

# +/-35.98 Acre Flexible Review District (FRD) Honbarrier Dr., Greenville, SC

Applicant:
Central Realty Holdings
Contact: Rece Morgan
400 East Stone Ave.
Greenville, SC 29601

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Flexible Review District. The development planned for this +/-35.98-acre tract along Honbarrier Dr. adjacent to I-85 is proposed to utilize the Flexible Review District (FRD) zoning classification. The proposed apartment community will consist of 302 Class A units. The product will be constructed to an institutional quality standard and will be a Best-in-Class asset for Greenville's northeast submarket. The total projected cost for this apartment development is estimated at \$37 million. The proposed development will pursue a US Building Council Green Certification. The product will be programmed to target affluent renters with a projected average monthly rent of \$1,175. The unit mix will be comprised of 146 One Bedroom Units (48%), 134 Two Bedroom Units (44%), and 22 Three Bedroom Units (8%). The total residential rentable square footage of the project is 303,270 SF. There are 480 parking spaces provided or 1.6 spaces per dwelling unit. See the following Preliminary Development Plan. Also, see the Appendix for the Boundary Surveys, Wetlands Survey, and Authorization Letter.

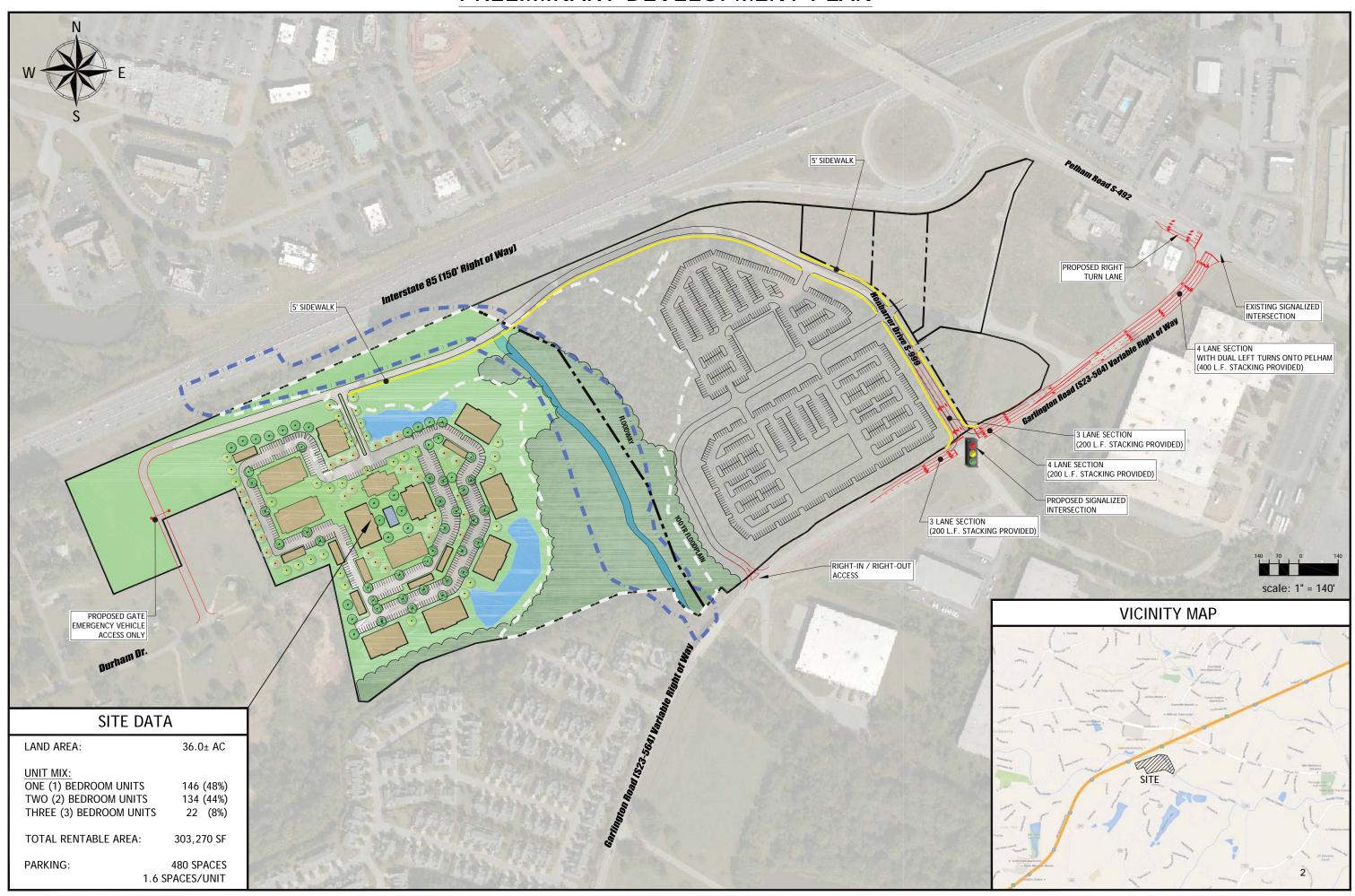
a) A description of the procedures of any proposed homeowners association or other group maintenance agreement.

The subject property will be owned by a single entity (fee simple). Middleburg Management Company will manage the apartment community and maintain the property.

b) A statement setting forth the proposed development schedule.

Demolition and Site Work is expected to commence in the Summer of 2016. Construction of the new community will take approximately two years. All public improvements mentioned in the next section will be completed prior to the apartment community's completion of construction.

# PRELIMINARY DEVELOPMENT PLAN





c) A statement of the public improvements both on- and off-site that are proposed for dedication and/or construction and an estimate of the timing for providing such improvements.

On site, we intend to relocate a portion of Honbarrier Drive, repave/repair the balance of the length of Honbarrier Drive, and acquire curb cut approvals from SCDOT. This project requires two curb cuts and a new light on Garlington Road in order to efficiently use the site. In order to obtain approval for this necessary access, SCDOT will require Central Realty, and its partners, to mitigate the traffic generated by the project through the improvements to Garlington Road and Pelham Road.

To mitigate the traffic generated by this project, Central Realty will expand the Garlington Road and Pelham Road intersection by adding two additional lanes on Garlington Road at the intersection. Currently, there are three lanes on Garlington Road at Pelham Road. There is one right-only onto Pelham Road; one lane is a combination of left-turn and through traffic; lastly, there is one lane moving away from Pelham Road. The new traffic pattern will be two left lanes onto Pelham Road and one through lane across Pelham Road. Additionally, we will maintain the dedicated right turn lane onto Pelham Road and the single lane moving away from Pelham Road. SCDOT has written a letter affirming their agreement that the proposed road improvements will mitigate the traffic created by the project. The SCDOT Approval letter and Traffic Study have been included in your additional information package.

In addition to improvements to Honbarrier Drive, Garlington Road, and Pelham Road, there will be an emergency access created for the apartment community. An emergency access is required by County Code in order to serve emergency vehicles in the case that the primary access is impassible for any reason. A Reciprocal Easement Agreement has been signed with a neighboring land-owner to construct a section of road connecting Honbarrier Drive to Durham Road. A gate will be constructed along this new length of road in order to limit access exclusively to Emergency Responders. This road will be built and maintained in accordance with County Standards.

All public improvements will be completed prior to the completion of the apartment community.

See following "Comfort Letter" from SCDOT with concept drawing of the new improvements. Also, see Appendix for Traffic Impact Report by SRS Engineering and the Easement Agreement to create the Emergency Access across an adjacent parcel.





October 19, 2015

Eric Vinson Greenville County Planning Department 301 University Ridge Greenville, SC 29601

Re: Honbarrier Tract - Pelham Crossing

Mr. Vinson:

SCDOT has reviewed the proposed development and traffic study (attached). Several meetings have been held to discuss the site with the developer and engineers, the latest on Wednesday October 14, 2015. Preliminary plans were reviewed to determine access points and possible improvements to the site plan and its impact to traffic along Garlington Rd and Pelham Rd. SCDOT has and will continue working with the developer and engineers to provide reasonable access to the property in accordance with the ARMS manual. SCDOT is willing to consider a permit for a signalized intersection at the relocated Honbarrier Dr and Garlington Rd. as well as a right-in/right-out access on Garlington Rd approximately 150 ft north of the bridge. Necessary improvements at the intersection of Garlington Rd and Pelham Rd will also be considered.

- District Traffic Engineering is ok with the Study methodology, and we concur that a signal control will be necessary at the relocated Honbarrier Dr and Garlington Rd intersection. With regard to the proposed turn lane improvements, we also concur with these recommendations as they will help offset the site generated traffic as it impacts the intersection of Pelham Rd. and Garlington Rd.
- The consultant will need to coordinate with us when the signal is installed, as there is an SCDOT retiming project along Pelham Road to install a traffic responsive system. This will depend on the timing of the project and the SCDOT installation.
- Details will need to be worked out in terms of driveway geometries such as how the right-in/right-out driveway will be constructed and will the existing Honbarrier become a RIRO.



Phone: (864) 241-1010

Fax: (864) 241-1115

Please note this letter is not a guarantee of approval for any encroachment involving this development. Approval is given by the issuance of an approved encroachment permit which is based on a permit application and package meeting the ARMS manual. Based on the preliminary meeting, review of preliminary plans, and submittal of an encroachment permit package, SCDOT is favorable towards the proposed development, the driveway access shown and the intersection/roadway improvements. It is possible the plan could require minor changes or revisions to address any issues found in the review/approval process. If all SCDOT standards and specifications are met, the encroachment permit shall be approved. Upon approval, the applicant will be required to adhere to the provisions and special provisions of the approved Encroachment Permit.

Should you have any questions, please contact Mike Holden, District Permit Engineer at (864) 241-1010.

Regards,

Mike Holden,

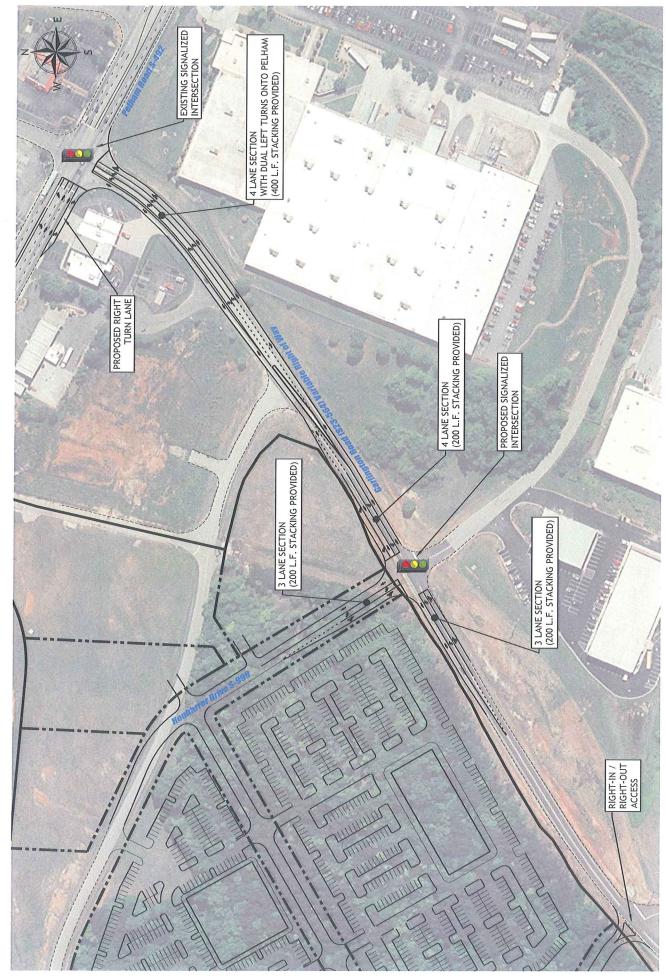
District Permit Engineer

note Holden

Cc: Rece Morgan

**MCH** 

Enclosures





d) A statement of impact on public facilities including water, sewer collection and treatment, fire protection, etc., and letters from the appropriate agencies or districts verifying that such facilities or services are available and adequate to serve the proposed development.

A sanitary sewer main extension is proposed to serve this development – this proposed sewer main extension will be owned, operated, and maintained by MetroConnects Sewer Sub district.

The property contains an existing Greenville Water System 8" water main located in Honbarrier Dr. and will be utilized to serve the site.

Piedmont Natural Gas has confirmed the possibility of service to the property.

Boiling Spring Fire Department Headquarters is located approximately one-quarter mile from the property.

See the following verifying correspondence.

# PRELIMINARY SANITARY SEWER AGENCY REVIEW FORM

# PROJECT INFORMATION (to be filled out by engineer)

Project Name: Pelham Crossing

Tax map number(s) for project: 0533040100700, 0533020105500, 0533040100529, 0533040100707, 0533040100528, 0533040100519, 0533040100520

Project Information											
Type of development: (check one)	Residential	☐ Industrial	☐ Commercial								
	Single-Family	☐ Multi-Family	Multi-Use								
Primary Collection Agency:											
If yes, list all agencies and provide this form for their review:											
Proposed Treatment Facility: ReWa											
Estimated total sewer flow: 83,655   Gal/day. Attach flow calculations.											
(Average daily flow as calculated using SCDHEC's Unit Contributory Loadings)											
Connection Point - Attach map identifying proposed connection point's to existing collection and/or truck sewers											
Pump Station Required?: Yes No If Yes, identify proposed location and force main routing on											
	attached map										
Ownership, Operation & Maintenance of pum											
<u>D</u> e	eveloper Contact Info	<u>ormation</u>									
Company Name: Central Realty Holdings		ct: Rece Morgan									
Company's Mailing Address: 400 East Stone A	venue, Greenville, SC	29601									
Phone Number: 864-250-9475		ımber: 864-679-4264									
_	ngineer Contact Info	<del></del> _									
Company Name: Bluewater Civil Design, LLC		ct: Jason S. Henderson, P.	Ε.								
Company's Mailing Address: 19 Washington P											
Phone Number: 864-326-4204	Fax Nı	ımber: 855-735-7350									
Engineer's Signature:		Date	:								
SANITARY SEWER REVIEW COLLECTION AGENCY TREATMENT AGENCY											
☐ ASSOCIATED SEWER AGENCY ☐ WCRSA HAS VERIFIED ALL AFFECTED AGENCIES HAVE											
COMPLETED REVIEW FORM											
Agency Name: MetroConnects											
Capacity is currently available to serve proje	ct: X Yes No	f not, provide brief descrip	tion of capacity issues:								
		D-1/-									
Other issues or comments: PROPOSED S	EWER TIES DIE	FUTLY TO REWA									
2 2 2			2011								
Agency representative:	de la companya de la	Date									
This form does not constitute a permit to co											
building permits from Greenville County.											
future capacity can neither be guaranteed											
approval, payment of all application fees, e											
obtaining a SCDHEC Permit to Construct. The		tact the individual sewer	agencies to determine								
heir policies, procedures, and requirements.											



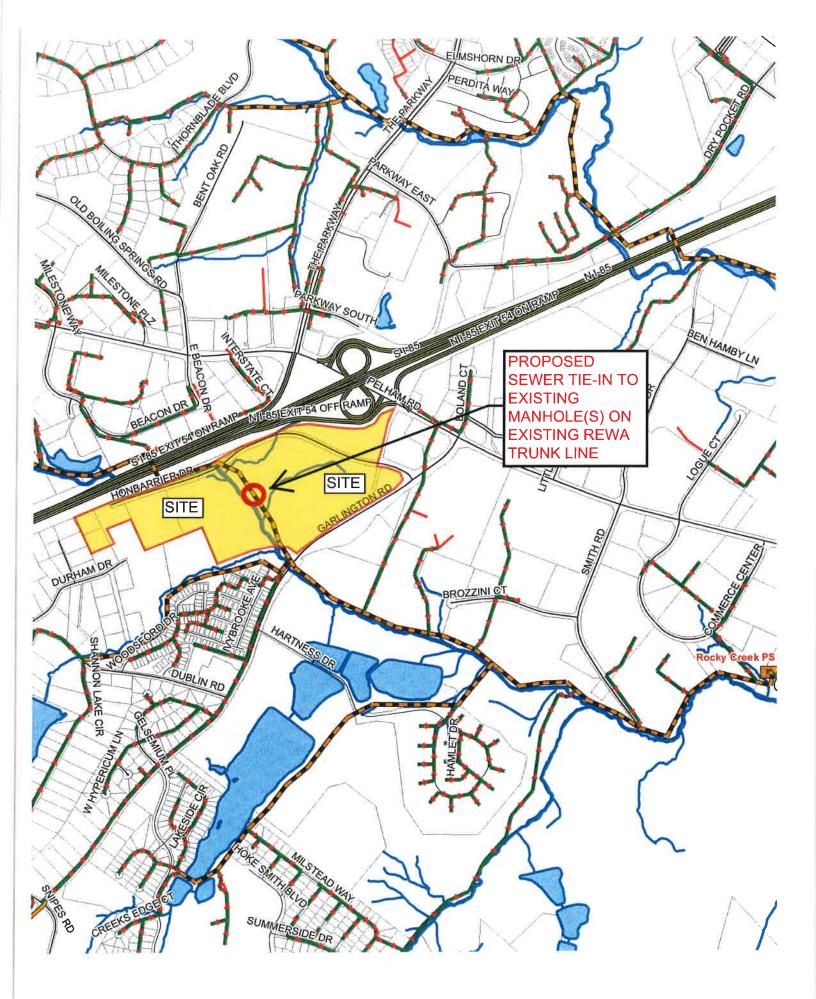
# Service Lateral Connection Capacity Request Form

Form Revision Date: 6/15/2015

# **Project Information**

Contact Name: Bluewater Civil Design, LLC (Contact: Jason Henderson, PE)
Email: jason@bluewatercivil.com Phone: 864-326-4204
Project Name: Pelham Crossing
Tax Map Number(s) for Project: <u>0533040100700,0533040100707, 0533040100529, 0533040100528,</u>
0533040100519, 0533040100520, 0533020105500
Service Lateral Connection Project Information (To be filled out by Sewer Subdistrict)
Primary collection subdistrict: METRO POLITICO SEWELS ED Multiple collection subdistricts involved?: - Yes No
Signed PSSAR forms from all sewer subdistricts involved attached: ★Yes □ No
Proposed Water Resource Recovery Facility: PELHAM
Estimated total sewer flow: \$365 gal/day. Attach flow calculations.  (Average daily flow as calculated using SCDHEC's and approved ReWa Basin Reductions as appropriate)
Lateral Connection Type - X Gravity
☐ Force main
Lateral Connection Point - Subdistrict MH
ReWa MH
☐ Attached map of approved ReWa connection point (if applicable)
Ownership, Operation & Maintenance of gravity sewer/pump station will be assigned to: METROPOCITALO
Ownership, Operation & Maintenance of gravity sewer/pump station will be assigned to: METROPOLITAN  Date: 9-24-15
Sewer Subdistrict Signature: Date: 9-24-15
Ownership, Operation & Maintenance of gravity sewer/pump station will be assigned to:
Sewer Subdistrict Signature: Date: 9-24-15
Sewer Subdistrict Signature: Date: 9-24-15  ReWa Capacity Approval
Rewa Project No
ReWa Capacity Approval  Rewa Project No  ReWa has verified all affected agencies have completed review form
ReWa Capacity Approval  Rewa Project No
ReWa Capacity Approval  Rewa Project No  ReWa has verified all affected agencies have completed review form  Sewer subdistrict requesting capacity for this project:  Approved connection point? □ Yes □ No
ReWa Capacity Approval  Rewa Project No  ReWa has verified all affected agencies have completed review form  Sewer subdistrict requesting capacity for this project:  Approved connection point? □ Yes □ No  Is treatment capacity available to serve project? □ Yes □ No
ReWa Capacity Approval  Rewa Project No
ReWa Capacity Approval  Rewa Project No

Note: Approval is valid for 24 months from the date of this document. This form serves as a permit to connect from ReWa, and may be used to obtain building permits from Greenville County. Capacity is allocated for this project by ReWa.



Project Number: 2015-080
Project Name: Pelham Crossing

Date: 9-23-2015



# **Unit Contributory Loadings:**

SCDHEC Standards for Wastewater Facility Construction (R.61-67, Appendix A)

#### Multifamily:

(166) 1 BR Units @ 150 GPD/Unit = 24,900 GPD (122) 2 BR Units @ 225 GPD/Unit = 27,450 GPD (14) 3 BR Units @ 300 GPD/Unit = 4,200 GPD Total Estimated Flow = 56,550 GPD

### **Healthcare Services Facility**

150 employees @ 11 GPD/employee = 1,650 GPD 320 patients @ 4 GPD/patient = 1,280 GPD Total Estimated Flow = 2,930 GPD

# (2) Office/Professional Buildings

325 people @ 19 GPD/person = 6,175 GPD

# Restaurant 1

150 seats @ 30 GPD/seat = 4,500 GPD

### Restaurant 2

150 seats @ 30 GPD/seat = 4,500 GPD

# Restaurant 3

150 seats @ 30 GPD/seat = 4,500 GPD

# Restaurant 4

150 seats @ 30 GPD/seat = 4,500 GPD

TOTAL ESTIMATED FLOW = 83,655 GPD







December 3, 2015

# To Whom It May Concern:

The below referenced tax map numbers are located in our service area and we could provide service to development on this property provided it yields the ROR we need to extend gas mains. Without any information on what type development this is going to be or what type gas usage would be involved, I can only say we could serve it.

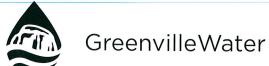
0533040100700 0533040100529 0533040100528 0533040100519 0533040100520

Regards,

Judy Kirby-Link

Residential Energy Specialist Piedmont Natural Gas/Greenville

Judy A. Kirby-Link



P.O. Box 687 • Greenville, SC 29602 • 407 West Broad Street • 864.241.6155 tel • 864.241.6077 fax • greenvillewater.com Voted "BEST OF THE BEST" Tasting Water in North America in 2011

December 8, 2015

Mr. Rece Morgan Central Realty Holdings 400 E. Stone Avenue Greenville, SC 29601

RE:

Water Availability – Honbarrier Drive – Pelham Crossing (per attached plat)

Tax Maps #0533040100700, 0533040100529, 0533020105500, 0533040100707,

0533040100528, 0533040100519, 0533040100520

Dear Mr. Morgan:

Greenville Water owns and maintains an 8-inch water line along Honbarrier Drive which is available to serve the above property as shown on the attached plat, in accordance with the Rules and Regulations of Greenville Water.

A map depicting the existing water lines in this area has been enclosed for your convenience.

Sincerely,

GREENVILLE WATER

Steve Blakeney

**Engineering Department** 

SB/ci Enclosure

cc: Mr. Don H. Nickell, Jr.

Bluewater Civil Design

# Me Copyright 2014 Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), 0.3 mi 0.4 km 1:9,028 0.15 0.075 Pressure Reducing Valves Hydrant Pumps Δ. Hydrant Valves Fireline Valves Line Valves Flow Control Valves Blow Off Valves Check Valves Ø **Butterfly Valves** Altitude Valves **December 8, 2015** Air Valves

# **BOILING SPRINGS FIRE DISTRICT**

# 5020 PELHAM ROAD GREENVILLE, S.C. 29615

PH: (864) 288-5037 ISO CLASS 1 FX: (864) 284-6146

To: Blue Water Civil

Re: Fire service coverage area

Date: 12/7/2015

This letter is intended to confirm the properties located on Honbarrier Drive Greenville, S.C. is located within the Boiling Springs Fire District's coverage area. It is Located within one quarter of a mile of our headquarters station on Pelham Road.

If you need more information or have any questions, please don't hesitate to call.

Regards,

Jeff Nelson, Fire Marshal Boiling Springs Fire District Greenville, S.C. 29615 Ph: (864) 268-2617

Fax: (864) 268-2691

Email: jnelson@boilingspringsfd.org



# e) A statement describing or renderings or photographs of the architectural style, appearance and orientation of proposed buildings.

The Architect selected for the development is Cline Design Associates, an award winning firm headquartered in Raleigh, NC. The project will be constructed with high end materials with the exterior consisting of 40% masonry and 60% Hardi Board Siding. The project will feature a total of 21 Buildings: 11 Apartment Buildings, 5 Carriage house buildings, 4 Garage Buildings and a Clubhouse. The apartment buildings will be three levels on grade with 4 of the buildings containing a lower walk-out level. The Carriage House buildings will be two levels. The Clubhouse and the garage structures will be one level. The project will feature an amenity package that is typical in Class A apartment developments.

The buildings are methodically laid out on the site to contain the parking fields internally and limit visibility of this component outside of the development. This design was implemented to drastically reduce any potential light or noise pollution that may affect adjacent properties. It should be noted that a photometric survey will be conducted prior to final site plan submission that adheres to all local ordinances. Furthermore, we engaged an acoustical engineer to study the site layout and they concluded that the placement of the buildings will both deflect and absorb a significant amount of the noise created from I-85 traffic that currently affects the surrounding properties.

All the apartment buildings have a finished floor elevation at least 20 feet above and are not located closer than 50 feet to the 100-year flood plain.

The project will not exceed the maximum height restriction of 45' as currently designated per the Greenville County Multifamily Zoning Ordinance.

Project Signage and Lighting will be designed to complement the architectural style of the apartment community and will comply will all FRD standards as stated in the Greenville County Code of Ordinances.

Attached is a rendering of a Class A multifamily development that Middleburg Real Estate Partners will begin construction on in February of 2016. The architectural typologies for Pelham Crossing are still being studied and the final design will take into account the surrounding environment of the specific site. The attached rendering is shown as example to depict the comparable quality of what will we constructed for this development. Furthermore, it illustrates the pedestrian access and circulation that will be incorporated in Pelham Crossing providing a walkable environment.

Also, following is a rendered site plan depicting the conceptual building layout, the natural buffers, stormwater pond locations, and pedestrian pathways.

# f) A statement describing the landscaping and screening of proposed project.

The existing topography & terrain will be utilized to maximize green space and community areas. The community areas will be pocket green courtyards, existing natural areas along the property boundary, landscaped buffers and screening along the perimeter of the developed area and the area surrounding the proposed detention ponds.

The proposed site plan substantially exceeds the Greenville County buffering requirements of the current multifamily zoning regulations. The landscape plan will be designed to also exceed



current requirements. The Southern border of the property is 175' from the nearest home and is bifurcated by a deep ravine and creek. Furthermore, heavy foliage is currently in place with trees exceeding the projected heights of the closest apartment buildings that will further buffer the property which we intend to leave in place. In addition to the current buffering, it is our intention to provide a fence on the southern property line and also plant an additional landscape buffer (a type of Evergreen tree). These measures are intended to eliminate all sight lines to the adjacent neighborhood. As previously stated, the positioning of the buildings will buffer the internal parking spaces. See the following Natural Resources Plan. Also, following is a rendered site plan depicting the conceptual building layout, the natural buffers, stormwater pond locations, and pedestrian pathways.

# g) A statement describing the maintenance and screening of any proposed pond, lake, or storm water management facility contained in the development.

All proposed stormwater features will be maintained per the Greenville County Commercial Stormwater Management Facility Maintenance Agreement. We plan to utilize 'Stormwater Wet or Dry Ponds' to serve the subject property in order to meet Water Quantity/Quality requirements.

The proposed Stormwater Ponds will be screened with various landscaping features including slopes, shrubs, and trees. The proposed Stormwater Ponds will also have a 4' high safety fence installed around the perimeter.

Following is a rendered site plan depicting the conceptual building layout, the natural buffers, stormwater pond locations, and pedestrian pathways.

#### h) A statement describing pedestrian access and circulation throughout the project.

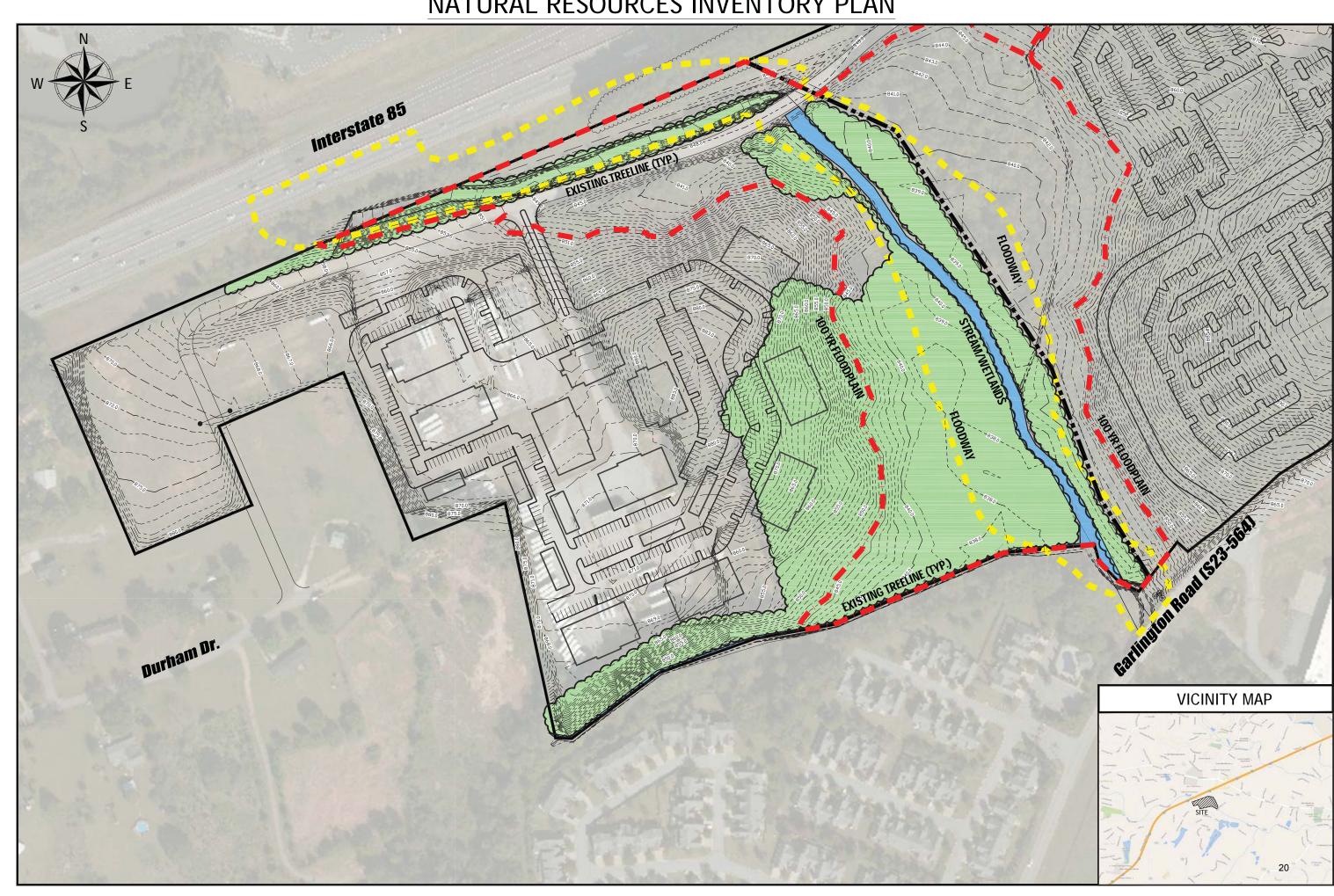
The site has been designed to be pedestrian friendly as it will feature sidewalks throughout the development interconnecting all of the structures. Sidewalks will also tie into the future commercial development adjacent to the apartment community. The amenity component of the site is centralized making it easily accessible for the project's residents. The internal road system is designed to maximize circulation and features two points of ingress/egress for the residents.

Following is a rendered site plan depicting the conceptual building layout, the natural buffers, stormwater pond locations, and pedestrian pathways.





# NATURAL RESOURCES INVENTORY PLAN





- i) Any such information or descriptions as may be deemed reasonably appropriate for review.
- a) Greenville County's most recent Comprehensive Plan has designated this property as a SUPER REGIONAL CENTER.
  - a. "Super-Regional Center: This center serves the overall county and the region for shopping, recreation, and employment needs. Residents will travel great distances to these areas on a weekly or monthly basis. This type of center contains the largest scale retail and service offerings such as large hotels, movie theaters, shopping malls, specialty big box stores, large-scale office parks along with factory and warehousing services. There are few such centers in the County, but these draw residents from a large area. The Super-Regional Centers are characterized by mixed use buildings with the highest density of residential."
  - b. A high density would be a RM-20 zoning designation. If we were pursuing a RM designation for this site, we would qualify for a RM-9 designation which means we would be down grading this zoning designation by 11 levels.
- b) The site is currently zoned S-1. The site was originally constructed to serve as a trucking terminal. The property is currently occupied by a tractor trailer and tanker leasing company. We will be demolishing all current structures on site. S-1 Zoning allows for a multitude of uses that will negatively impact the surrounding values of the single family homes. Per a study by Georgia State University "The Impact of Commercial Development on Surrounding Residential Property Values" it concluded that following completion of a new industrial development, residential properties in close proximity are discounted 4.4% relative to comparable properties that are not in close proximity to industrial uses. Below is a table of uses currently allowed under S-1 Zoning:

Amusement Theme Park	Gas Sales – Commercial and Industrial
Animal Shelters	Group Industrial Development
Auction House/Auction Lot – Cars/equipment	Motels
Automobile – Service Facility	Industrial Service
Auto-Boat-RV Sales and Service	Kennel (outside runs)
Dry Cleaning Institutional	Landfills (sanitary)
Equipment Sales and Rentals	Lumber Yards
Funeral Home	Monument and Tombstone Sales
Gravel and Sand Pits	Truck Terminal
Wholesaling – Warehousing	Distribution

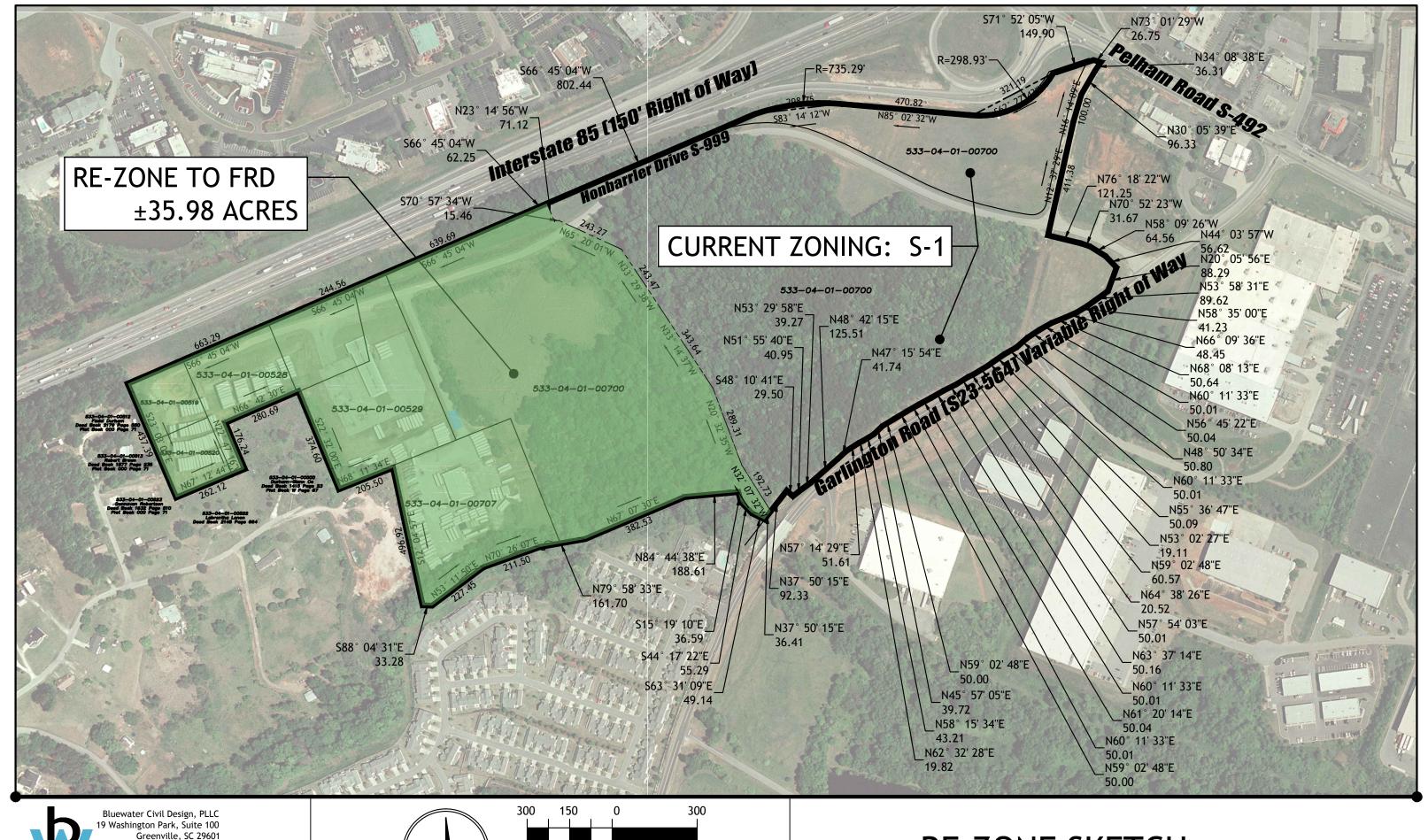


c) There often is a misconception that Multifamily Development has a negative impact on surrounding homes values. Independent studies by Harvard, MIT and the Urban Land Institute have all determined that new Multifamily Developments actually increase the value of surrounding residential homes. The Joint Center for Housing Studies at Harvard University published a report that states the average annual increase in value for single family homes not located in close proximity to high density multifamily is 3.59%. The study also concluded that the average annual increase in value for single family homes in close proximity to new multifamily developments is 3.96%.



# **Appendices**

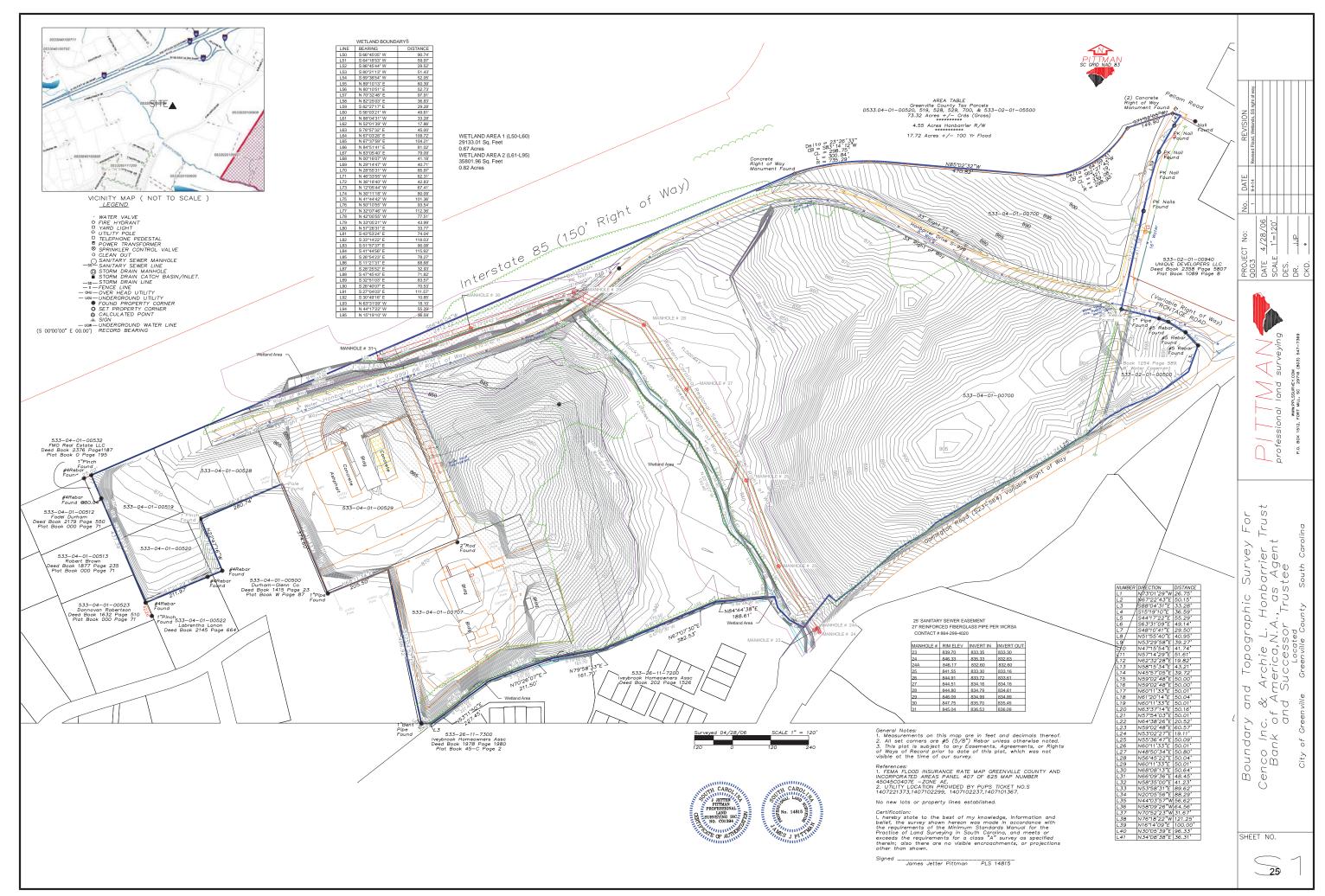
- 7. Re-Zoning Boundary Survey8. Boundary and Topographic Survey9. Wetlands Survey
- 10. Letter of Authorization
- 11. Traffic Impact Study
- 12. Easement Agreement with Adjacent Parcel Owner

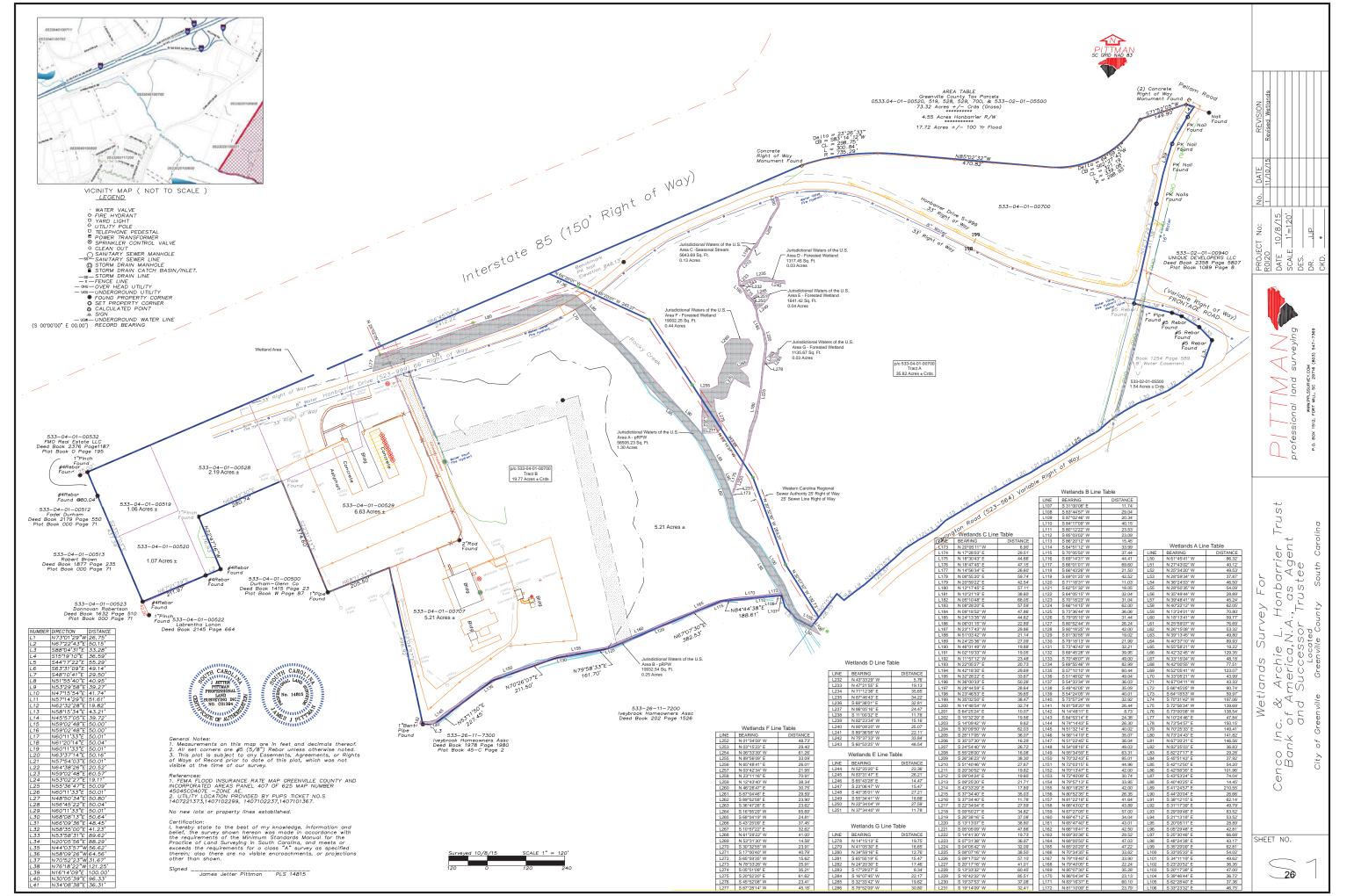


Date: 8/12/15

www.bluewatercivil.com info@bluewatercivil.com

**RE-ZONE SKETCH** 





P:\R0\I20\R0I20.dwg

JCB

Central Realty Holdings, LLC Attn: Rece Morgan 400 E. Stone Ave Greenville, SC 29601

RE: Letter of Authorization for Rezoning of Honbarrier Property (Greenville County Tax Map #'s 0533040100707, 0533040100529, 0533040100528, 0533040100519, 0533040100520, and a portion of 0533040100700.)

# Dear Rece:

We have reviewed your proposed development plans and rezoning application for the Honbarrier property. Please use this letter as the seller's written permission for Central Realty Holdings, LLC to act as the seller's authorized representative for matters concerning this rezoning application.

Sincerely,

Tony Joiner, Vice President

Bank of America, N.A., as Agent of Cenco, Inc.

Bank of America, N.A., as Successor Trustee of the Archie L. Honbarrier Trust Under Agreement originally dated July 13, 1992 as Amended and

Restated on July 14, 1999



October 8, 2015

Ms. Tori Wallace Central Realty Holdings 400 East Stone Avenue Greenville SC 29601 SRS Engineering, LLC 801 Mohawk Drive West Columbia, SC 29169 (803) 739-2548 fax

RE: Traffic Impact and Access Study Honbarrier Tract – Pelham Crossing Greenville County, SC

Dear Ms. Wallace:

As requested, SRS Engineering, LLC (SRS) has completed a Traffic Impact Study associated with the planned development of a new mixed-use project on the Honbarrier Tract to be known as Pelham Crossing in Greenville County, SC. The following provides a summary of this study's findings:

## PROJECT DESCRIPTION

The proposed development is located southeast of the I 85/Pelham Road interchange along Garlington Road in Greenville County, SC. The site is currently undeveloped and totals approximately 73 acres. Access to the site is currently provided via Honbarrier Drive, a two-lane state route that connects to Garlington Road and dead ends within the site adjacent to I 85. A two year development schedule has been assumed for this report and thus a 2018 horizon year (Build + 1 Year) has been analyzed.

The following densities are envisioned for the project:

- 302 apartments;
- 70,000 square-feet (sf) of medical office/urgent care facilities; and
- 104,400 sf of professional office.

Primary access for the site will be provided via a re-located Honbarrier Drive (to the south/west aligning with the existing Baldor access) for access to Garlington Road along with a secondary (right-in/right-out) access to Garlington Road approximately 800-feet south of the primary access aligned with an existing driveway. An additional connection to the south/west to Durham Drive is being considered, which would provide an outlet to Dublin Road with options to Garlington Road or Muddy Ford Road. Details regarding access alternatives and configurations are provided in the Mitigation section of this report. **Figure 1** depicts the site location in relation to the regional/local roadway system (Figures located at end of report). **Figure 2** depicts the conceptual site plan for the proposed development.

#### **EXISTING CONDITIONS**

A comprehensive field inventory of the project study area was conducted in September 2015 for the following study area intersections requested for study by SCDOT:

- 1. Pelham Road at Garlington Road;
- 2. Pelham Road at I 85 Northbound Ramps;
- 3. Pelham Road at I 85 Southbound Ramps;
- 4. Pelham Road at The Parkway;
- 5. Garlington Road at Honbarrier Drive/Offset Baldor Access
- 6. Garlington Road at Dublin Road; and
- 7. Dublin Road at Durham Drive/Shannon Lake Circle (Offset Intersection).

The field inventory included a collection of geometric data, traffic volumes and traffic control within the study area. The existing geometry and traffic control for the study area intersections and adjacent roadways is depicted graphically in **Figure 3**.

## **Traffic Volumes**

In order to determine the existing traffic volume flow patterns within the study area, weekday morning (7:00-9:00 AM) and evening (4:00-6:00 PM) peak period turning movement specific volume data was collected for the above-cited study area intersections. It should be noted that 12-hours of data was collected for the intersection of Garlington Road at Honbarrier Drive/Baldor Access for the purpose of reviewing signal warrants for the main entrance of the project as detailed later in this report.

**Figures 4 & 5** graphically depict the respective Existing 2015 AM and PM peak-hour traffic volumes for the study area intersections. Summarized data sheets for the intersections are included in the Appendix of this report. It should be noted that the volumes presented in Figures 4 & 5 have been balanced as appropriate.

# **FUTURE CONDITIONS**

Traffic analyses for future conditions have been conducted for two separate scenarios: first, 2018 No-Build conditions, which include an annual normal growth in traffic, all pertinent background development traffic, and any pertinent planned roadway/intersection improvements; and secondly, 2018 Build conditions, which account for all No-Build conditions PLUS traffic generated by the proposed project.

# **No-Build Traffic Conditions**

## **Planned Roadway Improvements**

Based on coordination meetings with SCDOT staff, there will likely be improvements to the I 85 northbound exit ramp at Pelham Road as part of the on-going design build project for the I 85/I 385 interchange. This will likely provide improvements with regards to operations for mainline I 85 at the diverge area; however no additional capacity specific to the signal at Pelham Road is anticipated.

Another improvement that has been identified by SCDOT is a traffic responsive system along Pelham Road in the near future. While the signals along Pelham Road are currently coordinated via time of day

plans, the traffic responsive system is anticipated to better handle flucuating traffic demands along the corridor throughout the day based on actual traffic demands.

#### **Annual Growth Rate**

A review of SCDOT count stations in the area; specifically #339 (Pelham Road) and #763 (Garlington Road) indicate that traffic volumes remained fairly consistent along both of these roadways between 2011 and 2014. Based on this information an annual growth rate of 1-percent per year was developed for use in this report. This 1-percent annual growth should account for all unspecified traffic growth in the area. The anticipated 2018 No-Build AM and PM peak-hour traffic volumes, which reflect the 1-percent annual growth rate, are shown in **Figures 6** & **7**.

# **Site-Generated Traffic**

Traffic volumes expected to be generated by the proposed project were forecasted using the Ninth Edition of the ITE *Trip Generation* manual, as published by the Institute of Transportation Engineers. Land-Use Codes #220 (Apartments), #710 (Medical Office), and #710 (General Office) have been used to estimate the specific site-generated traffic. **Table 1** depicts the anticipated site-generated traffic.

Table 1
PROJECT TRIP-GENERATION SUMMARY<sup>1</sup>
Honbarrier Tract- Pelham Crossing

Time Period	Residential Apartments 302 Units <sup>2</sup> (a)	70,000 SF Medical Office <sup>3</sup> (b)	104,400 SF Professional Office <sup>4</sup> (c)	Total Trips (a+b+c)
Weekday Daily	1,950	2,530	1,360	5,840
AM Peak-Hour				
Enter	30	132	143	305
<u>Exit</u>	<u>122</u>	<u>35</u>	<u>20</u>	<u>177</u>
Total	152	167	163	482
PM Peak-Hour				
Enter	120	59	27	206
<u>Exit</u>	<u>64</u>	<u>152</u>	<u>129</u>	<u>345</u>
Total	184	211	156	<del>551</del>

- 1. ITE Trip Generation manual, Ninth Edition. Weekday Daily estimates rounded to nearest applicable 10.
- 2. ITE Trip Generation manual LUC 220 (Apartments)
- 3. ITE Trip Generation manual LUC 720 (Medical Office)
- 4. ITE Trip Generation manual LUC 710 (General Office)

As shown, the development as a whole can be expected to generate 5,840 trips on a weekday daily basis, of which a total of 482 trips (305 entering, 177 exiting) can be expected during the AM peak-hour and 551 trips (206 entering, 345 exiting) can be expected during the PM peak-hour.

It should be noted that there are three outparcels within the development that will only have internal access (no direct access to Garlington Road) that have not been confirmed with specific uses but could include restaurants, a bank, etc.

### **Distribution Pattern**

The directional distribution of site-generated traffic on the study area roadways has been based on the existing travel patterns in the area of the site and the projected travel patterns for the uses proposed on site. Separate, but similar patterns were developed for the apartments and medical/office space. The following general patterns were applied in distributing traffic:

### **Apartment Trips**

Pelham Road to/from West (Including I 85): 45%

Pelham Road to/from East: 15% Garlington Road to/from South: 25%

Dublin Road to/from south/west (Muddy Ford Rd.) 15%

# **Medical-Office Trips**

Pelham Road to/from West (Including I 85): 40%

Pelham Road to/from East: 20% Garlington Road to/from South: 30%

Dublin Road to/from south/west (Muddy Ford Rd.) 10%

These distribution patterns have been applied to the site-generated traffic volumes from Table 1 to develop the site-generated specific volumes for the study area intersections illustrated in **Figures 8 & 9** for the respective AM & PM peak hours.

### **Build Traffic Conditions**

The site-generated traffic, as depicted in Figures 8 & 9 has been added to the 2018 No-Build traffic volumes shown in Figures 6 & 7. This results in peak-hour 2018 Build traffic volumes, which are graphically depicted in **Figures 10** & **11**. These volumes were used as the basis to determine potential improvement measures necessary to mitigate traffic impacts caused by the project.

#### TRAFFIC OPERATIONS

# **Analysis 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.

#### **Capacity Analysis Results**

As part of this traffic study, capacity analyses have been performed at the study area intersections in order to evaluate any project-related impact to the surrounding transportation system. The results of these analyses are summarized in **Table 2**. It should be noted that all signalized analyses account for existing signal system timings that were obtained from SCDOT for the Pelham Road corridor, which currently runs cycle lengths of 100 seconds and 120 seconds, respectively during the AM & PM peak hours.

Table 2
LEVEL-OF-SERVICE SUMMARY<sup>1</sup>
Honbarrier Tract- Pelham Crossing

	Time	EXISTING 2015 CONDITIONS		2018 NO-BUILD CONDITIONS WITHOUT PROJECT		2018 BUILD CONDITIONS WITH PROJECT		WITH		
Signalized Study Area Intersections	Period	V/Ca	<u>Delay<sup>b</sup></u>	LOS	<u>V/C</u>	<b>Delay</b>	<u>LOS</u>	V/C	<b>Delay</b>	LOS
Pelham Road at Garlington Road	AM PM	1.02 1.08	48.9 47.8	D D	1.06 1.12	<b>57.5</b> 51.1	E D	1.27 1.33	91.8 83.9	F F
Pelham Road at I 85 Northbound Ramps	AM PM	0.80 0.83	32.3 25.9	C C	0.83 0.86	35.0 28.1	C C	0.90 0.91	43.5 30.9	D C
Pelham Road at I 85 Southbound Ramps	AM PM	0.72 0.74	12.2 14.8	B B	0.74 0.76	13.4 15.2	B B	0.76 0.78	13.8 15.5	B B
Pelham Road at The Parkway	AM PM	1.05 1.14	51.2 <b>79.4</b>	D E	1.09 1.18	57.6 86.6	E F	1.09 1.19	58.0 88.9	E F
<b>Unsignalized Study Area Intersections</b>										
Garlington Road at Honbarrier Drive	AM PM	-	17.1 17.5	C C	-	17.7 18.1	C C	-	167.2 468.8	F F
Garlington Road at Secondary Access (RI/RO)	AM PM							-	12.8 15.8	B C
Garlington Road at Dublin Road	AM PM	-	18.9 17.5	C C	-	19.7 18.1	C C	-	25.0 23.3	D C
Dublin Road at Durham Drive/Shannon Lake Circle	AM PM	-	9.5 9.3	A A	-	9.5 9.3	A A	-	10.5 10.3	B B

a. Volume-to-Capacity ratio.

#### GENERAL NOTES:

As shown in Table 2, under Existing conditions, the signalized study area intersections of Pelham Road at Garlington Road and The Parkway on each side of the I 85 interchange currently operate with constraints during both peak hours as indicated by the Volume-to-Capacity (V/C) ratios indicating capacity constraints. This is consistent with field observations in that congestion and queuing are present during both peak hours. While the reported overall service level is LOS D for the Garlington Road intersection

b. Delay in seconds-per-vehicle.

c. LOS = Level-of-Service.

<sup>1.</sup> For signalized intersections, Delay is representative of overall intersection.

 $<sup>2. \</sup> For unsignalized \ intersections, \ Delay \ is \ representative \ of \ critical \ movement/approach.$ 

during both peak hours, there are several movements that are over capacity, including the eastbound Pelham Road through movement, westbound left-turn onto Garlington Road and the northbound approach of Garlington Road. The problems at The Parkway intersection are due to heavy volumes and the insufficient spacing of the signal with the interchange signals. While the both ramp signals are shown to operate acceptably as individual intersections, congestion along the Pelham Road corridor due to the close spacing of intersections causes delays that do not often show up in individual capacity analyses. The unsignalized intersections reviewed for existing conditions indicate acceptable service levels. The Honbarrier Drive intersection currently services negligible side-street volumes and thus the delays are minimal for the side street. While there are moderate volumes for the Dublin Road approach to Garlington Road, delays were not observed to be an issue at this location. The offset intersection of Dublin Road at Durham Drive/Shannon Lake Circle services relatively low volumes and delays/congestion are not problematic at this location.

Under 2018 No-Build conditions, which account for normal background growth in traffic, operations at the constrained intersections (The Parkway and Garlington Road) are expected to worsen. V/C ratios will increase and a poor service level (LOS E) is projected for the Garlington Road intersection during the AM peak hour. The Parkway is expected to operate poorly at LOS E and F respectively during the AM and PM peak hours. In general, capacity issues will remain in proximity to the interchange due to the close spacing of intersections and heavy traffic volumes. All unsignalized intersections are expected to maintain acceptable service levels as under Existing Conditions.

Under Future Build conditions, which account for the addition of site traffic related to the Honbarrier Tract project, operations are expected to be most impacted at the Pelham Road at Garlington Road intersection with LOS F projected during both peak hours without improvements. Impacts to the other signals along Pelham Road are expected to be fairly minor when compared to No-Build Conditions; however congestion can still be expected during both peak hours.

The primary access point to Garlington Road (realigned Honbarrier Drive opposite Baldor Access) will operate poorly without significant turn lane and traffic control improvements as detailed in the next section (Mitigation) of this report. The secondary access to Garlington Road will operate acceptably due to the fact that it will be limited to right-in/right-out operations. Delays will increase slightly at the Garlington Road at Dublin Road and Dublin Road at Durham Drive intersections; however acceptable operations are still anticipated at these two locations.

#### MITIGATION

The final phase of the analysis process is to identify mitigating measures which may either minimize the impact of the project on the transportation system or tend to alleviate poor service levels not caused by the project. Measures considered necessary to mitigate roadway system deficiencies are discussed below as they relate to the impacts of the proposed project.

## **Proposed Site Access**

Access for the project is proposed via two access drives to Garlington Road and a secondary connection to Durham Drive, which would provide an outlet to Dublin Road. Recommendations for each access drive are provided as follows:

Garlington Road at Re-Aligned Honbarrier Drive/Baldor Access: This intersection will serve as the primary access for the development. As proposed, Honbarrier Drive will be relocated approximately 450-feet to the south and will align directly opposite the existing Baldor access drive. This realignment will

provide for more separation between the primary access and Pelham Road, with approximately 1,100-feet of separation. As documented in Table 2, delays will be significant for this intersection under STOP sign control. In order to review the need for traffic signal control for this intersection, a Traffic Signal Warrant Analysis has been conducted for this intersection.

The traffic signal warrants analysis has been conducted for the Garlington Road at relocated Honbarrier Drive intersection in accordance with the most recent *Manual on Uniform Traffic Control Devices* (MUTCD). This analysis was conducted to determine if the projected traffic volumes meet the minimum volume requirements of the MUTCD to justify the installation of traffic signal control. The following specific MUTCD warrants were used/examined:

- Warrant 1 (Condition A), Minimum Vehicular Volume;
- Warrant 1 (Condition B), Interruption of Continuous Traffic;
- Warrant 2, Four-Hour Volumes; and
- Warrant 3, Peak-Hour Volumes.

The results of this analysis are provided in **Table 3**. It should be noted that the volumes for Garlington Road are existing hourly volumes as counted recently that have been grown at a nominal 1-percent annual growth rate for 3 years. Volumes for the relocated Honbarrier Drive approach were distributed over a 12-hour period based on published ITE data for the proposed on-site uses and the projected arrival/departure patterns detailed earlier in this report.

Table 3
TRAFFIC SIGNAL WARRANT ANALYSIS<sup>a</sup>
Honbarrier Tract- Pelham Crossing

	Traffic Vol	umes (vph <sup>b</sup> )				
	Major	Minor	<b>MUTCD Warrant</b>			t
Time	Street <sup>c</sup>	Street <sup>d</sup>	1A <sup>e</sup>	1B <sup>f</sup>	<b>2</b> <sup>g</sup>	3 <sup>h</sup>
7:00 AM - 8:00 AM	928	70	NO	NO	NO	NO
8:00 AM - 9:00 AM	929	81	NO	YES	NO	NO
9:00 AM - 10:00 AM	497	68	NO	NO	NO	NO
10:00 AM - 11:00 AM	599	69	NO	NO	NO	NO
11:00 AM - 12:00 NOON	711	114	NO	NO	NO	NO
12:00 NOON - 1:00 PM	767	129	NO	YES	NO	NO
1:00 PM - 2:00 PM	879	95	NO	YES	NO	NO
2:00 PM - 3:00 PM	844	93	NO	YES	NO	NO
3:00 PM - 4:00 PM	1,085	126	NO	YES	YES	NO
4:00 PM - 5:00 PM	915	181	YES	YES	YES	NO
5:00 PM - 6:00 PM	1,283	192	YES	YES	YES	YES
6:00 PM - 7:00 PM	865	81	NO	YES	NO	NO
SIGNAL WARRANT MET	NO	YES	NO 3 of 4	YES		

- a. This analysis assumes the proposed geometry of the site access southbound approach as a one-lane approach (left-turns only included) and the major street as one lane in each direction with speeds less than 40 miles-per-hour (100% Thresholds).
- b. Vehicles-per-hour.
- c. The major street is Garlington Road and the volumes reflect the total approach volumes for both northbound and southbound traffic grown 1-percent annually for 3 years.
- d. The minor street utilized in the signal warrants analysis is the realigned Honbarrier Drive approach with only left-turns included.
- e. Warrant 1 (Condition A), Minimum Vehicular Volume, is satisfied for any hour if the total vehicles-per-hour on both approaches of the major street is at least 500 and the total vehicles-per-hour on the minor street approach is at least 150. These thresholds must be satisfied for at least eight hours of the day.
- f. Warrant 1 (Condition B), Interruption of Continuous Traffic, is satisfied for any hour if the total vehicles-per-hour on both approaches of the major street is at least 750 and the total vehicles-per-hour on the minor street approach is at least 75. These thresholds must be satisfied for at least eight hours of the day.
- g. Warrant 2, Four Hour Volumes, is met when, for each of any four hours of the day, plotted traffic volumes fall above the appropriate curve shown in Figure 4C-1 of the MUTCD.
- h. Warrant 3, Peak Hour Volume Warrant, is met when, for one hour of the day, plotted traffic volumes fall above the appropriate curve shown in Figure 4C-3 of the MUTCD.

As shown in Table 3, the realigned Honbarrier Drive intersection that will serve as the primary access drive for the development is anticipated to satisfy Warrant 1B (Interruption of Continuous Traffic) and Warrant 3 (Peak Hour). Satisfying Warrant 1B is critical in that is shows that left-turns exiting the site, combined with volumes along Garlington Road are high enough throughout eight hours of the day to justify traffic signal control. Based on this information the following is recommended for the realigned Honbarrier Drive (primary access) intersection:

• Northbound (Garlington Road) Approach: Widen Garlington Road for a northbound left-turn lane entering the project with a recommended storage length of 200-feet. This widening will

need to be coordinated with widening that will occur for Garlington Road improvements to the north as detailed in the recommendations for off-site improvements;

- Southbound (Garlington Road) Approach: Continue widening across intersection towards Pelham Road as that will likely tie in to recommended improvements for the Garlington Road approach at Pelham Road. A southbound dedicated left-turn lane with 200-feet of storage is recommended for movements into the Baldor Access. A dedicated southbound right-turn lane with a minimum 100-feet of storage and 150-feet of taper is recommended for movements onto Honbarrier Drive:
- Eastbound (Site Access) Approach: Construct realigned Honbarrier Drive approach with one entering lane and two exiting lanes designated as a separate left-turn lane and a shared through/right lane aligned properly with the site access approach for the Baldor access. A minimum throat length of 200-feet should be provided between Garlington Road and the first internal access drive:
- Westbound (Baldor Access): Maintain existing geometry of one entering lane and one exiting lane; and
- *Traffic Control:* Place intersection under actuated traffic signal control with permissive phasing for all approaches.

Note: The new traffic signal should be coordinated with the Pelham Road/Garlington Road signal in order to progress movements along Garlington Road.

Garlington Road at Secondary Access (RI/RO): This intersection will serve as secondary access for the medical and office uses. This access will occur approximately 800-feet south/west of the realigned Honbarrier Drive primary access intersection and will align directly opposite an existing driveway (Siroflex). Due to the presence of the existing bridge just south of this access, a left-turn lane cannot be accommodated within Garlington Road and this access will be limited to right-in/right-out operations. The following is recommended for this access:

- Eastbound (Site Access) Approach: Construct access approach with one entering lane and one exiting lane for right-turn movements only. Entering and exiting movements should be separated by a raised delta median with larger than normal radii to help enforce the right-in/right-out operations. This is necessitated by the fact that full movement access will remain for the opposing access (Siroflex) and therefore a raised median within Garlington Road will not be feasible. Standard signage should be supplemented by "no left turn" signage along Garlington Road in the northbound direction approaching the intersection. A minimum throat length of 200-feet should be provided between Garlington Road and the first internal access drive;
- Westbound (Siroflex Access): Maintain existing geometry of one entering lane and one exiting lane; and
- *Traffic Control:* Provide STOP sign control for new access drive approach.

"Back Access" to Durham Drive: The connection to Durham Drive is a viable connection, but will likely serve a relatively low portion of project traffic. Some of the apartment and medical/office traffic will utilize this connection to access Muddy Ford Road via the underpass for I 85. A portion of traffic will also use this back connection to access Garlington Road. The projected volumes anticipated to use

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this "back access" are not expected to create capacity issues for Durham Drive or Dublin Road as both of these roads currently operate well under capacity.

## **Off-Site Impacts**

### **Pelham Road at Garlington Road**

As documented in Table 2, the greatest impact of the project is expected to be realized at the intersection of Pelham Road at Garlington Road. This intersection has capacity constraints under Existing Conditions and the following deficiencies should be noted:

- The lack of an eastbound right-turn lane from Pelham Road onto Garlington Road causes capacity issues; this right-turn movement is already at levels (268 AM; 321 PM) that cause issues along Pelham Road back towards the interchange;
- The westbound left-turn movement from Pelham Road onto Garlington Road is already at levels for which dual left-turn lanes should be considered; however there is not receiving capacity for the dual left-turn lanes and this improvement will likely have to be part of a major widening of Garlington Road (on long-range plan);
- Queues for the northbound approach of Garlington Road were observed to be excessive during certain periods; extending beyond the existing Honbarrier Drive intersection.

While the above referenced deficiencies are existing constraints, additional traffic anticipated with the Honbarrier Tract development will have a measureable impact at this location. At a minimum, the following improvements are recommended to offset project impacts at this location and accommodate the new traffic signal that is recommended at the realigned Honbarrier Drive intersection:

**Northbound (Garlington Road) Approach:** Widen Garlington Road for dual left-turn lanes onto Pelham Road with a minimum storage length of 400-feet. This widening will need to be coordinated with widening that will occur at the relocated Honbarrier Drive intersection. The widened approach will need to align properly with the existing Boland Court approach such that "split" phasing is avoided.

Eastbound (Pelham Road) Approach: The potential of providing a right-turn lane for eastbound Pelham Road onto Garlington Road should be explored. This lane would occur across the access for the existing fire station, which is likely not utilized frequently. The fire station should be provided connectivity with the Honbarrier Tract in order to be able to access the proposed new traffic signal. Preliminary measurements indicate that there is approximately 200-feet along Pelham Road between the eastern gasstation access and the STOP bar at Garlington Road. One option would be to provide an abbreviated taper (50-ft.) with a 150-ft. right-turn lane. While there will be times when the right-turn lane is blocked by through queues along Pelham Road, this lane would provide a capacity enhancement and provide better operations than that of existing conditions.

Analyses have been completed for the above-referenced improvements the Pelham Road at Garlington Road intersection, as well as the proposed traffic signal for Garlington Road at realigned Honbarrier Drive intersection. The results of these Mitigated Analyses are depicted in **Table 4**.

Table 4
MITIGATED LEVEL-OF-SERVICE SUMMARY<sup>1</sup>
Honbarrier Tract- Pelham Crossing

	Time	8 NO-BUILD ONDITIONS OUT PROJECT		2018 BUILD CONDITIONS WITH PROJECT			2018 BUILD MITIGATED CONDITIONS WITH PROJECT			
Signalized Study Area Intersections	Period	V/Ca	<b>Delay</b> <sup>b</sup>	LOS	<u>V/C</u>	<b>Delay</b>	LOS	<u>V/C</u>	<b>Delay</b>	LOS
Pelham Road at Garlington Road	AM PM	1.06 1.12	<b>57.5</b> 51.1	E D	1.27 1.33	91.8 83.9	F F	0.94 0.97	36.1 30.3	D C
Garlington Road at Honbarrier Drive	AM PM	See	Unsignali Below	ized	See Unsignalized Below			0.48 0.66	7.3 15.5	A B
Unsignalized Study Area Intersection										
Garlington Road at Honbarrier Drive	AM PM	-	17.7 18.1	C C	-	167.2 468.8	F F	See Signalized Above		zed

- a. Volume-to-Capacity ratio.
- b. Delay in seconds-per-vehicle.
- c. LOS = Level-of-Service.

#### GENERAL NOTES:

- 1. For signalized intersections, Delay is representative of overall intersection.
- 2. For unsignalized intersections, Delay is representative of critical movement/approach.

As shown, the proposed improvements to the Pelham Road at Garlington Road intersection are expected to provide for a significant improvement in operations, and are expected to result in improved operations over that of future conditions without the project (No-Build) conditions. It should be noted that these improvements will not solve all of the capacity issues for this intersection; however operations are expected to be significantly improved and the improvements are expected to mitigate project-specific impacts.

The proposed traffic signal at the main entrance (relocated Honbarrier Drive) will result in good traffic operations for this intersection under traffic signal control. The relocation of Honbarrier Drive will result in adequate separation from Pelham Road, which is necessary for the installation of the traffic signal. The proposed additional capacity for the Garlington Road approach at Pelham Road is expected to result in significant queue reductions such that queues are not expected to back up and impede this new signalized intersection.

#### **SUMMARY**

SRS Engineering, LLC has completed an assessment of the traffic impacts associated the development of the Honbarrier Tract, located southeast of the I 85/Pelham Road interchange along Garlington Road in Greenville County, SC. The development proposal is a mixed use development consisting of medical and professional office space along with an apartment complex. The project is expected to be constructed and operational sometime in late 2017, and therefore a horizon year of 2018 (Build PLUS 1 Year) has been analyzed for this report.

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Traffic operations are currently congested along Pelham Road in proximity to the I 85 interchange during both commuter peak hours. This is primarily due to heavy peak hour traffic demands and the close spacing of signalized intersection along the corridor. The proposed traffic responsive system being planned by SCDOT may provide an improvement in operations along the corridor, however congestion can still be expected into the future during peak periods. While the Honbarrier Tract is not expected to have a measureable impact specific to the interchange operations, the project is expected to have a measureable impact at the Garlington Road intersection. This intersection has existing capacity constraints that will be worsened with the addition of project-specific traffic if improvements are not provided. Specifically, dual left-turn lanes from Garlington onto Pelham Road (toward I 85) will be needed to improve operations and reduce queues for this approach. Additionally, a separate right-turn lane for eastbound Pelham Road for movements onto Garlington Road should be pursued.

The additional capacity provided for the Garlington Road approach to Pelham Road is projected to reduce queuing along Garlington Road as necessary for the proposed signalized primary access, which will occur via a relocated Honbarrier Drive, logically aligned with the existing Baldor Access Drive approximately 1,100-feet south of Pelham Road. Analyses indicate that this intersection will warrant traffic signal control. The realignment will result in adequate separation, and coupled with capacity enhancements at Pelham Road will result in efficient operations along Garlington Road between the new signal and Pelham Road.

A secondary access to Garlington Road is proposed which will align direct opposite an existing access, but will be limited to right-in/right-out operations. An additional "back access" to Durham Drive for indirect access to Dublin Road is envisioned that would provide an additional outlet to Garlington Road and a connection to Muddy Ford Road (under I 85). This connection is expected to service relatively small amount of overall project traffic, but would provide a viable connection for the project.

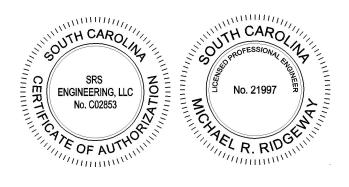
If you have any questions or comments regarding any information contained within this report, please contact me at (803) 252-1799.

Regards,

SRS ENGINEERING, LLC

Mike Ridgeway, P.E. Principal

Attachments





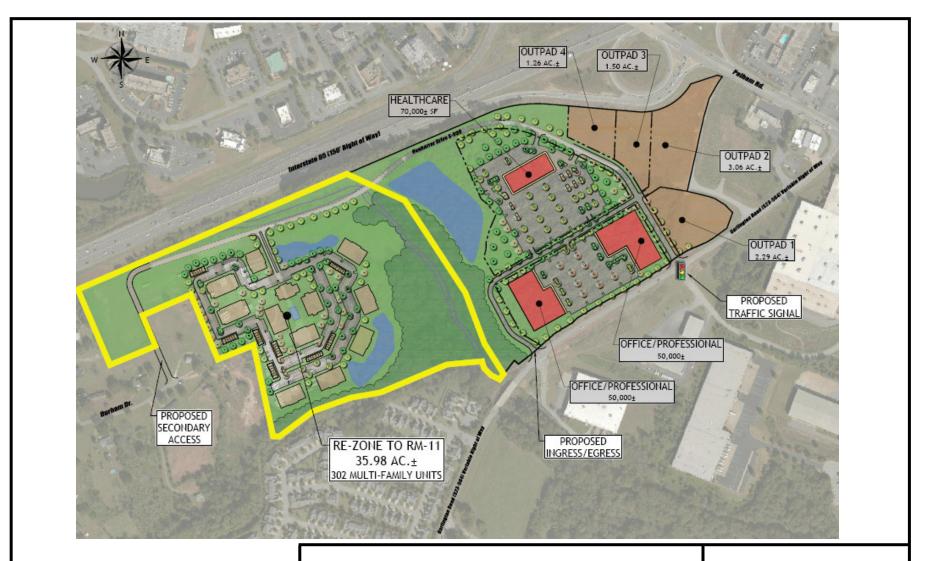
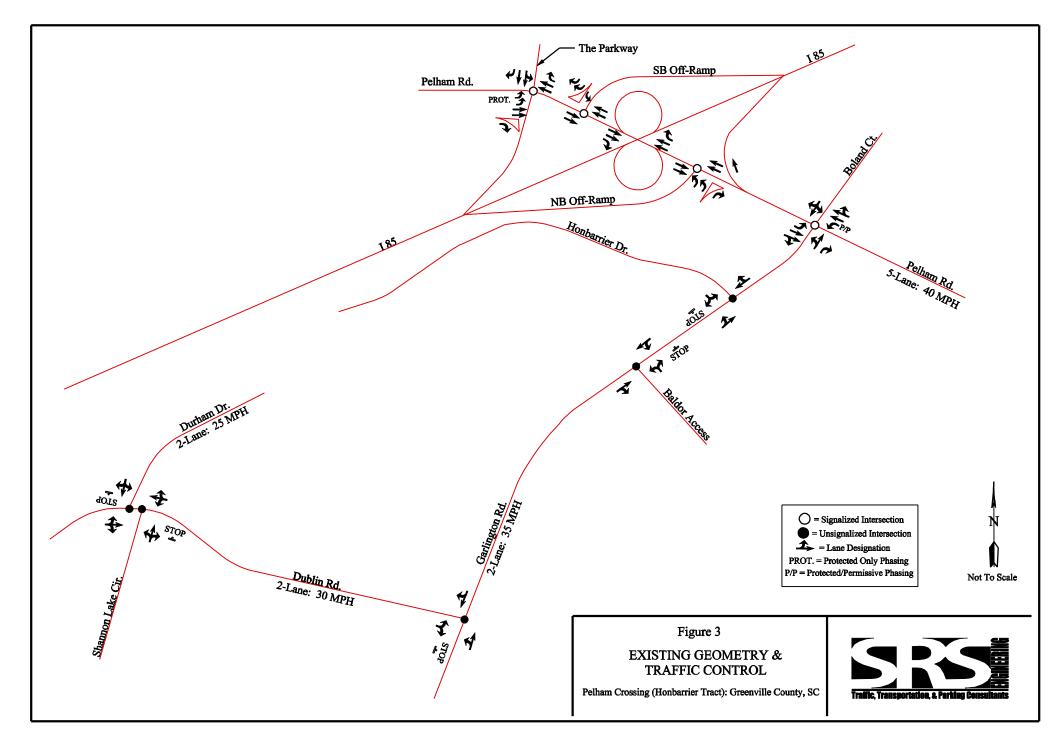
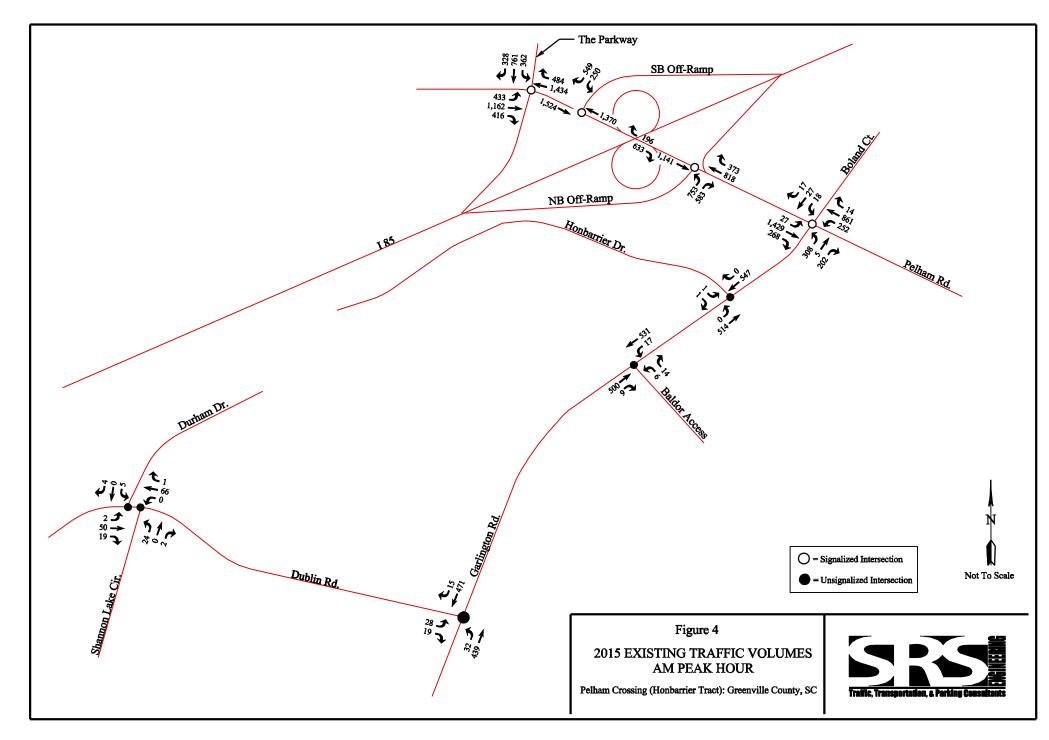


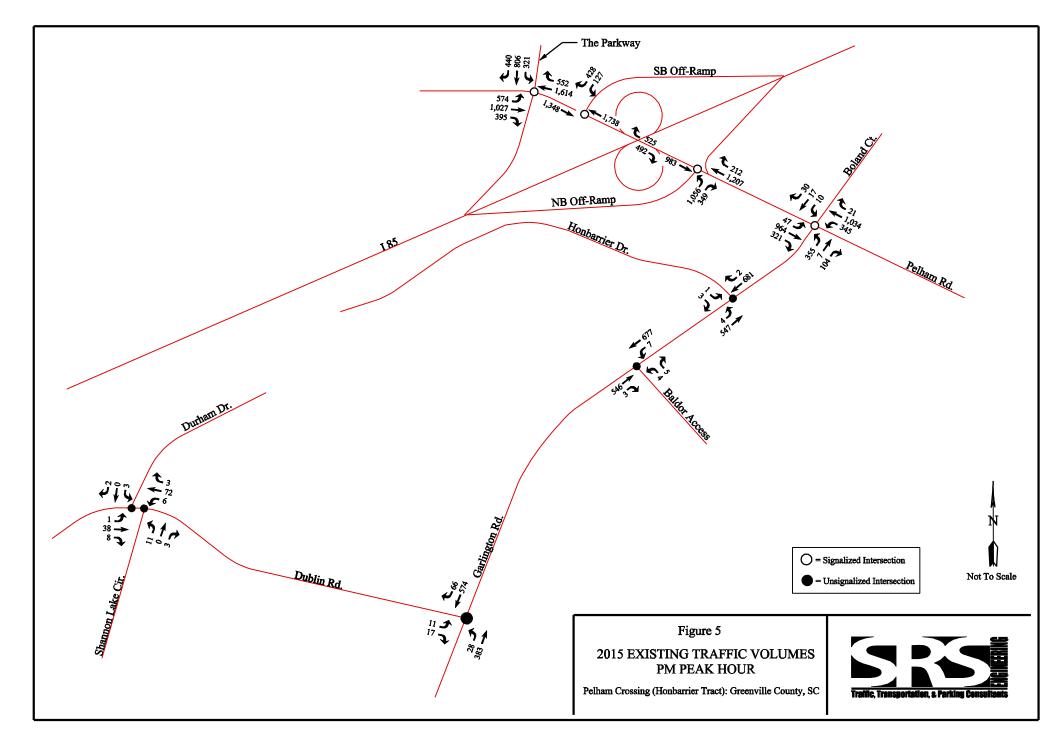
Figure 2
PROPOSED SITE PLAN

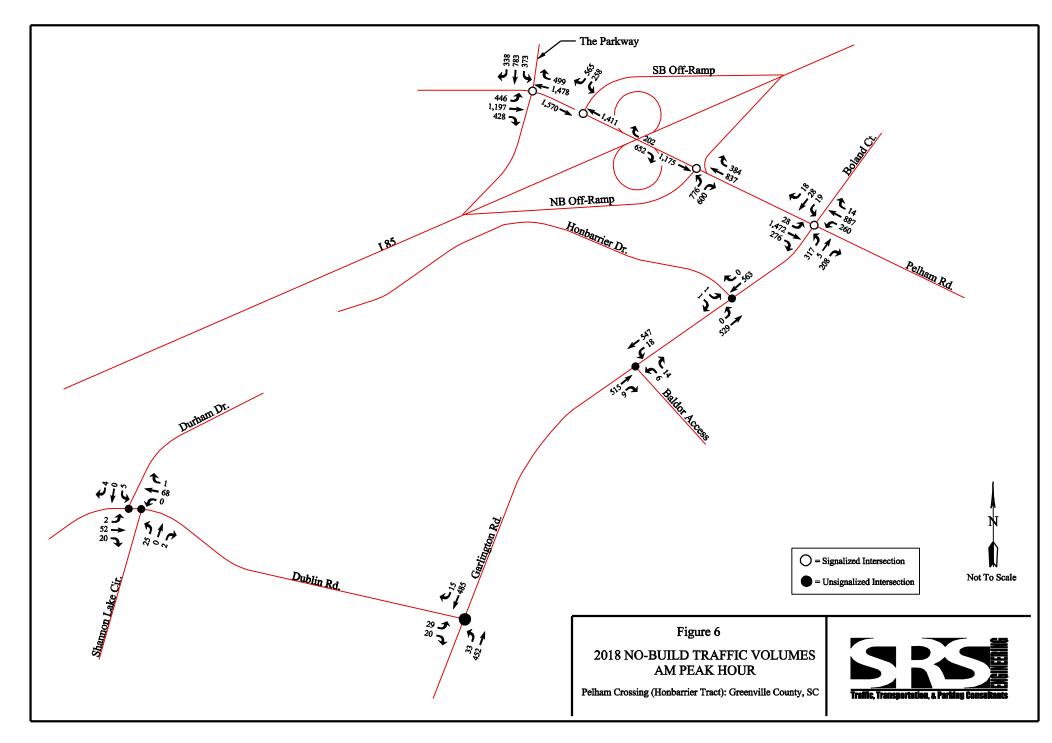
Honbarrier Tract - Pelham Crossing: Greenville County, SC

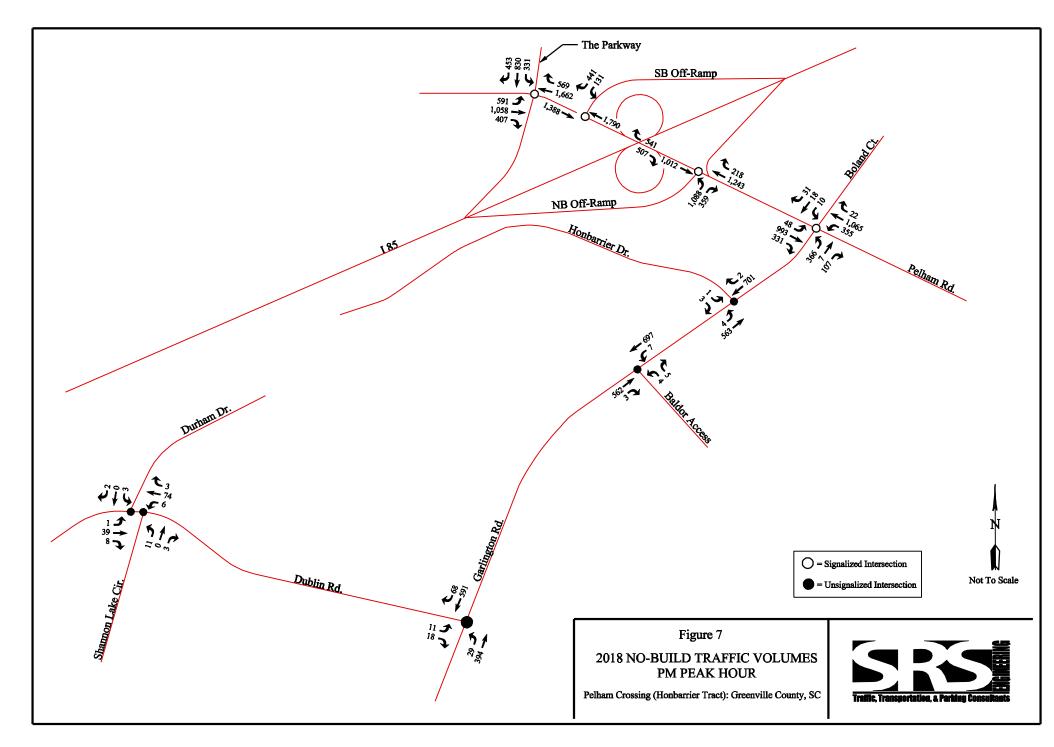


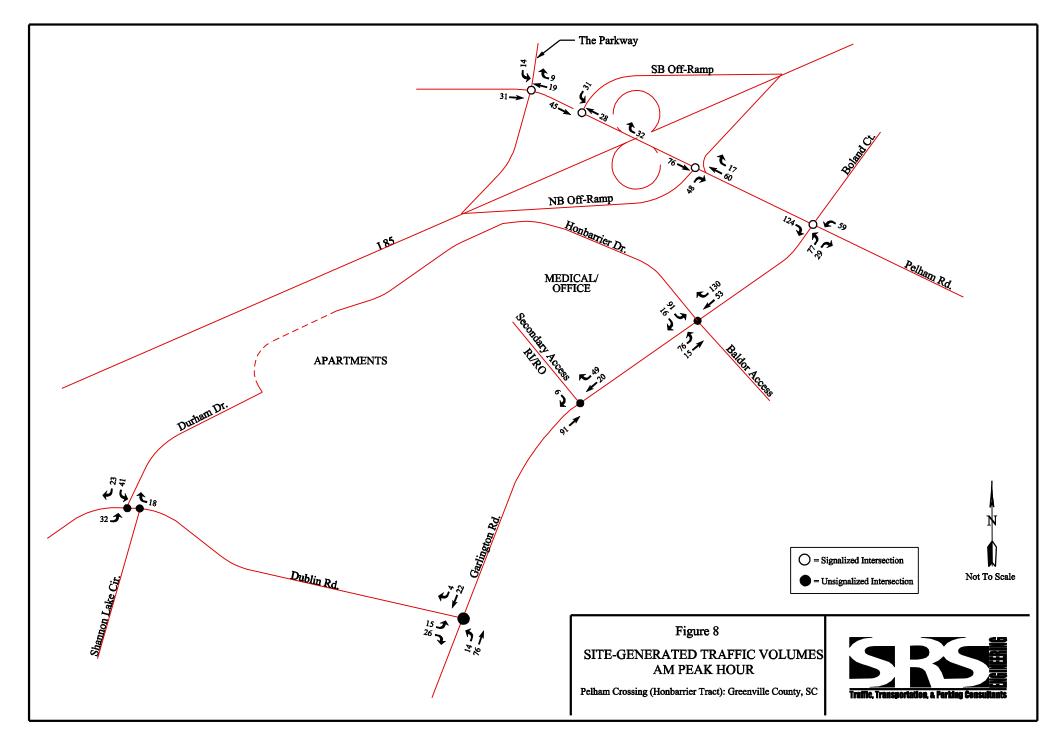


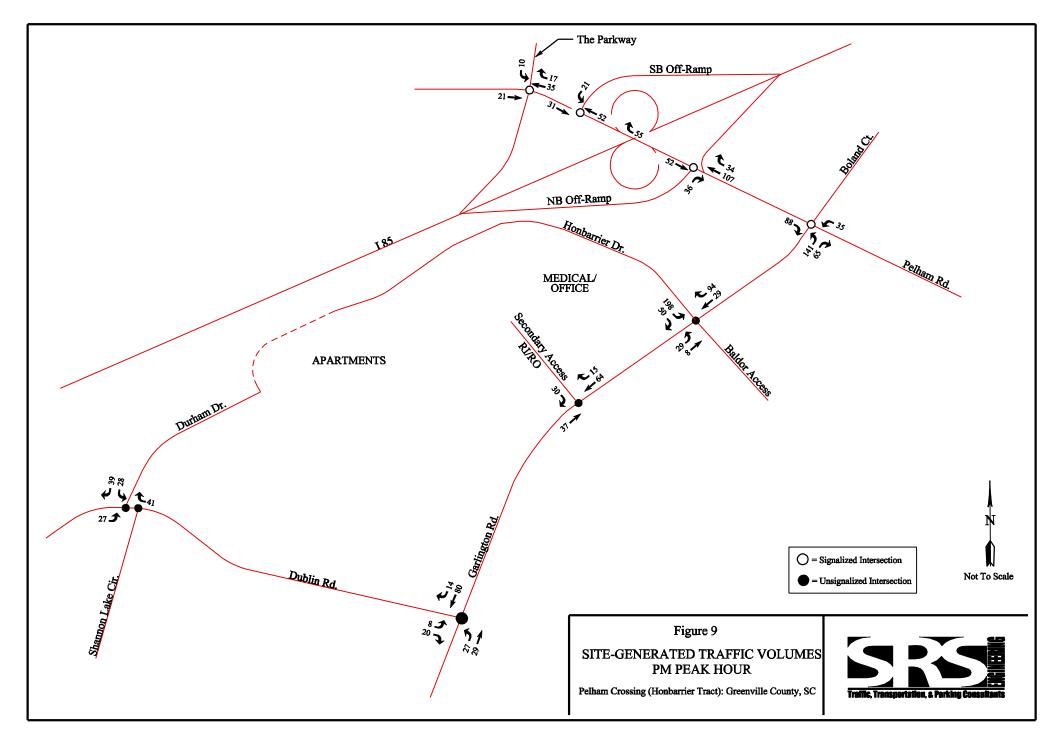


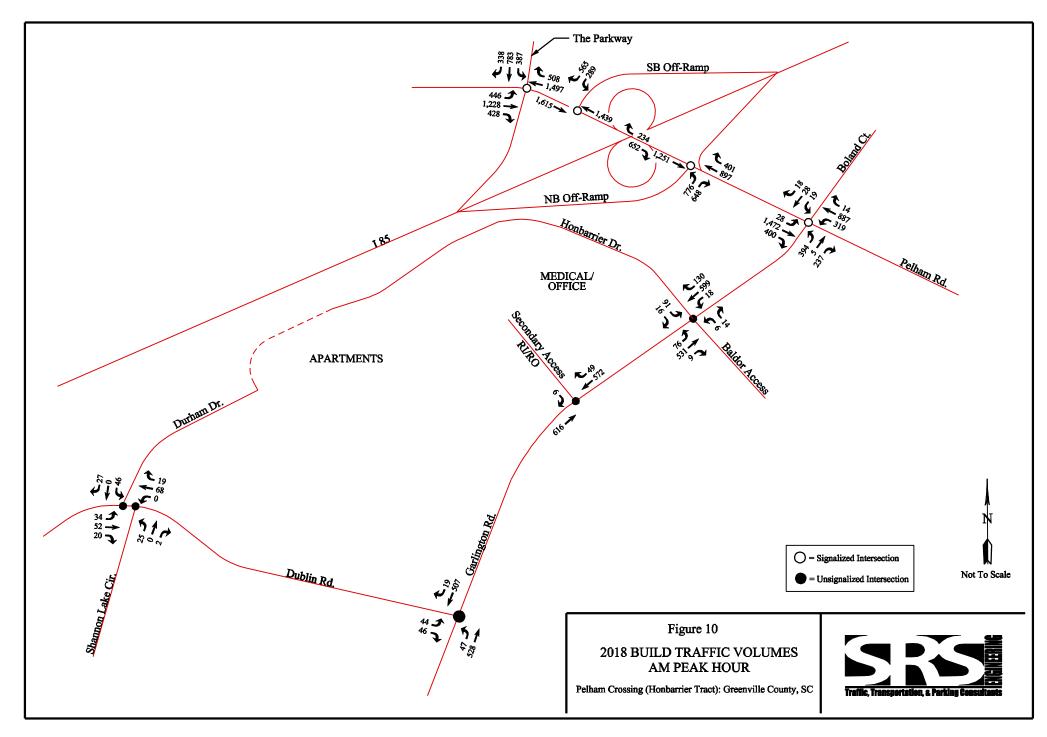


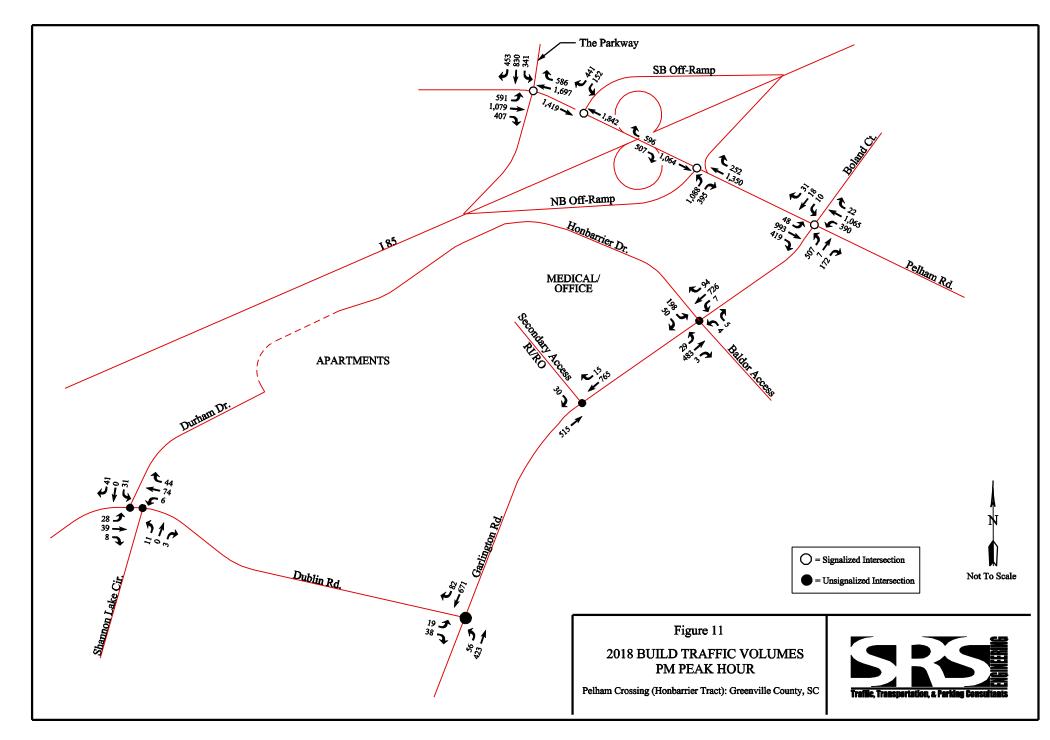












# RECIPROCAL EASEMENT AGREEMENT

THIS RECIPROCAL EASEMENT AGREEMENT (this "Agreement") is made as of this day of Cable 2, 20 5 by and among Central Realty Holdings, LLC, a limited liability company (hereinafter referred to as "CRH"), and Glenn Durham and Charlesine D. Yeargin, as successor co-trustees of, U/ dated (collectively, "Durham").
WITNESSETH:
WHEREAS, CRH is the owner of that certain tract or parcel of land lying and being in Greenville County, South Carolina, being more particularly described on <a href="Exhibit A">Exhibit A</a> attached hereto and made a part hereof by this reference (hereinafter referred to as the " <a href="CRH Tract">CRH Tract</a> "); and
WHEREAS, Durham is the owner of that certain tract or parcel of land contiguous to the CRH Tract and lying and being in Greenville County, South Carolina, and being more particularly described on <a href="Exhibit B">Exhibit B</a> attached hereto and made a part hereof by this reference (hereinafter referred to as the "Durham Tract", the CRH Tract and the Durham Tract each being herein sometimes referred to individually as a "Tract" and collectively as the "Tracts"); and,
WHEREAS, the parties intend to develop their respective Tracts, and in furtherance thereof, the parties desire to construct or have constructed an access road over both Tracts to connect the Honbarrier Drive and Durham Road, for the joint use by the parties, as more particularly set forth herein,
NOW, THEREFORE, for and in consideration of the mutual covenants set forth herein, CRH and Durham agree as follows:
1. <u>Access Road</u> . CRH shall construct, at its sole cost, within () months from the date of this Agreement, a road which will connect and provide access between Honbarrier Road and Durham Road (the " <u>Access Road</u> "). The Access Road shall be located in the area depicted as the ' <u>Access Road Easement Area</u> ' on the site plan attached hereto as Exhibit C and incorporated herein (the "Easement Area"). The Access Road shall be sixty-six feet (66') in width and shall otherwise be constructed in accordance with Greenville County, SC standards for <u>[collector?]</u> roads (the " <u>Access Road</u> "). Durham hereby grants and conveys to CRH a temporary easement to enter onto the Durham Tract as reasonably necessary to construct the Access Road.
2. <u>Grant of Access Easements</u> .
a. CRH hereby grants and conveys to Durham, for the benefit of and as an appurtenance to the Durham Tract, a non-exclusive, perpetual easement to use those portions of the

Easement Area which are on the CRH Tract for purposes of pedestrian and vehicular access,

ingress and egress on, over and across the Access Road.

- b. Durham hereby grants and conveys to CRH, for the benefit of and as an appurtenance to the CRH Tract, a non-exclusive, perpetual easement to use those portions of the Easement Area which are on the Durham Tract for purposes of pedestrian and vehicular access, ingress and egress on, over and across the Access Road.
- 3. Maintenance of Access Road. CHR shall maintain, repair and/or replace the Access Road as reasonably necessary to keep the same in good order, condition and state of repair. In the event CRH fails to maintain the Access Road as required hereunder, Durham shall have the right to perform such maintenance work upon thirty (30) days advance written notice (or such lesser time as is reasonable under the applicable circumstances in the event of emergency) on behalf of CRH, and CRH shall reimburse Durham for the actual cost of such work within twenty (20) days of receipt of an invoice for the same. Whenever a party shall perform any construction or maintenance of the Access Road as required or permitted hereunder, such work shall be done expeditiously and in a good and workmanlike manner and in accordance with all applicable laws, codes, rules, statutes and regulations of governmental authorities having jurisdiction thereof. Such work shall be carried out in such manner so as to cause the least amount of disruption to any business operations being conducted on the surrounding land as is reasonably practicable.
- 4. <u>Use of Access Road</u>. The parties shall use the Access Road only for access between Dunham Road and Honbarrier Drive. No party shall at any time erect, construct or cause to be erected or constructed, any fence, wall, curb, or other barrier within the Easement Area or in any manner interfere with or restrict the full and complete use and enjoyment by the other party of the easement rights granted herein. This Agreement does not restrict the use and development of the Tracts except as stated herein. It is the intent of this Agreement to grant mutual easements over the Easement Areas without limiting the right of the Parties to alter, demolish, redevelop or, subject to the provisions of this Paragraph 2, improve the remainder of each Tract unless expressly stated herein to the contrary.
- 5. <u>Public Dedication of Access Road</u>. This Agreement does not dedicate the easements created herein to the general public. Notwithstanding the foregoing, in the event Greenville County agrees to accept the Access Road and to maintain the same, the parties agree to cooperate in the dedication of the Access Road to Greenville County as a public road.
- 6. <u>Insurance and Indemnification</u>. Until such time as the Access Road may be dedicated to the public, CRH shall maintain or cause to be maintained in full force and effect, at its sole cost, commercial general liability insurance covering the Access Road, with a combined single limit of liability of not less than one million dollars (\$1,000,000.00) and three million dollars (\$3,000,000) in the aggregate for bodily injury to or death of any person, and for property damage, and Durham shall be listed as an additional insured under such policy. Such insurance shall be procured by CRH, at its sole cost, from a company licensed in the State of South Carolina. Such insurance shall provide that it shall not be cancelable without thirty (30) days prior, written notice to Durham. Upon request, CRH shall provide a certificate of such insurance coverage to Durham. In the event CRH fails to maintain the insurance coverage required hereunder, Durham shall have the right to obtain such insurance and charge the cost thereof to CRH. CRH shall reimburse Durham for the cost of such insurance coverage within twenty (20)

days of receipt of the invoice for the same. Each of CRH and Durham shall indemnify and hold harmless the other party from and against any and all loss, cost, damage, liability or expense (including reasonable attorneys' fees actually incurred and court costs) incurred by such other party in connection with the exercise by CRH or Durham, respectively, or their employees, tenants, contractors, agents or licensees of the easements and rights created herein, except to the extent caused by the negligence or willful act of such other party or its employees, tenants, contractors, agents or licensees.

- 7. Extent of Liability. Notwithstanding any other provision contained in this Agreement to the contrary, the parties hereby expressly agree that the obligations and liability of each of them shall be limited solely to such party's interest in its respective Tract, as such interest is constituted from time to time. The parties agree that any claim against a party hereto shall be confined to and satisfied only out of, and only to the extent of, such party's interest in its Tract, as such interest is constituted from time to time. Nothing contained in this paragraph shall limit or affect any right that any party might otherwise have to seek or to obtain injunctive relief or to specifically enforce the rights and agreements herein set forth, provided that such injunctive relief or specific performance does not involve the payment of money from a source other than such party's interest in its Tract, as such interest may be constituted from time to time.
- 8. <u>Benefited Parties/Binding Effect</u>. The rights, easements and obligations established in this Agreement shall run with the land and be binding upon and inure to the benefit of the owners of the Tracts, their successors and assigns. The owners of the Tracts may delegate the right to use and maintain the easements granted herein to their respective tenants, customers, invitees, employees, agents, contractors and licensees, successors and assigns.
- 9. <u>Miscellaneous</u>. This Agreement shall be governed in accordance with the laws of the State of South Carolina. The paragraph headings in this Agreement are for convenience only, shall in no way define or limit the scope or content of this Agreement, and shall not be considered in any construction or interpretation of this Agreement or any part hereof. Nothing in this Agreement shall be construed to make the parties hereto partners or joint venturers. No party hereto shall be obligated to take any action to enforce the terms of this Agreement or to exercise any easement, right, power, privilege or remedy granted, created, conferred or established hereunder. This Agreement may be amended, modified or terminated only in writing, executed and acknowledged by all parties to this Agreement or their respective successors or assigns.. Time is of the essence of this Agreement.

[EXECUTION ON FOLLOWING PAGES]