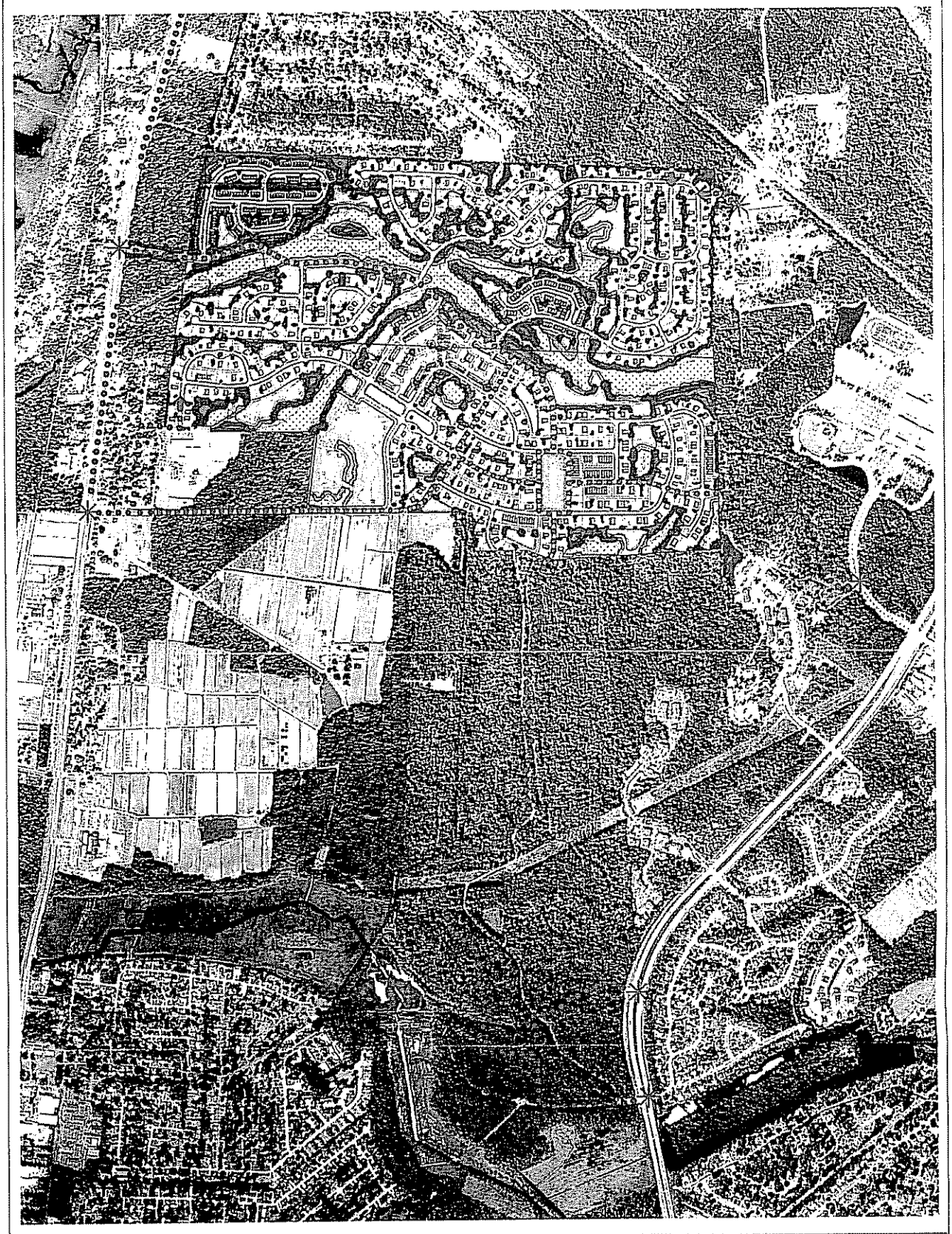

EXHIBIT ROAD

SHEET 1 OF 1

CAROLINA BAY

CENTEX HOMES

CHARLESTON COUNTY, SOUTH CAROLINA

SEAMON, WHITESIDE & ASSOCIATES, INC

ESTIMATE Check / Summary - Coastal Carolina CENTRAL

JOB #: **CYP-026** | Plan #: **1841-B** | Customer: **Gillespie**

Estimate By: **S Bass** | Entered By: **S Bass** | Orientation: **Right**

Estimate & Plans THRU Change Order #:

Per COLOR SELECTS

Chg. Brick Color & Quantity if other than Std. (Lakeside - *Except F&J*) "Note" Lakeside @ 640/cube; Triangle @ 510/cube; All others @ 530/cube

	Item #	Cost Code 3501	Cost Code 3561	Solids	Cost Code 3501	Vendor
Lakeside *(STD-Old)*	461000	X	X	461020	X	10044
Colonial Williamsburg	461001			461021		10044
Old Guignard *(STD in KW)*	461002			461022		10044
Indian River / Ashley	461003			461023		10044
Indigo Red *(STD in LP)*	461004			461024		10044
Bessemer Grey *(STD-New)*	461009			461029		10801
Oxford *(STD in BM, LL, SE & SR)*	461010			461019		10801
Northampton	461005			461025		10801
Southampton	461006			461026		10801
Cape Cod	461007			461027		10801
Old South	461008			461028		10801
If Necessary, change brick labor	471000				3520	

581030 - 581032 **Georgetown Gray** Note Roof Color on PO 3901

**** Moire Black (581032) is Std: Chg. 3-tab to hip&ridge (Qty*2) for Weatherwood (581030) & Georgetown Gray (581031) ****

Whirlpool **Stainless** Note Appliance color on PO 10638

Per PLOT & LOT CHECK

Fdn Height: _____ Std Height: **24.0** Add: _____ Inches

Item #	Qty		Cost Code	Vendor
451000		8x8x16 Block	1705	179 / 4253 /10884
441060		Block Mortar *3 bags/100 blocks*	1708	179 / 4253 /10884
471200		Block Labor	1725	2148
		Slab only:		
331140		Addt'l Backfill Mat'l *(1 LD=15 CY)*	1410	1
231025		Addt'l Backfill Labor - *per LOAD*	1425	
211020		Concrete to fill Cells	1901	741 / 648
		Crawl only:		
211040		Addt'l Conc - Pea Gravel *1yd/course*	1712	741
451040		1/2 Highs (8x4x16 Block)	1705	179 / 4253 /10884
441080		Durawall *(between every other course)* 10' lengths	1710	440 / 4253
661020		Addt'l Stucco	3400	10034
551010	**13**	Extra Sewer = Total-32' *(only if Plumber not Jenkins)*	4205	
211020		Driveway Concrete (SY)	5501	741 / 648
231000	**-180**	Driveway-Turnkey (sf) Std= 850 ——> 670	5503	
		Public Sidewalk: *4' Deep*		
211020		Concrete (SY)	5501	741 / 648
221030		Expansion Joint *Qty=1*	5501	741 / 648
231000		Sidewalk-Turnkey (sf) Std=	5503	0
331047		Cut f/ Public Sidewalk *Qty=1*	8461	0

Tall Foundations

Extra Strap ext/nuts& bolts

Foundation Straps: _____

301050		1702	440 / 4253
301060		1702	440 / 4253

Pier/Column Block (Lowcountry only)

Pier: 451170		1705	179 / 4253 /10884
Column: 451160		1705	179 / 4253 /10884
C. Labor: 471340		1725	2148

IRC Rebar Turnups

	1702	440 / 4253
	1702	440 / 4253

8813 Fuel Surcharge 0

Same Vendor as Landscaping/CC 8405

Per LOT MATRIX

Item #	Qty		Cost Code	Vendor
331080		Dirt Budget *Std=* 0 ——> 0	8401	1
331030		Addt'l Clearing	8411	1
401200		Addt'l Landscaping	8415	1
401200		Addt'l Landscaping *(HI - Special Landscaping for Buffer)*	8415	1
331080		Add'l Dirt Budget for #57 Stone *(BoS only)*	8401	1

LANDSCAPING (NOT in F&J)

Total Landscapable Area: **5599** sq ft Subtract Std. Budget of **6000**

Difference: **-401** Divide difference into **70 / 30**

Item #	Qty			Cost Code	Vendor
401000	**-281**	Sod	70%	8405	
401040	**-120**	Pinestraw	30%	8405	

MISC.

621000		Add additional sign money for USH's		8807	10806 / 220
331100	**0**	Silt Fence	*Std=* 65 ——> 65	1405	1

APPENDIX F

JUL 25 [illegible]

COMMISSIONERS OF PUBLIC WORKS
Of the City of Charleston
South Carolina

July 22, 2005

Seamon Whitesides & Associates
501 Wando Park Boulevard, Suite 200
Mount Pleasant, South Carolina 29464
Attention Stuart Whiteside

MY DIRECT LINE IS
(843) 727 6886

Re Water Availability to TMS #307-00-00-005 & 307-00-00-004 as combined into one site

Dear Mr Whiteside

This letter is to certify our willingness and ability to provide water to the above referenced site in Charleston, South Carolina We currently have a 6" water main in Sanders Road and a 12" water main in Savannah Highway from which this site may be served It may be necessary to tie these two water mains together in order to provide this site with adequate pressures and quantities Please be advised any extensions or modification to the infrastructure will be a developer expense

The Commissioners of Public Works certifies the availability of service only insofar as its rights allow Should access to our existing main/mains be denied by appropriate governing authorities, the Commissioners of Public Works will have no other option than to deny service

This letter is not to be construed as a letter of acceptance for operation and maintenance from the Department of Health and Environmental Control

If there are any questions pertaining to this letter, please do not hesitate to call on me at (843) 727-6886 With best regards, I am

Very truly yours,

Clifford C Wooten
Technical Services Supervisor

cc Mark F Cline, PE
File

Rev No 0 10/1/1999 DC-4 5 1c-005

COMMISSIONERS OF PUBLIC WORKS

Of the City of Charleston
South Carolina

July 22, 2005

Seamon Whitesides & Associates
501 Wando Park Boulevard, Suite 200
Mount Pleasant, South Carolina 29464
Attention Stuart Whiteside

MY DIRECT LINE IS
(843) 727 6886

Re Sewer Availability to TMS #307-00-00-005 & 307-00-00-004 as combined into one site

Dear Mr Whiteside

This letter is to certify our willingness and ability to provide sewer collection service to the above referenced site in Charleston, South Carolina Sewer collection service to this site is available via the existing Commissioners of Public Works gravity sewer main collection system located in Sanders Road and also the gravity sewer main collection system in Marginal Road Any/all extensions or modifications/upgrades to the infrastructure required to serve this site will be a developer expense Please be advised that wastewater impact fees, wastewater tap fees, change-in-use fees, and/or cost to extend fees may be due prior to connection of any Commissioners of Public Works sewer system

The Commissioners of Public Works certifies the availability of service only insofar as its rights allow Should access to our existing sewer main/mains be denied by appropriate governing authorities, the Commissioners of Public Works will have no other option than to deny service

This letter is not to be construed as a letter of acceptance for operation and maintenance from the Department of Health and Environmental Control

If there are any questions pertaining to this letter, please do not hesitate to call on me at (843) 727-6886 With best regards, I am

Very truly yours,

Clifford C Wooten
Technical Services Supervisor

cc Kin Hill, PE
Mark F Cline, PE
Theresa Gadson
Brian Williams, PE

ST. ANDREWS PSD FIRE DEPARTMENT
1775 ASHLEY RIVER ROAD
P.O. BOX 30305
CHARLESTON, SOUTH CAROLINA 29407
PHONE 843-556-8951
FAX 843-769-2404

22 JULY 05

To Whom It May Concern,

The property known as the Bradham Iract between Highway 17 and Sanders Rd is serviced by the St. Andrews Fire Department. The St. Andrews Fire Dept can and will provide outstanding services to this property.

Sincerely,

Joseph B. Heyward
Fire Chief
St. Andrews Fire Dept