

# COUNTY COUNCIL OF BEAUFORT COUNTY

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## AGENDA NATURAL RESOURCES COMMITTEE

Monday, April 1, 2013

2:00 p.m.

Executive Conference Room  
Administration Building

### Committee Members:

Brian Flewelling, Chairman  
Cynthia Bensch, Vice Chairman  
Gerald Dawson  
William McBride  
Jerry Stewart  
Tabor Vaux  
Laura Von Harten

Staff Support: Tony Criscitiello

1. CALL TO ORDER – 2:00 P.M.
2. PRESENTATION ON CRYSTAL LAKE PARK BY FRIENDS OF CRYSTAL LAKE
3. SOUTHERN BEAUFORT COUNTY MAP AMENDMENTS FOR R603-021-000-007B-0000, R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 PARCELS TOTALING 113+/- ACRES NORTH OF U.S. 278 AND WEST OF GRAVES ROAD); OWNERS/APPLICANTS: ROBERT GRAVES, JOHN GRAVES AND PAUL GRAVES ([backup](#))
  - A. Future Land Use Map Amendment from Community Commercial (approximately 21 acres fronting US 278) and Rural (for remainder of property) to Regional Commercial (approximately 65 acres front US 278) and Neighborhood Mixed-Use (approximately 48 acres at the rear of the properties);
  - B. Zoning Map Amendment / Rezoning Request from Rural with Transitional Overlay (approximately 33 acres fronting US 278) and Rural (80 acres of the remainder of the properties) to Commercial Regional (approximately 65 acres fronting US 278) and Suburban (approximately 48 acres at the rear of the properties)
4. CONSIDERATION OF REAPPOINTMENTS AND APPOINTMENTS
  - A. Northern Corridor Review Board
  - B. Southern Corridor Review Board
5. EXECUTIVE SESSION
  - A. Discussion of negotiations incident to proposed contractual arrangements and proposed purchase of property
6. ADJOURNMENT





COUNTY COUNCIL OF BEAUFORT COUNTY  
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**TO:** Beaufort County Planning Commission  
**FROM:** Anthony Criscitiello, Beaufort County Planning Director  
**DATE:** March 25, 2013  
**SUBJECT:** **Proposed Comprehensive Plan and Zoning Map Amendment for Pepper Hall (Graves Property)**

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**EXCERPT OF PLANNING COMMISSION RECOMMENDATION from its draft March 4, 2011, meeting minutes:**

Mr. Criscitiello noted that Mr. Hicks is a gentleman and it always has been a pleasure to work with Mr. Hicks.

Mr. Criscitiello briefed the Commission on the rezoning request. He supports the staff recommendation and introduced Mr. Robert Merchant, the County Long-range Planner.

Mr. Merchant explained the current and proposed future land use and zoning maps. He compared the difference between the former and the current requests. Land along the Okatie River within 300 feet of the critical line will remain rural zoning and is not part of the current request. The applicant is proposing a development agreement to accompany these map amendments that would lock in the zoning for the duration of the agreement, limit the total ground floor to 700,000 square feet of commercial use, limit individual building footprints to 75,000 square feet, require connectivity and a frontage road, and allow transfer of residential and commercial uses as needed. The current total acreage is 113 acres—65 acres will be zoned commercial regional and the rest will be zoned suburban. Staff recommends denial of the requests because of traffic impacts and water quality concerns of the Okatie River. Even at 50% buildout, the traffic level of service will be E at Highway 278 and Hampton Parkway. The issue is the proposed rezoning would consume 41% of the added capacity on the current widening of Highway 278, further compounding the traffic level of service. Additionally, stormwater runoff from the potential development would add further degradation of the Okatie River. The requests are not supported by the Comprehensive Plan. The Applicant's traffic impact analysis uses the current traffic model that assumed a 4% growth of the area. The County asked the applicant to scale down the growth rate to 2-1/2% annually. The Applicant's statement that there was a 22% drop on Highway 278 is likely due to improvements such as the Bluffton Parkway and traffic lighting that had been taken into account by the County's transportation model. That current reduction probably will not remain when growth picks up. The County approved traffic level is D; increase from this rezoning probably would raised it to Level F. It is difficult to mitigate impacts because of the geography of the site. Connectivity is difficult with the only possibility of a connector road with Berkley Hall. The proposed flyover is not funded; it is an expensive opportunity that is not in the pipeline and is simply being considered at this moment. The County already spent \$140-150 million on road development in Southern Beaufort County. After consulting the County stormwater department, the Okatie River is an impaired waterway with high fecal coliform and closed waterbeds. A study noted a 21-50% reduction to the Okatie headwaters was needed to bring the river to conformance. Runoff from the proposed development will go into the river. Commercial development, although mitigated, will impact the water quality. The County has a commitment policy to preserving the waters through fee simple or development rights purchases. Mr. Merchant noted an error in the map that will be corrected when it goes on to Council. The Okatie Marsh PUD was approved 4 to 5 years ago and has been purchased to preserve the land. The impacts to the river include the current PUDs and developments and road widening. The County is moving to promote mixed-use development and walkable

communities with the proposed development code. Staff believes commercial development is not appropriate.

**Applicant's Comments:** Mr. Jim Scheider, the applicant's representative, introduced Mr. Milt Rhodes, Ms. Jennifer Bihl, and two of the applicants who were in the audience. Mr. Scheider noted the on-going discussions about the buffer area. He takes issue on Mr. Merchant's presentation. All of the numbers on the projections were from the 2004 model. When they did their traffic count on 2012, it was below. He used actual counts from South Carolina Department of Transportation (SCDOT), not the model counts--that are 40,414 instead of 32,900. The request is for a rezoning. He noted that the Zoning and Development Standards Ordinance (ZDSO) states that the Development Review Team (DRT) can require design modifications. He noted approved projects that were factored into their equation: Willow Run is dead in the water, the Johnson property at Highways 46 and 278 is not as busy but the developer is scrambling to move forward, and the "Harris Tetter" site is for sale. He noted that the Comprehensive Plan proposing 28 acres as park, and his applicant's buffer park was in keeping with the plan. He noted Mr. Dan Ahern, the County's former stormwater manager, stated that "development can be engineered to not cause problems in waterways." Mr. Scheider noted that the site would contribute to impact fees. He noted the taxes paid by the applicants were higher than the property that County purchased across the street. All we are asking for is fair treatment. Using speculative traffic information is detrimental to the applicant. We must meet Level D or scale down the project, when it comes before the DRT. As part of a balancing act, decide squaring the rights of the public with the rights of property owners. The applicants have cut the size of their commercial buildings and have reduced the requested cost for the buffer park. They believe they have tried to meet the public interest and to meet the County ordinances.

**Public Comment:** None were received.

**Commission discussion included:**

- Traffic count disparities (Mr. Colin Kinton, the County Traffic and Transportation Engineer, noted that the traffic counts at the 2-1/2% growth rate were agreed upon between he and Ms. Bihl. He noted that she used December 2012 rates which were not peak time. One must account for approved development, whether active or not. The analysis presented was Ms. Bihl's analysis, not the County's analysis. Level of service E was still reached with her analysis—the road will fail. Weekday, instead of weekend timeshare, traffic calculations were used in the analysis. Not all approved development sites were included in the analysis. There are frontage road concerns, including construction costs, timeframe, etc.; however, the County is not planning a frontage road to the west of Berkley Hall. Mr. Milt Rhodes, the applicant's representative, noted that there are access points on the east and the west sides of Pepper Hall, and it has been presumed that access would connect across Highway 278.);
- The impact of suburban zoning behind the Commercial Regional portion of the property--how the public would be affected, the safety of children, etc. (Mr. Rhodes noted there was 65 acres of commercial uses and the Code does contain a mixed-use concept. The property to the west of Graves Road would transit to suburban zoning. Mr. Rhodes noted that the Habersham subdivision could be inspirational as a by-right zoning with a walkable mixed-use community.);
- A buffer between Berkley Hall and Pepper Hall (Mr. Rhodes noted that the Berkley Hall general manger spoke at the subcommittee meeting requesting coordination of activities between both subdivisions.); and
- The 28-acre buffer park.

**Public Comment:** Mr. Reed Armstrong of the Coastal Conservation League is in full agreement with the Planning staff's assessment which basically concludes that this is far too much for this location. He provided the following in comparison to the requested rezoning of 65 acres with 750,000 square feet of commercial use: Cross Creek Plaza at the intersection of Robert Smalls Parkway and Parris Island Gateway that serves as the main regional shopping center for northern Beaufort County that includes

Belk, Penney's, Best Buy, TJ Maxx, Pets Mart, numerous other stores and restaurants, and a Super Wal-Mart within 61 acres of 500,000 square feet commercial use; Bluffton Gateway Center at the intersection of Highways 278 and 46 is a 65-acre parcel with 225,000 square feet of commercial space that is compatible with the Future Land Use map and the surrounding area; and the Tanger Outlets I and II combined are 500,000 square feet in about two-thirds of the acreage requested for the Graves property. Numerous studies show that impacts to water quality of the adjacent waterways occur when impervious surfaces exceed 10%. Using current data, if the property were developed in the current rural zoning, there would be 10% impervious surfaces. If the proposed builtout (70 of the 140 acres) occurs, there would be 49.7% of impervious surfaces. DHEC's TMDL (Total Maximum Daily Load) Study stated that because of the existing conditions in the area loads near the river should be reduced by 51%. New development will compound the situation. Additionally, soil maps show that the Pepper Hall soils are poor for infiltration and have the potential for high stormwater runoff. He requests denial of the rezoning request.

Commission discussion included:

- the adaptability of the community to past rezoning where traffic was of considerable concern;
- stormwater management being a best educated guess;
- using bio-filtration systems that can be engineered to protect the river;
- coliform bacteria not necessarily a pollutant, but an indicator that there could be pathogenic problems in the waterways;
- the 10% guide meant degradation of streams without mitigation, however, mitigation and filtration must be used to bring the property back to the level of 10% impervious surface;
- the viability of the stormwater ordinance if it is not sufficient to protect the Okatie;
- the zoning of a property with reasonable use;
- the Commission not being obliged to insure a financial reward for the sale of an owner's property;
- offering respect on the detailed work of the applicants' presentation;
- the property being located in a planned growth area and surrounded by commercial developments;
- acknowledging that the plans may be too intense, but consideration should be given to the rezoning request;
- clarifying the mapping error mentioned in the presentation;
- acknowledging the endless traffic debate, however the Commission must determine the reasonableness of the applicants' request if the stormwater can be engineered to protect the river;
- supporting approval of the rezoning request;
- protecting the water rights now for the future;
- concern for the 300-foot buffer that will remain in rural zoning;
- belief that the applicants have presented a good faith effort to correct the issues;
- concern that County Council will tie the river buffer with the rezoning;
- the balancing act of the applicants trying in all good faith to address the issues and the planning staff trying to protect the Okatie and the public;
- the map amendments having development agreements tied to each; and
- a recommendation to add conditions to the motion to accommodate the County and the applicants.

**Motion:** Mr. Ed Riley made a motion, and Mr. John Thomas seconded the motion, to recommend to County Council to approve the Southern Beaufort County Future Land Use Map Amendment for R603-021-000-007B-0000; R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 parcels totaling 113+/- acres north of U.S. 278 and west of Graves Road) from Community Commercial (approximately 21 acres fronting US 278) and Rural (for remainder of property) to Regional Commercial (approximately 65 acres front US 278) and Neighborhood Mixed-Use (approximately 48 acres at the rear of the properties).



Further discussion included adding conditions regarding stormwater, traffic, and density; clarifying the motion process; adding a zero impact condition to the Okatie River; reducing the number of residential units and commercial square footage; agreeing that the land owner had the right to develop his property; believing that the market and not the zoning will drive the traffic impact; and inserting caveats to include development agreements.

**Amended Motion:** Mr. Thomas amended the original motion to add the following conditions:

- that the 700,000 square feet of commercial development be a maximum total and not ground square footage;
- that there be a guaranteed protection of the Okatie River; and
- that the buffer area be set aside from development.

Mr. Randolph Stewart asked to add a buffer that exceeded the current ordinance to protect the privacy of the Berkley Hall residents. Mr. Semmler agreed; however, he noted that the Commission should be concentrating on the Future Land Use Map Amendment instead.

Mr. Riley, accepted the amendments offered by Mr. Thomas, asked that the original motion be so amended.

The **motion, as amended, was carried** (FOR: Brown, LeGree, Petit, Riley, Semmler, and Thomas; AGAINST: Chmelik and Stewart; RECUSED: Bihl).

**Motion:** Mr. Thomas made a motion, and Mr. Petit seconded the motion, to recommend to County Council to approve the Southern Beaufort County Zoning Map Amendment / Rezoning Request for R603-021-000-007B-0000; R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000 (7 parcels totaling 113+/- acres north of U.S. 278 and west of Graves Road) from Rural with Transitional Overlay (approximately 33 acres fronting US 278) and Rural (80 acres of the remainder of the properties) to Commercial Regional (approximately 65 acres fronting US 278) and Suburban (approximately 48 acres at the rear of the properties) to add the following conditions:

- that the 700,000 square feet of commercial development be a total, and not, ground square footage;
- that there be a guaranteed protection of the Okatie River; and
- that the buffer area be set aside from development.

No further discussion occurred. The **motion was carried** (FOR: Brown, LeGree, Petit, Riley, Semmler, and Thomas; AGAINST: Chmelik and Stewart; RECUSED: Bihl).

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## **STAFF REPORT:**

### **A. BACKGROUND:**

<b>Case No.</b>	ZMA-2012-07
<b>Applicant/Owner:</b>	Robert Graves, John Graves, and Paul Graves
<b>Property Location:</b>	Intersection of U.S. Highway 278 and Graves Road.
<b>District/Map/Parcel:</b>	R603-021-000-007B-0000; R603-021-000-0195-0000; R603-021-000-0194-0000; R603-021-000-004A-0000; R603-021-000-06A-0000; R600-021-000-0075-0000; R600-021-000-002-0000
<b>Property Size:</b>	113 acres

<b>Current Future Land Use Designations:</b>	Community Commercial (approximately 21 acres fronting US 278) and Rural (remainder of property)
<b>Proposed Future Land Use Designations:</b>	Regional Commercial (approximately 65 acres fronting US 278) and Neighborhood Mixed-Use (approximately 48 acres at the rear of the properties)
<b>Current Zoning Districts:</b>	Rural with Transitional Overlay (approximately 33 acres fronting US 278) and Rural (80 acres of the remainder of properties)
<b>Proposed Zoning Districts:</b>	Commercial Regional (approximately 65 acres fronting US 278) and Suburban (approximately 48 acres at the rear of the properties)

**B. SUMMARY OF REQUEST:** The applicants, Robert Graves, John Graves, and Paul Graves, are proposing to change the future land use designation and to rezone portions of an assemblage of 7 parcels equaling approximately 113 acres located on the north side of US 278 between the Okatie River and Graves Road. The properties are currently zoned Rural with Transitional Overlay on the 33 acres fronting US 278 and Rural for the remainder of the property (please refer to the attached map for a summary of the proposed future land use map amendments and zoning amendments). The applicant believes that the proposed amendment is consistent with the surrounding land uses and growth trends and that the current widening of US 278 from 4-lanes to 6-lanes will accommodate the additional traffic that would potentially result from the rezoning.

In 2001, County Council approved an application to rezone the 37 acres that front US 278 from Rural to Rural with Transitional Overlay. In 2002, County Council approved the upzoning of a 17.5-acre tract directly east of the proposed rezoning from Rural to Commercial Regional.

**C. PREVIOUS REZONING REQUEST:** On February 6, 2012, the Planning Commission reviewed a proposal (ZMA-2011-17) to rezone 142 acres to Commercial Regional (64 acres) and Suburban (78 acres). This included all of the land within the subject parcels up to the critical line. The Planning Commission had a split vote on the rezoning. The application was denied by the Natural Resources Committee and later County Council largely due to the potential impacts the rezoning would have on water quality and preservation efforts in the Okatie River and potential traffic impacts on US 278.

This application for rezoning is similar to the Graves Rezoning application that the Planning Commission reviewed at its February 6 meeting with the following exceptions:

- Both the future land use designation and the zoning of all lands within the subject parcels that are located within 300 feet of the critical line (Okatie River and marsh) will remain Rural.
- The applicant is proposing to accompany this rezoning application with a Development Agreement with Beaufort County. The development agreement, among other things, is proposed to place restrictions on the total square footage of ground floor commercial to 700,000 and limit the footprint of individual commercial buildings to 75,000 square feet.

**D. TRAFFIC IMPACT ANALYSIS:** The applicant submitted a Traffic Impact Analysis (TIA) utilizing the County's current Travel Demand Model (2005). The County's current traffic model assumes a 4.7% annual growth rate, which is unrealistic given the slower growth experienced by the region over the last 5 years. Therefore, staff requested that Bihl Engineering run the numbers with a reduced annual growth rate of 2.5%. Even with the reduced growth rate in the model, the intersection of Hampton Parkway and US 278 at only 50% assumed buildout will be at a level of service (LOS) E which is below the County's minimally acceptable standard of D.

1. **TIA Assumptions:** The TIA assumes a buildout scenario of 700,000 square feet of commercial and office development and 480 residential units. These growth assumptions are not based on the maximum development potential of the property with the proposed rezoning, but based on the assumption of adopting a development agreement that would limit ground floor commercial development to a maximum of 700,000 square feet (additional commercial square footage could be provided on 2<sup>nd</sup> and 3<sup>rd</sup> floors).
2. **Reduction in Traffic Volume on US 278:** The TIA documents that there has been a 22% drop in traffic volumes on US 278 since 2006. This reduction in volume is likely due to two factors:
  - Improvements to the region's transportation network with the extension of the Bluffton Parkway to SC 170, and the additions of frontage roads along US 278.
  - The economic downturn which has reduced traffic volumes statewide.

It is important to clarify that the road network improvements mentioned above are already factored into the County's Travel Demand Model which forecasts portions of US 278 failing by 2025. While, the economic downturn may have slowed the rate of development, the potential volume of approved development, permitted through PUDs and existing zoning has not diminished.

3. **Projected Failure of US 278/Hampton Parkway Intersection:** The TIA projects that the intersection of US 278 and Hampton Parkway will be at a Level of Service (LOS) E for PM peak hours at 50% assumed buildout, which is projected for 2018. It should be noted that while the overall intersection is projected to be at LOS E, specific movements at this intersection will be LOS F, which will result in greater delays and congestion. For example, left turns from US278 entering the site are projected to experience 115 second delays, potentially resulting in the capacity of left turn lanes to be used up. This could result in stopped traffic in through lanes on US 278 and could increase the potential for accidents. These intersection failings are only compounded at 100% assumed buildout.
4. **Projected Development will Consume 41% of Additional Capacity Gained by US 278 Widening :** Beaufort County is in the process of constructing two additional lanes to US 278 between Simmonsville Road and SC 170 to provide additional capacity of 18,000 vehicles per day (vpd) at a cost of approximately \$24 million. This road widening project is being implemented to address projected road deficiencies caused by previously approved development. The development enabled by the Graves rezoning, at 100% assumed buildout, would add 7,453 vpd to US 278 which is 41% of the added capacity gained by the road widening.
5. **Limited Opportunities to Mitigate Traffic Impacts:** The projected traffic impacts of this rezoning are difficult to mitigate due to the geography of the site. The site's location between the Okatie River and Berkeley Hall will necessitate all traffic generated by the rezoning to use US 278 or Hampton Parkway for access. It is highly improbable that any future connections will be made west or north of the site across the Okatie River. The only opportunity to relieve traffic from the Hampton Parkway intersection and adjoining right-in/right-out intersections would be to connect to the traffic signal at Berkeley Hall via a frontage road. Another improvement that could reduce overall traffic volumes on US 278 would be to extend the Bluffton Parkway west to Interstate 95 (which is discussed in the cover memo to the TIA). This project, however, is unfunded and is only beginning to be explored as a future network improvement. The Comprehensive Plan projects this extension to cost \$40 million. The cost will likely be much higher due to the environmental constraints of crossing the New River Swamp.

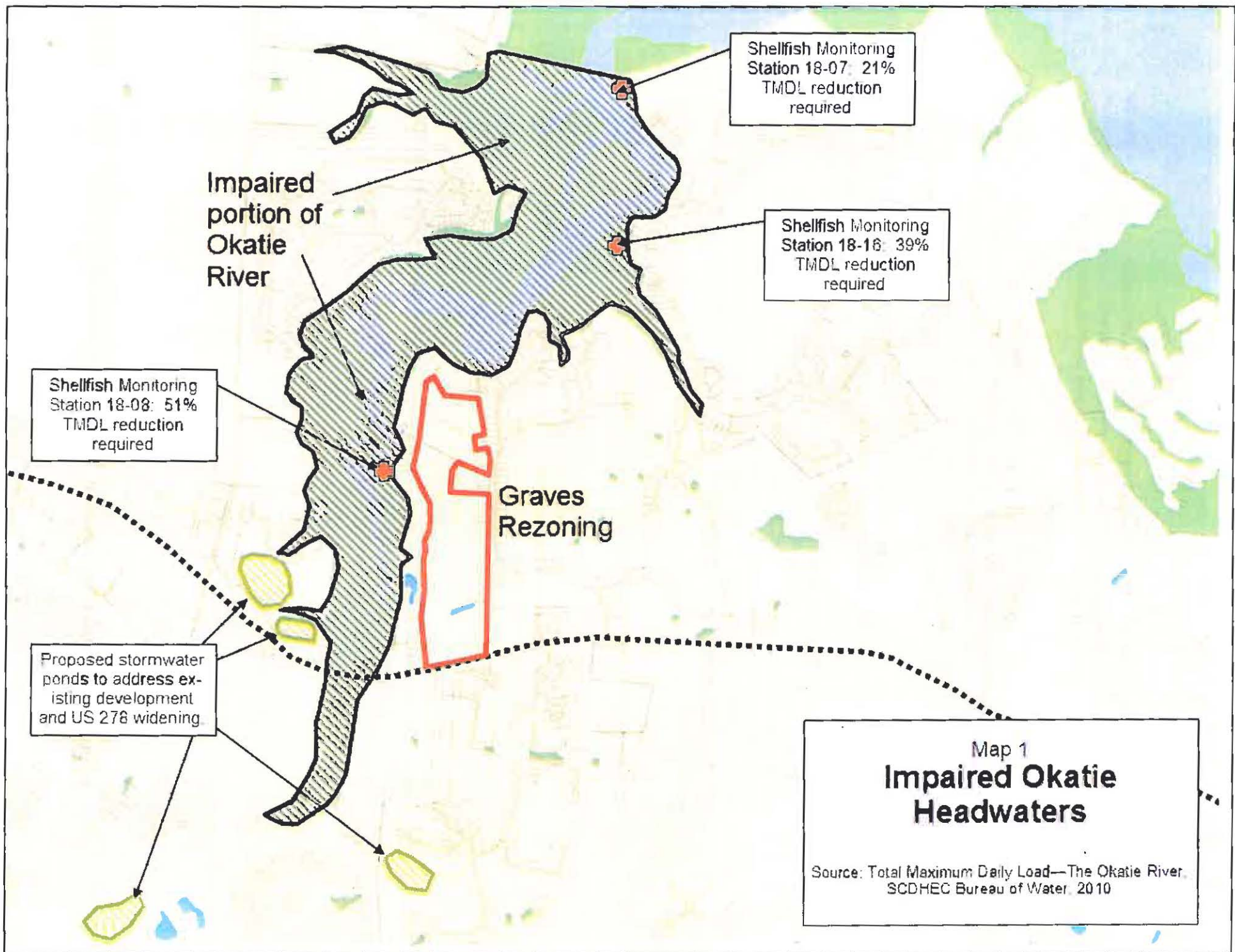
**E. PROJECTED IMPACTS TO WATER QUALITY:** The Graves property is located along the headwaters of the Okatie River, which is classified as an impaired waterway by the SCDHEC. Four of the six shellfish monitoring stations located along the river exceed shellfish fecal coliform water quality standards.

1. **Proposed Rezoning would Further Degrade Water Quality:** The potential quantity of development enabled by this rezoning would result in further degradation to the Okatie headwaters, even with the application of Beaufort County's current stormwater regulations. According to SCDHEC, in order to restore water quality in the Okatie headwaters, a 21% to 51% reduction of Total Maximum Daily Loads (TMDLs) is necessary depending on the water quality monitoring station (see Map 1)<sup>1</sup>. The application of the County's existing stormwater regulations would still result in an addition of TMDLs. The County's current regulations require development to have 10% "effective imperviousness" for runoff volume control. Effective imperviousness means that even if the actual developed area is 50% impervious, stormwater controls must render the volume of stormwater runoff to the equivalent of a site that is 10% impervious. With 700,000 square feet of commercial buildings and accompanying parking areas spread over 65 acres, there will still be significant increases in TMDLs into the Okatie River which will only be partially mitigated by the existing stormwater regulations and the 300 foot strip of rural land along the river. Greater TMDLs result in a greater volume of freshwater runoff into the Okatie River, which has been shown to be a major contributing factor in raising fecal coliform levels.
2. **The County has Shown Commitment to Improve Water Quality in the Okatie River:** Increasing the development potential of the Graves property to the degree that is being proposed goes counter to prevailing County policies and actions in the Okatie watershed over the last 10 years. Beaufort County has shown its commitment to protecting water quality through its policies and expenditures of public funds. Since 2000, Beaufort County has purchased (through fee simple and development rights) approximately 444 acres of land along the Okatie River at a cost of \$25.7 million for the purpose of reducing the amount of development that would further degrade water quality (see Map 2). The most recent purchase of the 97 acre Okatie Marsh PUD reversed a previous action to upzone the property in 2008, demonstrating the level of interest that the County places on preserving water quality in the river. In addition to land preservation efforts, the County plans to spend \$356,000 to construct 4 stormwater ponds (see Map 1) to address the impacts of existing development and to mitigate the impacts of the widening of US 278.

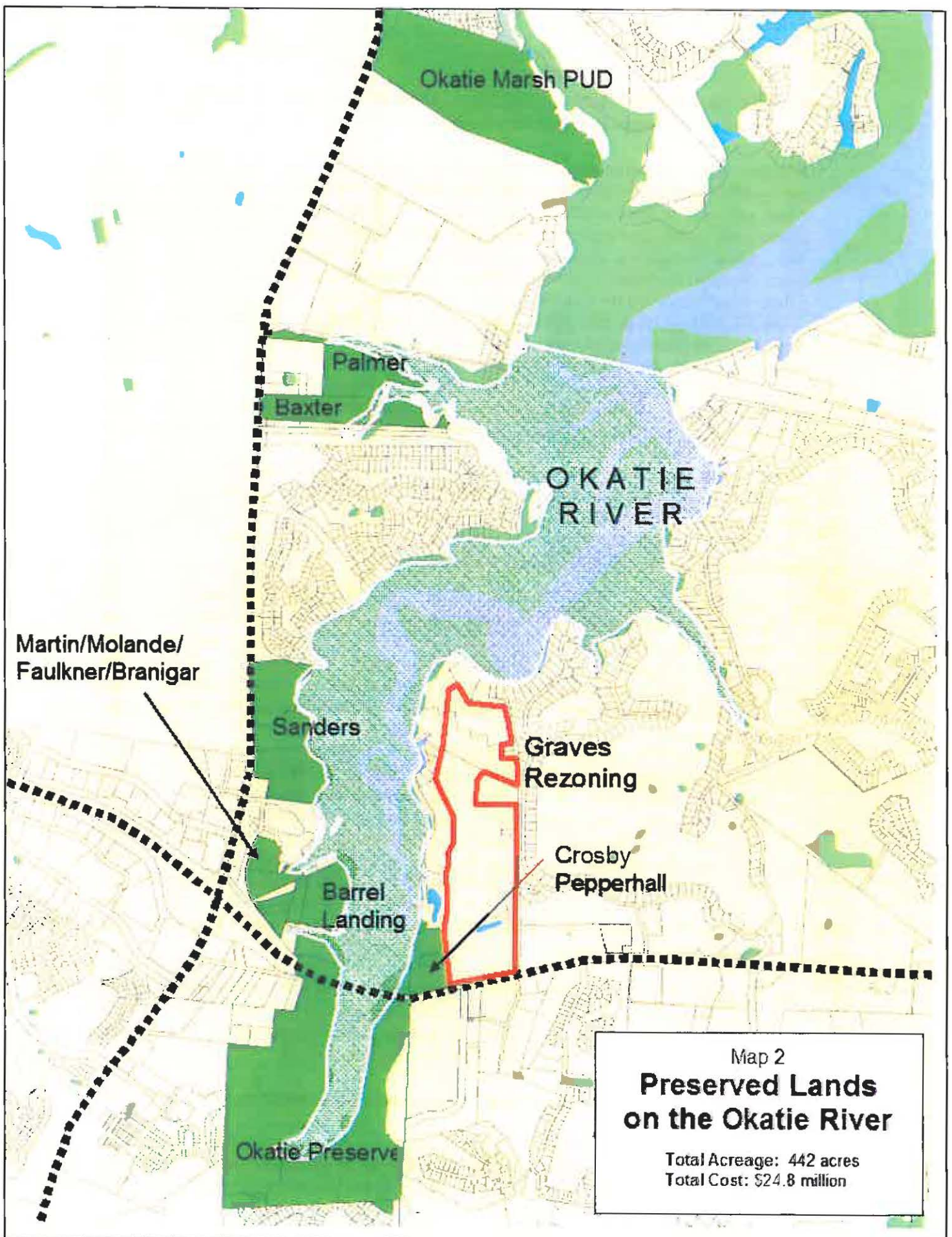
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<sup>1</sup> Source: Total Maximum Daily Load - The Okatie River, SCDHEC Bureau of Water, 2010









**F. ANALYSIS OF COMPREHENSIVE PLAN AMENDMENT:** Section 106-494 of the ZDSO requires the following considerations when reviewing a proposed amendment to the Comprehensive Plan:

1. **Whether capital investments, population trends, land committed to development, density, use or other conditions have changed that justify the amendment.** The proposed rezoning would only add to the potential for future growth and put more strain on the costly capital investments, mainly road improvements that are being made in southern Beaufort County. There was a period of explosive growth in the greater Bluffton area beginning in the early 1990's and continuing until the recent economic downturn. The rapid growth and its accompanying stress on public infrastructure led the County, the Town of Bluffton and the Town of Hilton Head Island to develop a regional plan that assessed the impact of existing and projected growth on public facilities. The plan forecasted that over the next 20 years, the region could expect to double in population due to the quantity of previously approved PUDs and subdivisions. The plan also projected that the region's road network was ill equipped to handle the projected future population growth. The County responded to these infrastructure deficiencies by investing over \$148 million in public funds to address the impacts of previously approved development.
2. **Whether the proposed amendment is consistent with the comprehensive plan's goals and policies.** The purpose of the Community Commercial and Rural future land use designations for the Graves Property is to discourage further sprawl in Southern Beaufort County and to preserve and protect sensitive natural features, such as the Okatie River headwaters. The proposed rezoning goes counter to both of these objectives.
  - a) Discourage Further Sprawl in Southern Beaufort County: This objective is achieved primarily by limiting the spread of moderate-density auto-centric residential and commercial development. The applicant has argued that the proposed comprehensive plan and zoning amendment would enable and encourage walkable mixed-use development which is supported in the comprehensive plan as a way to counter sprawl. However, Commercial Regional zoning in Beaufort County has primarily enabled "auto-centric" development such as shopping centers, factory outlet malls, and car dealerships. While Commercial Regional zoning does have some tools that could be used to create mixed-use, walkable development, it is a much better at facilitating auto-oriented sprawling development that is not supported in the plan. Additionally, this proposed comprehensive plan amendment would also create a pattern of strip commercial development that is inconsistent with the plan. The comprehensive plan states that commercial uses should focus on key transportation nodes, avoiding strip patterns. Approximately 65 acres of Regional Commercial property would yield on average 700,000 square feet of retail and office space if fully developed. While currently 37 acres on the east side of Graves Road are zoned Commercial Regional, the addition of 65 acres would create a 100 acre regional node less than a mile east of another regional node located at McGarvey's Corner.
  - b) Protect the Okatie River Headwaters: The second goal was to preserve and protect sensitive natural features in rural areas, in this case the headwaters of the Okatie River. Increasing the future land use to Regional Commercial and Neighborhood Mixed-Use would only further add to the degradation of the Okatie River (see Section E above).
3. **Whether the proposed amendment is necessary to respond to state and or/federal legislation.** Not applicable.
4. **Whether the proposed amendment would result in development that is compatible with surrounding land uses.** The Berkeley Hall PUD adjoins this property directly to the east and is



more in character with the development that Rural zoning permits. Berkeley Hall has a total acreage of approximately 1,530 acres and is approved for 712 dwelling units. This gives the PUD a gross density of 1 dwelling unit per 2 acres. The current Rural zoning permits a residential density of 1 dwelling unit per 3 acres. The proposed Suburban zoning allows single-family subdivision with a gross density of 2 dwelling units per acre (four times the density of Berkeley Hall) with the option to increase the density utilizing the Traditional Neighborhood Development and multi-family development options.

5. **Whether and to the extent to which the proposed amendment would affect the capacities of public facilities and services, including roads, utilities, law enforcement, fire, EMS, schools, parks and recreation, solid waste, and drainage facilities.** The applicant has notified and supplied letters from the Beaufort County Sheriff's Department, the Bluffton Fire District, the Beaufort County School District, Beaufort Jasper Water Sewer Authority, Palmetto Electric, and Hargray. In addition, a Traffic Impact Analysis was submitted as part of the application. The applicant argues that the widening of US 278 from 4-lanes to 6-lanes will increase the capacity of the highway to 58,000 vpd (to maintain a level of service D). As mentioned above, this road widening project is being implemented to address projected road deficiencies caused by previously approved development. The development enabled by the Graves rezoning, at 100% assumed buildout, would add 7,453 vpd to US 278 which is 41% of the added capacity gained by the road widening.
6. **Whether, and to the extent to which, the proposed amendment would result in negative impacts to natural resources.** The property is located next to the sensitive headwaters of the Okatie River. Increasing the future land use to Regional Commercial and Neighborhood Mixed-Use would only further add to the degradation of the Okatie River (see Section E above).

**G. ANALYSIS:** Section 106-492 of the ZDSO states that a Zoning Map Amendment may be approved if the weight of the findings describe and prove the following:

1. **The change is consistent with the County's Comprehensive Plan and the purposes of this Ordinance.** See discussion under Section C.
2. **The change is consistent with the character of the neighborhood.** As stated above, the Berkeley Hall PUD adjoins this property directly to the east and is more in character with the development that Rural zoning permits. Although there are commercial regional land uses to the south and east of this property, the comprehensive plan states that commercial uses should focus on key transportation nodes, avoiding strip patterns. The proposed change to Commercial Regional, the County's most intense commercial zoning district would change the character of the surrounding area. Approximately 65 acres of Commercial Regional property would yield on average 700,000 square feet of retail and office if fully developed. This large concentration of commercial development combined with the commercial uses to the south and east would potentially create a huge regional commercial node less than a mile east of another regional node located at McGarvey's Corner.
3. **The extent to which the proposed zoning is consistent with the zoning and use of nearby properties.** See comments for #2.
4. **The suitability of the property for the uses to which it has been restricted.** The 37 acres of the property fronting US 278 is currently zoned Rural – Transitional Overlay. The application of the Transitional Overlay district recognizes that this site is within a developing area and that it may be suitable for additional uses other than those allowed under the current zoning. The



comprehensive plan designated the front 21 acres of this property Community Commercial. Therefore, a transition of the front 21 acres of this property to Commercial Suburban would be consistent with the Comprehensive Plan.

5. **Allowable uses in the proposed district would not adversely affect nearby property.** The property is currently zoned Rural – Transitional Overlay. A change to Commercial Regional would substantially affect the uses permitted. Commercial Regional areas are described in the ZDSO as areas that contain large commercial uses that serve “the entire county” and include highway service uses that need to be located on major highways. Commercial Regional Districts are not meant to be a strip along arterial or collector roads. Suburban zoning in the rear of the property could potentially be of a scale and intensity inconsistent with Berkeley Hall.
6. **The length of time a property has remained vacant as zoned, where the zoning is different from nearby developed properties.** This property is being utilized for residential and agricultural purposes. The uses and zoning of adjacent properties are consistent with Berkeley Hall.
7. **The current zoning is not roughly proportional to the restrictions imposed upon the landowner in light of the relative gain to the public health, safety and welfare provided by the restrictions.** Except for three residential PUDs and the area immediately surrounding McGarvey’s Corner, the zoning of this property is consistent with the zoning designations of the other properties in the Okatie area.

#### **H. STAFF RECOMMENDATION:**

After review of the guidelines set forth in section 106-492 of the ZDSO, the staff recommends denial of this request for the following reasons:

1. The proposed rezoning is projected to result in a LOS E of the intersection of Hampton Parkway and US 278 with failed turning movements during PM peak hours at only 50% assumed buildout in 2018. The failed intersection will be difficult and costly to mitigate due to the geographical constraints of the site.
2. The current widening of US 278 between Simmonsville Road and SC 170 is being implemented to address projected road deficiencies caused by previously approved development. The development enabled by the proposed rezoning would consume 41% of the added capacity created by the road widening and contribute to future failure of US 278 when compounded with existing approved development.
3. Allowing intense commercial and moderate-density residential development would contribute to the further degradation of water quality in the Okatie River, and would be a departure from the County’s historical commitment to restoring water quality in the Okatie headwaters.
4. Proposed rezoning is not supported by the Comprehensive Plan which was adopted in early 2011 by County Council.

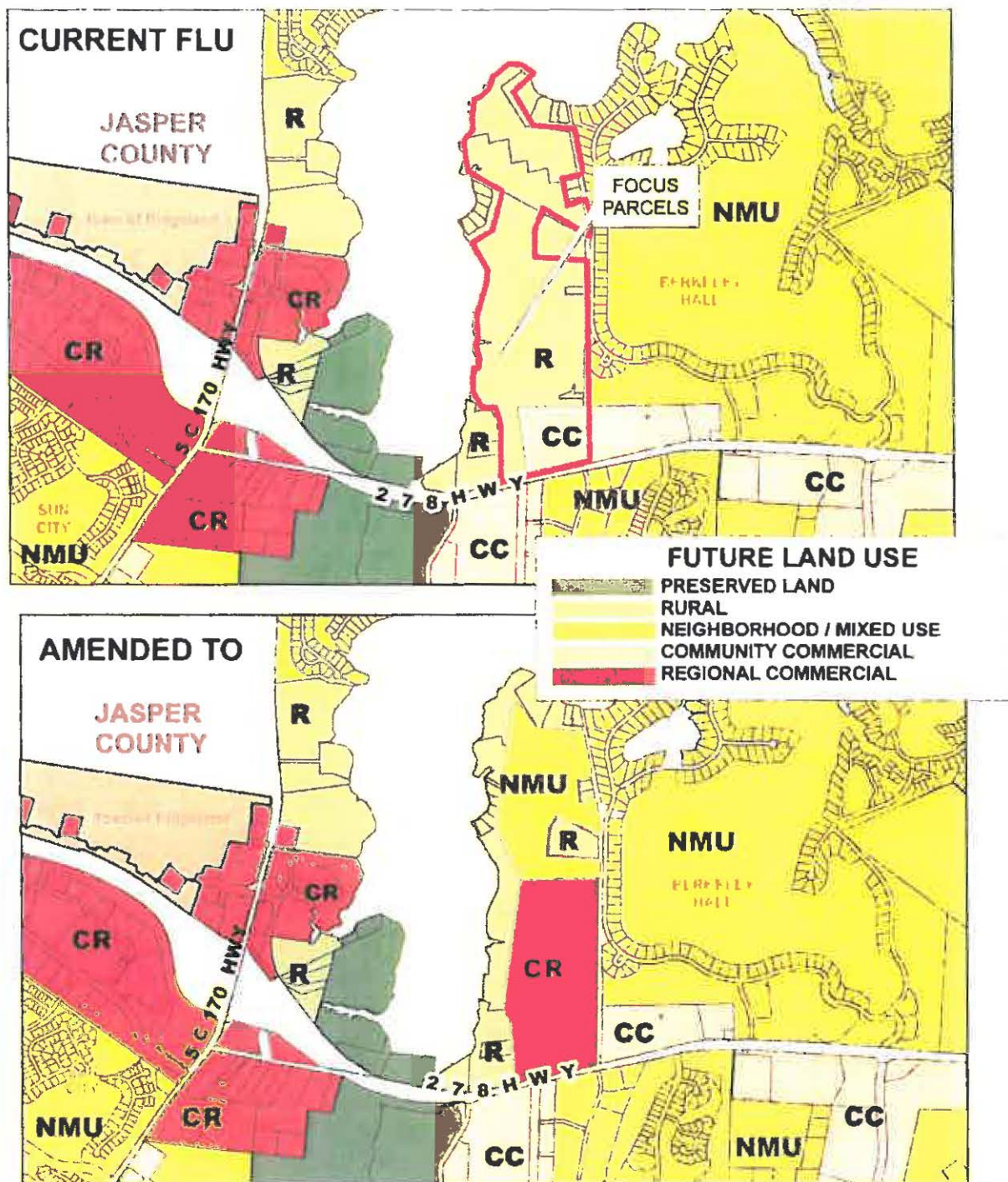
The portion of this property fronting US 278 is currently zoned Rural with Transitional Overlay. The application of the Transitional Overlay district recognizes that this site is within a developing area and that it may be suitable for additional uses other than those allowed under the current zoning. The comprehensive plan designated the front 21 acres of this property Community Commercial. Therefore, a transition of the front 21 acres of this property to Commercial Suburban would be consistent with the Comprehensive Plan and would enable a scale and intensity development that would have far less impacts on traffic and water quality.

**I. SOUTHERN SUBCOMMITTEE REVIEW**

The Southern Beaufort County Subcommittee of the Planning Commission reviewed the amendment at their December 13, 2012 meeting. Diane Chmelik, Parker Sutler, and Edward Riley were in attendance. The Subcommittee took no action on the proposed rezoning because no Traffic Impact Analysis had been submitted to staff as part of the application.

**J. ATTACHMENTS**

- Maps: Future Land Use and Zoning
- Applications: Future Land Use and Zoning
- List of Abutting Property Owners

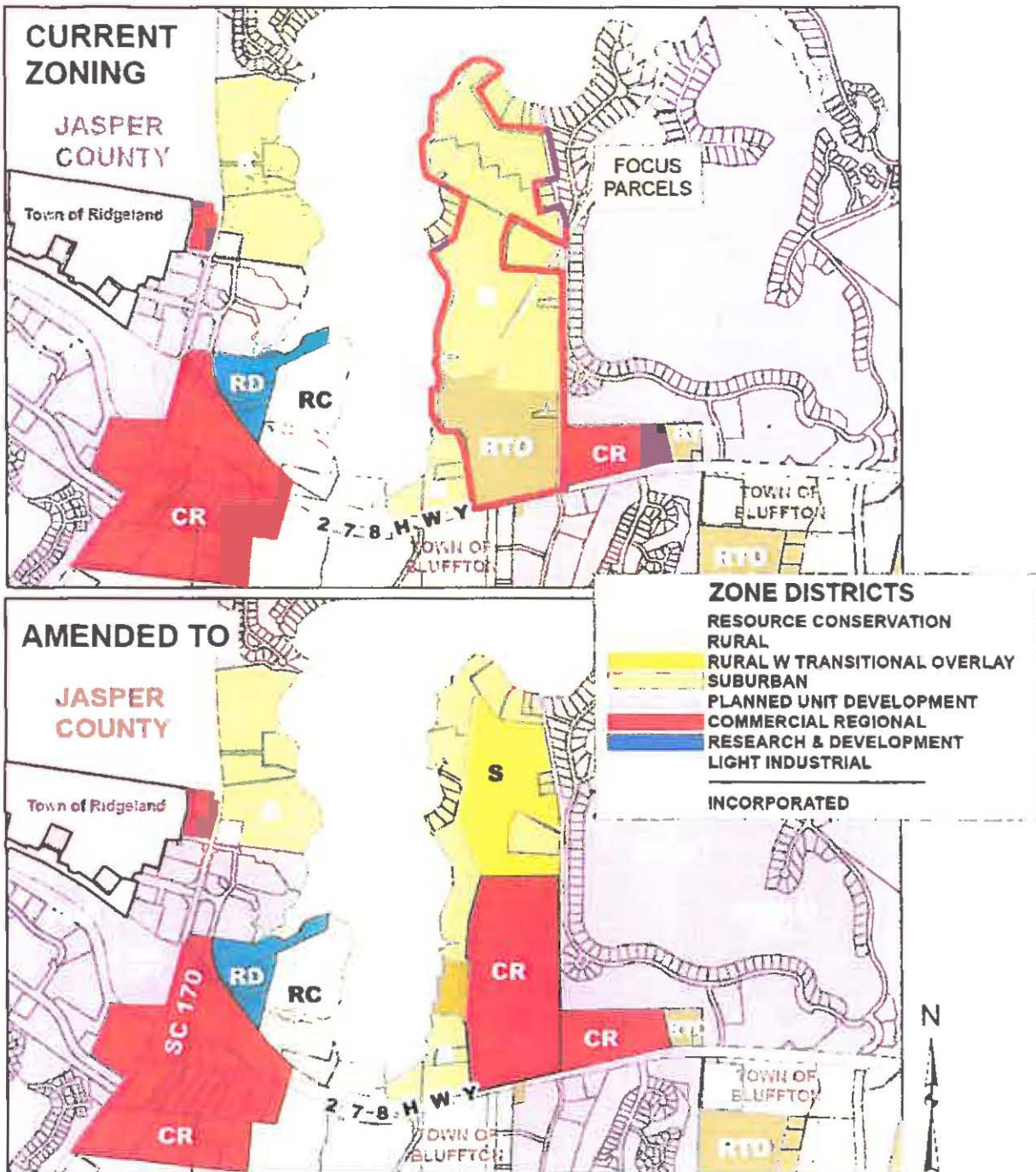


### FUTURE LAND USE AMENDMENT INVOLVING PARCELS:

11/30/12

R600 021 000 0002 0000; R600 021 000 0075 0000;  
 R603 021 000 004A 0000; R603 021 000 0194 0000  
 R603 021 000 0195 0000; R603 021 000 006A 0000;  
 R603 021 000 007B 0000





## REZONING AMENDMENT INVOLVING PARCELS:

R600 021 000 0002 0000; R600 021 000 0075 0000;  
R603 021 000 004A 0000; R603 021 000 0194 0000  
R603 021 000 0195 0000; R603 021 000 006A 0000;  
R603 021 000 007B 0000



**PROPERTY OWNERS NOTIFIED OF MAP AMENDMENT/REZONING REQUEST for R600-21-2 and -75; R603-21-4A, -6A, -194, and -195  
from Rural and Rural-Transitional Overlay to Rural, Suburban, and Commercial Regional (7 parcels, 142.91 acres)**

PIN	Owner1	MailingAdd	City	State	ZIP
R600 22 696	ANSELMO PHILIP SHEPARD DIANE H JT	110 LANCASTER BLVD	BLUFFTON	SC	29909
R600 22 626	BAKER CHARLES E & MARLENE B	47670 PAULSEN SQ	POTOMAC FALLS	VA	20165
R600 22 620	BAKER KENNETH E	5 OAKLAND PLACE	BLUFFTON	SC	29909
R600 21 660	BEAUFORT COUNTY	PO DRAWER 1228	BEAUFORT	SC	29901
R600 22 629	BELL ROBERT H	2669 WALNUT RIDGE RD	AKRON	OH	44333
R600 13 46; R600 22 852	BERKELEY HALL CLUB INC	366 GOOD HOPE RD	BLUFFTON	SC	29909
R600 22 631	BINKS MALCOLM JILLIAN JTROS	59 TURNBRIDGE DR	HILTON HEAD ISLAND	SC	29928
R600 21 24	BRANNAN TERESA GRAVES JOHN	64 BRANNON POINT ROAD	OKATIE	SC	29909
R600 21 71	BRAVES PAUL BISSELL Jr	2725 ST MARYS ST	RALEIGH	NC	27609
R600 22 628	BULLOCK CHRISTOPHER J DIANE S JTRO	78 LANCASTER BLVD	BLUFFTON	SC	29909
R600 22 635	CERVINO WILLIAM L	29975 N PARK BLVD	OLON	OH	44139
R600 22 625	CHERICHELLA ROBERT E HEATHER JTROS	62 YORKSHIRE DR	HHI	SC	29928
R600 22 640	COREY MICHAEL J	PO BOX 1284	WILLIAMS BAY	WI	53191
R600 21 7	CROSBY VERA G	71 PEPPERHALL PLANTATION	BLUFFTON	SC	29909
R600 22 622	CSK MANAGEMENT & TRADING LTD SUITE	208 40 WESTMORE DR	ETOBICOKE	ON	M9V 4C2
R600 22 729	CUNNINGHAM JAMES F MUSSELMAN JOYCE A	345 SANLUIS AVE	LOS ALTOS	CA	94024
R600 22 722	DEBORAH S PATTEN REVOCABLE TRUST	3107 BENNETT POINT RD	QUEENSTOWN	MD	21658
R600 22 633	DUGGAN MARIE LYNN	100 BEL AIR DR	OAKVILLE	ON	L6J 7N1
R600 22 728	EMELITA S HARRINGTON TRUST	56 W FORD AVE	WARWICK	RI	02889
R600 21 658	ENMARK STATIONS INC	2112 RANKIN ST	SAVANNAH	GA	31415
R600 21 8	FAULKNER GORDON K	PO BOX 220	BLUFFTON	SC	29910
R600 22 641	FLOYD DEXTER R DEBBIE H JTROS	4325 RIDGEGATE DR	DULUTH	GA	30097
R600 22 695	FRANK JAMES D MANSFIELD PATRICIA J	332 OAKRIDGE DR	VENETIA	PA	15367
R603 21 5	GAY KIRK MARTIN	PO BOX 765	BLUFFTON	SC	29910
R600 21 73	GRAVES JOHN TAMPLET III BARBARA D	PO BOX 1595	BLUFFTON	SC	29909
R600 21 2B, -25, -32, 75	GRAVES JOHN TAMPLET JR (LIFE ESTATE)	26 MELON HOLE RD	OKATIE	SC	29909
R600 21 3	GRAVES JUDY DEANNE TRUSTEE (JUDY	145 GRAVES RD	BLUFFTON	SC	29909
R600 21 72	GRAVES MICHAEL LLOYD	20542 EMBER LANE	HARRAH	OK	73045
R600 21 2	GRAVES PAUL B Sr	1836 OMNI BLVD	MT PLEASANT	SC	29466
R603 21 195	GRAVES ROBERT L	22 A WIDEWATER RD	HILTON HEAD	SC	29926
R603 21 4A, -194	GRAVES ROBERT L	PO BOX 5818	HILTON HEAD ISLAND	SC	29938-5818
R600 21 2A	GRAVES WILLIAM K LINDA D JTROS	147 GRAVES ROAD	BLUFFTON	SC	29909
R600 22 632	HAWKINS RICHARD J SUSAN JTROS	1 TWIN OAKS CRT	SPARTABURG	SC	29306
R600 22 630	HOLROYDE EVELYN WEST TRUSTEE (EVELYN	82 LANCASTER BLVD	BLUFFTON	SC	29909-3131

**PROPERTY OWNERS NOTIFIED OF MAP AMENDMENT/REZONING REQUEST for R600-21-2 and -75; R603-21-4A, -6A, -194, and -195  
from Rural and Rural-Transitional Overlay to Rural, Suburban, and Commercial Regional (7 parcels, 142.91 acres)**

PIN	Owner1	MailingAdd	City	State	ZIP
R600 21 74	HOPSON SUSAN GRAVES	1836 OMNI BLVD	MT PLEASANT	SC	29466
R610 21 18, -18A, -18B	HTP BLUFFTON LLC	701 CRESTDALE RD	MATTHEWS	NC	28105
R600 21 7A, -665	HUDSON VERNA G N/K/A VERNA G CROSBY	7 PEPPER HALL PLANT	BLUFFTON	SC	29910
R600 21 663	ISLAND WEST COMMERCIAL ASSOCIATES LL	PO BOX 2395	BLUFFTON	SC	29910
R600 22 623	JELLO DONALD E SCHNEIDER KATHY L JT	4 OAKLAND PLACE	BLUFFTON	SC	29910
R600 22 694	KELLY MICHAEL T BARBARA D TRUSTEES M	9709 HERON AVE NORTH	WHITEBEAR LAKE	MN	55110
R600 22 732	KULLMAN KENNETH G & ELEANOR AVERILL	10180 KINROSS RD	ROSWELL	GA	30076
R600 22 634	LAMBERT PAUL	1352 WAUKAZOO DR	HOLLAND	MI	49424-2689
R600 22 731	LONG MICHAEL DALE MARGARET PHILIPS	10110 CROOKED CREEK CT	FAIRFAX STATION	VA	23039
R600 22 697	MANN LINDLEY S JR KATHLEEN A JTROS	2584 ABINGTON PIKE	RICHMOND	IN	47373
R600 21 3A	MCKIM JANICE ANNE G	143 GRAVES RD	OKATIE	SC	29909
R600 22 866	MILLER RUSSELL R JACQUELINE L JTROS	36 PERSIMMON ST UNIT 203	BLUFFTON	SC	29910
R600 22 618	MOONEY JOHN J III & V PISULA V PAUL	217 FREDERICK ST	HANOVER	PA	17331
R600 22 726	OEYDT KENNETH E LETA ANTONIA L JT	27 TICE LANE	PERKASIE	PA	18944
R600 22 638	PARRISH PATRICIA A	521 MEADOWOOD	JOLIET	IL	60431
R600 22 724	PAUL ALBIN MATHIAS AND MARY ANN MATH	18633 MAPLE LEAF DR	HUDSON	FL	34667
R600 22 698	PETERS CLAUDIA H	12 SHADOW LANE	CHADDS FORD	PA	19317
R600 22 627	PRANCAN ROLAND T KATHI M JTROS	10 HASTY POINT PLACE	BLUFFTON	SC	29909
R600 22 617	PRESOGNA ANTHONY I BARBARA	68 LANCASTER BLVD	BLUFFTON	SC	29909
R600 21 233	PROGRESSIVE VISION INVESTMENT & TRAD	1740 PINE KNOLL AVE	MASSILLON	OH	44646
R600 22 727	ROBERT A POINTON REVOCABLE TRUST	46 GREENWOOD DR	BLUFFTON	SC	29910
R600 22 636	RUFFNER DENNIS LEE MICHELLE WEBB	2109 CEDAR ELM TERR	WESTLAKE	TX	76262
R600 22 637	SAVOURY TERRI EIKO TRUSTEE SAVOURY F	96 LANCASTER BLVD	BLUFFTON	SC	29909
R600 22 624	SCHOLLINS WILLIAM F & LYNN A	70 LANCASTER BLVD	BLUFFTON	SC	29909
R600 22 730	SMITH PETER O SUSAN R JTROS	16 FERNCLIFF BEACH	ERIE	PA	16505
R600 22 642	SPEAR JAMES T ELAINE K JTROS	844 WILLIAMSBURG DRIVE	NAPERVILLE	IL	60540
R600 22 639	SPEARMAN STEPHEN A & JANE L	1102 KIRKEENAN CIR	MORRISVILLE	NC	27560
R600 21 19	SSSB PROPERTIES LLC	3557 TRASK PKWY	BEAUFORT	SC	29906
R600 22 725	STEVER SAMUEL WILLIAMS MAUREEN JTR	5 GEORGETOWN CIRCLE	NEWTON	PA	18940
R600 22 619	VANADIA STEVEN A LYN F JTROS	8 DOBY RD	mendham	NJ	07545
R600 22 621	VOLBECK JENS & HELLE A	7 OAKLAND PLACE	BLUFFTON	SC	29909
R600 22 721	WATERHOUSE PATRICK SCOTT JUDITH CHAR	8427 E HOMESTEAD CIR	SCOTTSDALE	AZ	85266-1377
R600 22 723	WELCH JOHN K MICHELE M JTROS	1328 SKIPWITH ROAD	MCLEAN	VA	22101

## Childs, Barbara

---

**From:** Leininger, Shawn [sleininger@townofbluffton.com]  
**Sent:** Thursday, March 07, 2013 6:50 PM  
**To:** Criscitiello, Anthony  
**Cc:** Barrett, Anthony; Orlando, Marc; Hodge, Frank; Childs, Barbara  
**Subject:** Pepperhall (Graves Property) Rezoning  
**Attachments:** Graves\_PepperHall\_BC\_COMMENTS\_121312.pdf

Tony,

Thank you for providing a complete application of the Pepperhall (Graves Property) Rezoning as well as a copy of the Beaufort County Planning Commission Staff Report. As noted in the County Staff Report, the Town of Bluffton realizes that the proposed rezoning is not in conformance with the Beaufort County Comprehensive Plan.

The Town of Bluffton has provided comments regarding this application in the past, most recently on December 13, 2012. For your convenience, I have attached this recent correspondence and request the County continue to consider these comments as the application is further reviewed. There are no additional comments to provide at this time.

Again, thank you for the opportunity to review and provide comments on this County application. If you have any questions or I can be of further assistance please let me know.

Sincerely,

Shawn Leininger, AICP  
Principal Planner

---

(843) 706-4522 main  
(843) 706-4529 direct  
(843) 540-2183 mobile

Town of Bluffton  
Department of Growth Management  
P O Box 386  
20 Bridge Street  
Bluffton, South Carolina 29910

[www.townofbluffton.sc.gov](http://www.townofbluffton.sc.gov)

Lisa Sulka

Mayor

Oliver Brown

Mayor Pro Tempore

Anthony Barrett

Town Manager



*Council Members*

Michael Raymond

Ted Huffman

Karen Lavery

Sandra Lunceford

*Town Clerk*

December 13, 2012

Anthony Criscitiello  
Planning Director  
Beaufort County  
Post Office Drawer 1228  
100 Ribault Road Room 115  
Beaufort, South Carolina 29901-1228

RE: Graves Property/Pepper Hall Request for Comments

Dear Mr. Criscitiello:

Thank you for the opportunity to review the application submitted to Beaufort County requesting a Comprehensive Plan Amendment and Zoning Ordinance Map Amendment for seven (7) properties comprising approximately 113 acres in southern Beaufort County, collectively referred to as the Graves Property/Pepper Hall. As set forth by Resolution for Joint Review and Coordination between Beaufort County, Jasper County, City of Hardeeville, Town of Hilton Head Island, and the Town of Bluffton, this is a project of regional significance requiring multi-jurisdictional review. Based upon the application materials provided by you to the Town of Bluffton, it is our understanding that the request is to establish Commercial Regional and Suburban Zoning Districts on this property. It is also our understanding from these same materials that approval of the request would authorize the Applicant to potentially develop +/-500 dwelling units and +/- 800,000 square feet of high intensity commercial/ general office space.

Town Staff has reviewed the information provided by Beaufort County and requests the information listed as attachments in the application table of contents be provided for our review. These attachments, which include, among other items, the Threatened and Endangered Species Report, Traffic Impact Assessment, and Development Agreement Summary, are vital to fully understanding the application and providing complete, accurate comments as requested by Beaufort County per the Resolution for Joint Review and Coordination and given the extensive shoreline and floodplain of the site along the impaired Okatie River and direct access to US 278.

In response to past applications that were submitted to the Town of Bluffton regarding these properties, Town Council provided the property owners with

*Theodore D. Washington Municipal Building  
20 Bridge Street P.O. Box 386 Bluffton, South Carolina 29910  
Telephone (843) 706-4500 Fax (843) 757-6720  
[www.townofbluffton.sc.gov](http://www.townofbluffton.sc.gov)*



specific guidance as it relates to the future development of this property. This guidance, as applicable to the Beaufort County request, included, but is not limited to, the following:

1. **Workforce/Affordable Housing and/or a Fee-in-Lieu Program.** Provide, at a minimum, a 10% workforce/affordable housing and/or a Fee-in-Lieu Program.
2. **Highway 278/Hampton Parkway/Pepper Hall Plantation Intersection.** Provide for a 50% pro-rata share of future intersection and signalization improvements including but not limited to the future signalized intersection at Hampton Parkway.
3. **Land Dedication.** Provide for the dedication of public space including but not limited to park and/or site for public use.
4. **Conservation Easement.** Provide for a Conservation Easement with a minimum width of 200 feet along the Okatie River edge.
5. **Real Estate Transfer Fee.** Establish a Graves Tract Real Estate Transfer Fee that can be earmarked and allocated for use to protect, enhance, and maintain open space along the Okatie River.
6. **Master Plan/Density Capacity.** Provide a Master Plan that illustrates the established buildable limits, including but not limited to the conservation easement, open space, non-residential building placement, public site, parking infrastructure, roadway alignment that includes cross-access to eastern properties, etc. This Master Plan shall serve as the site capacity analysis whereby actual residential and non-residential densities are determined.

In addition to providing a complete application for review, Town Staff respectfully requests the items listed above be incorporated.

Again, thank you for the opportunity to review this application. If you have any questions or I can be of further assistance please contact me at (843) 706-4511 or via email at morlando@townofbluffton.com.

Sincerely,



Marc Orlando, AICP  
Deputy Town Manager/  
Director of Growth Management

cc: Anthony Barrett, Town Manager  
Frank Hodge, Assistant Director of Growth Management  
Shawn Leininger, AICP, Principal Planner

# TOWN OF HILTON HEAD ISLAND

One Town Center Court, Hilton Head Island, S.C. 29928

(843) 341-4600 Fax (843) 842-7728

[www.hiltonheadislandsc.gov](http://www.hiltonheadislandsc.gov)

Drew A. Laughlin  
Mayor

William D. Harkins  
Mayor ProTem

Council Members

Wm. Lee Edwards  
Marc A. Grant  
Kimberly W. Likins  
John J. McCann  
George W. Williams, Jr.

Stephen G. Riley  
Town Manager

December 12, 2012

Mr. Tony Criscitiello  
Planning Director  
100 Ribault Rd  
Beaufort, SC 29901

RE: Graves Property/Pepper Hall Request

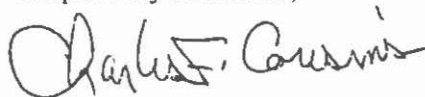
Dear Mr. Criscitiello:

Thank you for submitting a copy of the application materials for the Graves Property/Pepper Hall comprehensive plan amendment and zoning map amendment requests to the Town of Hilton Head Island. In the spirit of the Southern Beaufort County Regional Plan's (SCBRP) implementation strategies Town Staff has taken the opportunity to review the information. Based on this review we have the following concerns:

- There is a significant increase in the density that would be permitted on this property, which would result in a significant impact on roads, natural resources and other public infrastructure. The SBCRP identified a list of roadway projects that would be necessary to achieve an agreed upon level of standard D (LOS D). These improvements were based upon potential build out of this property under the existing zoning classifications. The traffic impact assessment bases its analysis and findings using level of service E as the standard contradicting the goal of achieving LOS D.
- While the Traffic Impact Analysis was not included with the revised application, the implementation of the proposed development will likely have serious impacts to the transportation infrastructure. The remaining capacity in this area to maintain LOS E is 4,678 ADT. **The Level of Service goal for this area is a LOS D.** Any additional development within this section of US 278 will likely result in decreasing level of service below E and require significant transportation infrastructure upgrades.
- This revised application provides better protection of the Okatie River. However, the significant increase in proposed scale and intensity of the proposed development over what is currently allowed may still result in negative impacts related to the Headwaters of the Okatie River.

These comments are provided to for your consideration and review. Again, thank you for the opportunity to provide input. If you or have any questions, please advice.

Respectfully Submitted,



Charles F. Cousins, AICP  
Director of Community Development



## Memorandum

To: Colin Kinton  
Beaufort County Traffic Engineering

From: Jenniter T. Bihl, PE, President  
Bihl Engineering, LLC

JB

Date: February 15, 2013

Subject: Additional requested information on the 01/22/13 Pepper Hall traffic study

This memo provides the requested follow-up information on the 01/22/13 Pepper Hall traffic study regarding growth rate, internal capture and daily site traffic.

### Growth Rate

Based on discussions with staff, the 2018 and 2023 analysis was run for the following intersections with a 2.5% per year growth rate and with the removal of additional trips added for developments without specific development plans at this time. 2018 and 2023 background and buildout conditions were reviewed.

- US 278 at Buckwalter Parkway
- US 278 at Graves Road
- US 278 at Hampton Parkway

Project trips and distribution were developed as discussed in the 01/22/13 traffic study for this analysis. **Figures 1 – 4** show the resulting 2018 AM, 2018 PM, 2023 AM and 2023 PM peak hour traffic volumes (background, project and total traffic volumes), respectively.

The intersections above were analyzed using the Synchro 8 traffic analysis program to determine the projected level of service and delay.

**Table 1** shows the results of this analysis.

**Table 1: Level of Service and Delay**

	Traffic Control	2018 Background Conditions		2018 Phase 1 Conditions		2023 Background Conditions		2023 Buildout Conditions	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
US 278 at Buckwalter Parkway	S	D (48.0)	C (34.6)	E (57.9)	D (43.8)	F (84.6)	D (52.6)	F (88.8)	E (58.3)
US 278 at Graves Road	U	B (14.6) – SB	C (18.4) – SB	C (15.1) – SB	E (35.0) – SB	C (15.2) – SB	C (20.2) – SB	C (18.6) – SB	F (78.6) – SB
US 278 at Hampton Parkway	S	B (18.3)	C (27.8)	C (33.3)	E (60.5)	C (30.2)	E (58.1)	D (51.2)	F (175.2)

### Internal Capture

Internal capture for the site was applied based on Institute of Transportation Engineers (ITE) Handbook standards. These internal capture matrices are attached. The resulting internal capture is shown in Table 1 and Table 2 of the 1/22/13 report.

As noted in the report, internal capture was also applied between the project's commercial area and the Crosland development located across US 278 at the Hampton Parkway intersection. These internal capture trips were applied to the intersection as through trips. This internal capture is included in the attached matrices.

### Daily Traffic

Table 2 and Table 3 below show the daily entering and exiting traffic for Phase 1 and Buildout. Internal capture was based on ITE standards and limited to 25% overall between capture within the site and with the Crosland development across the street when applied. Internal capture matrices are attached with the unrestricted internal capture calculation. Daily pass-by for the shopping center was assumed to be 20% daily compared to the 30% calculated rate using ITE equations for the 820 Shopping Center land use for the PM peak hour.

**Table 2: Phase 1 Daily Trip Generation**

Land Use	Intensity	Daily Total Trips	Entering Trips	Exiting Trips
<b><u>Proposed Site Traffic</u></b>				
820 Shopping Center	240 ksf	11,997	5,998	5,998
210 Single Family Residential	120 DU	1,242	621	621
710 General Office	140 ksf	1,695	847	848
230 Condo/Townhome	120 DU	754	377	377
Gross Trips		15,688	7,843	7,844
Internal Capture			811	811
Driveway Volumes			7,032	7,033
Interaction with Crosland Site			1,150	1,150
Passby Trips			1,086	1,157
New Trips			4,796	4,726

**Table 3: Buildout Daily Trip Generation**

Land Use	Intensity	Daily Total Trips	Entering Trips	Exiting Trips
<b><u>Proposed Site Traffic</u></b>				
820 Shopping Center	420 ksf	17,260	8,630	8,630
210 Single Family Residential	240 DU	2,871	1,175	1,175
710 General Office	280 ksf	2,350	1,435	1,436
230 Condo/Townhome	240 DU	1,378	689	689
Gross Trips		23,859	11,929	11,930
Internal Capture			1,458	1,458
Driveway Volumes			10,471	10,472
Interaction with Crosland Site			1,524	1,525
Passby Trips			1,521	1,649
New Trips			7,426	7,298

Based on the trip distribution presented in the report, the US 278 roadway link west of the site (west of Hampton Parkway) has 37% of the entering and exiting new trips assigned to it. For Phase 1 that is 3,523 total trips (2-way) and for buildout that is 5,448 total trips (2-way). The US 278 roadway link east of the site (east of Graves Road) has 38% of the entering and exiting trips assigned to it. For Buildout that is 3,618 total trips (2-way) and for buildout that is 5,595 total trips (2-way).





The assumed capacity for the 6-lane divided US 278 is 58,000 based on the capacity previously established for the County. The development would result in projected use of approximately 6% of the total capacity in Phase 1 and approximately 9% of the total capacity at Buildout. Of the increase of capacity due to the widening of US 278 from 4 lanes to 6 lanes, we expect an increase of 18,000 vehicles daily. The development would result in projected use of approximately 20% of the added capacity in Phase 1 and approximately 31% of the added capacity at Buildout. Note that though link volume to capacity ratio is a level of service metric, on a corridor like US 278 the intersection operations drive the efficiency of the corridor.

# VAUX & MARSCHER, P.A.

ATTORNEYS AND COUNSELORS AT LAW

ROBERTS- VAUX  
WILLIAM F. MARSCHER, III

POST OFFICE BOX 769 (MAILING)  
1251 MAY RIVER ROAD (PHYSICAL)  
BLUFFTON, SOUTH CAROLINA 29910  
843.757.2888 (OFFICE)  
843.757.2889 (FAX)

OF COUNSEL:  
JAMES P. SCHEIDER, JR.  
MAC DUNAWAY, DC ONLY

ASSOCIATES:  
ANTONIA LUCIA, SC & NY  
MARK S. BERGLIND  
JUSTIN JOHN PRICE  
ROBERTS VAUX, JR.

21 JANUARY 2013

JAMES P. SCHEIDER, JR.  
[jim.scheider@vaux-marscher.com](mailto:jim.scheider@vaux-marscher.com)

Anthony J. Criscitiello  
Planning Director  
Beaufort County Planning Department  
Post Office Drawer 1228  
Beaufort, South Carolina 29901-1228



Re: Pepper Hall-Amended Rezoning Application-Traffic Impact Analysis

Dear Tony:

Attached for your review and that of your staff, are the original and two copies of the Traffic Impact Analysis (TIA) prepared by the Bihl Engineering firm of Beaufort, South Carolina for the Pepper Hall site.

As set forth in Section 1.0 (Executive Summary) of the TIA, the proposed "phased development" of the Pepper Hall site does not result in any traffic delays until 2018. As of that date, and, assuming that (a) no further traffic corridor improvements are made, and (b) that all previously approved projects are fully constructed, "projected trip traffic" from the Pepper Hall site in the afternoon is projected to create traffic delays at the signalized intersection at U.S. 278 and the Hampton Parkway.

Most interesting in our preparation of the TIA are the 2006-2011 daily traffic volume numbers for U.S. Highway 278 which reflect a reduction in daily traffic volume per day of nine thousand (9,000) cars per day from 2006 to 2011, due in large part to the creation of alternative traffic corridors.

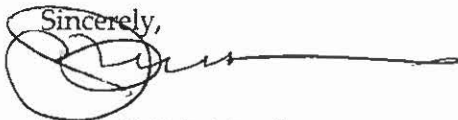
Likewise, as set forth in Section 9.0 (Conclusion) of the Pepper Hall TIA, with the planned development and construction of alternative routes for U.S. highway #278, specifically

including the extension of Bluffton Parkway to Interstate 95, the projected delays for the Pepper Hall site in 2018 may never materialize.

In addition to the submission of the Pepper Hall TIA enclosed herewith, I offer the following clarifications and confirmations:

1. The Amended Pepper Hall Rezoning application is just that, a "rezoning application" and not a "pending development application." A detailed "traffic study" will of course be required at the time of development.
2. As an additional gesture of good faith and compromise, Robert L. Graves has voluntarily agreed to limit the total ground floor commercial space on his parcel to not more than seven hundred thousand (700,000) square feet.
3. Robert L. Graves has also agreed to impose a size limitation on any commercial building to a ground floor area of not more than seventy five thousand square feet.
4. The applicant has further agreed to memorialize these limitations in a Development Agreement negotiated with Beaufort County concurrently with approval of the amended rezoning request by County Council.

As always, we are most appreciative of your time and courtesy.

Sincerely,  


James P. Scheider, Jr.  
Of Counsel  
Vaux & Marscher, P.A.

cc: Joshua A. Gruber, Esquire



*Traffic Impact Analysis*



# Pepper Hall Rezoning Beaufort County, SC

*Prepared for:*  
**Graves Family**

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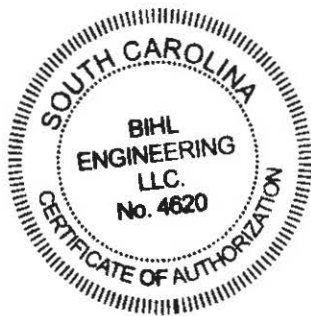
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**Traffic Impact Analysis  
Pepper Hall Rezoning  
Charleston, SC**

**Prepared for:  
Graves Family**

**Prepared by:  
Bihl Engineering, LLC  
12 Park Square North  
Beaufort, SC 29907  
(843)637-9187**



**January 2013**

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## **1.0 Executive Summary**

The proposed Pepper Hall development is located on US 278 between SC 170 and Buckwalter Parkway in Beaufort County, SC. The proposed rezoning application includes a limitation of the total non-residential square footage to 700,000 square feet and 480 residential units. Non-residential includes commercial and office uses and the residential uses include both single family and condominium/townhome uses.

For the purposes of this Traffic Impact Analysis (TIA), the proposed development is assumed to be completed by 2023. A phased development of 350,000 square feet of non-residential area and 240 residential units is assumed to be completed by 2018.

This report presents the trip generation, distribution, and traffic analyses. The following intersections were included in this analysis based on discussions with County staff:

- US 278 Westbound Off-Ramp at SC 170
- US 278 Eastbound Off-Ramp at SC 170
- SC 170 Southbound On-Ramp to US 278 Eastbound
- US 278 at Hampton Parkway
- US 278 at Island West Park/Graves Road
- US 278 at Island West Drive
- US 278 at Buckwalter Parkway/Berkeley Hall
- Bluffton Parkway at Hampton Parkway

The results of the analysis show that in year 2023 there is expected to be increased congestion on US 278 in the background and buildout conditions at the signalized intersections with the committed roadway improvements. However, this assumes a 4.7% per year growth rate along the corridor. Due to the added transportation network facilities and the revision of other project plans relative to the data in the model (which is current as of 2004) the growth rate may or may not be that high in the future.

The main access intersection for the project, US 278 at Hampton Parkway, is projected to operate at elevated levels of service in the future conditions with dual left turn lanes for all approaches. The intersection of US 278 at Buckwalter Parkway also continues to increase in delay in the future, as traffic on US 278 increases. US 278 at Graves Road is also expected to have elevated delay during the 2023 PM peak hour conditions.

The right-in, right-out side street movements operate as expected on a corridor such as US 278 in both the 2018 and 2023 buildout and background conditions.

If the project was phased with partial buildout in 2018, the roadway network would experience elevated delay in the peak hours at the main access point at US 278 and at Buckwalter Parkway at US 278 but more manageable than 2023 conditions, with other intersections operating acceptably.

In summary, this area is expected to experience a large amount of growth in the future and therefore intersections in the area are expected to experience high levels of delay during the peak hours. However, due to the uncertainty of development schedules and the potential revision to the intensity of projects in the area, when and at what level growth will exactly occur is unknown. As these projects return with updated development plans and the new congestion-based model is completed for the County, there will be updated projections of the regional conditions on the updated transportation network in the County. That being said, US 278 will continue to be the main thoroughfare in southern Beaufort County carrying a majority of the traffic volume, but the Bluffton Parkway and the frontage road program (among other transportation network improvements) will add capacity to this area of the County providing some future relief to US 278.

## **2.0 Introduction**

The proposed Pepper Hall development is located on US 278 between SC 170 and Buckwalter Parkway in Beaufort County, SC. The proposed rezoning application includes a limitation of the total non-residential square footage to 700,000 square feet and 480 residential units. Non-residential includes commercial and office uses and the residential uses include both single family and condominium/townhome uses.

For the purposes of this Traffic Impact Analysis (TIA), the proposed development is assumed to be completed by 2023. A phased development of 350,000 square feet of non-residential area and 240 residential units is assumed to be completed by 2018.

## **3.0 Inventory**

### **3.1 Study Area**

Based on discussions with County staff, the study area for the TIA includes the following intersections:

- US 278 Westbound Off-Ramp at SC 170
- US 278 Eastbound Off-Ramp at SC 170



- SC 170 Southbound On-Ramp to US 278 Eastbound
- US 278 at Hampton Parkway
- US 278 at Island West Park/Graves Road
- US 278 at Island West Drive
- US 278 at Buckwalter Parkway/Berkeley Hall
- Bluffton Parkway at Hampton Parkway

Figure 1 shows the site location for the project.

### 3.2 Existing Conditions

Roadways in the project vicinity include US 278, SC 170, Bluffton Parkway, Hampton Parkway, and Buckwalter Parkway.

US 278 is a four-lane divided roadway that is currently being widened by the South Carolina Department of Transportation (SCDOT) to six lanes with additional access management. The construction speed limit for US 278 is 45 mph. Based on 2011 SCDOT Annual Average Daily Traffic (AADT) counts, there are approximately 32,900 vehicles per day (vpd) in the vicinity of the site.

SC 170 is a four-lane divided roadway. SC 170 is a SCDOT roadway with a 45 mph speed limit. SC 170 has a diamond interchange with US 278 with a loop ramp from SC 170 Southbound to US 278 Eastbound.

Bluffton Parkway is a four-lane divided roadway. Bluffton Parkway is a County roadway with a 45 mph speed limit. In 2011, Bluffton Parkway between SC 170 and Buckwalter Parkway had 9,180 vpd.

Hampton Parkway is a two-lane roadway. Hampton Parkway is a County roadway with a 35 mph speed limit.

Buckwalter Parkway is a four-lane divided roadway. Bluffton Parkway is a County roadway with a 45 mph speed limit. In 2011, Buckwalter Parkway between US 278 and Bluffton Parkway had 10,610 vpd.

Figure 2 shows the existing laneage for the study area intersections.



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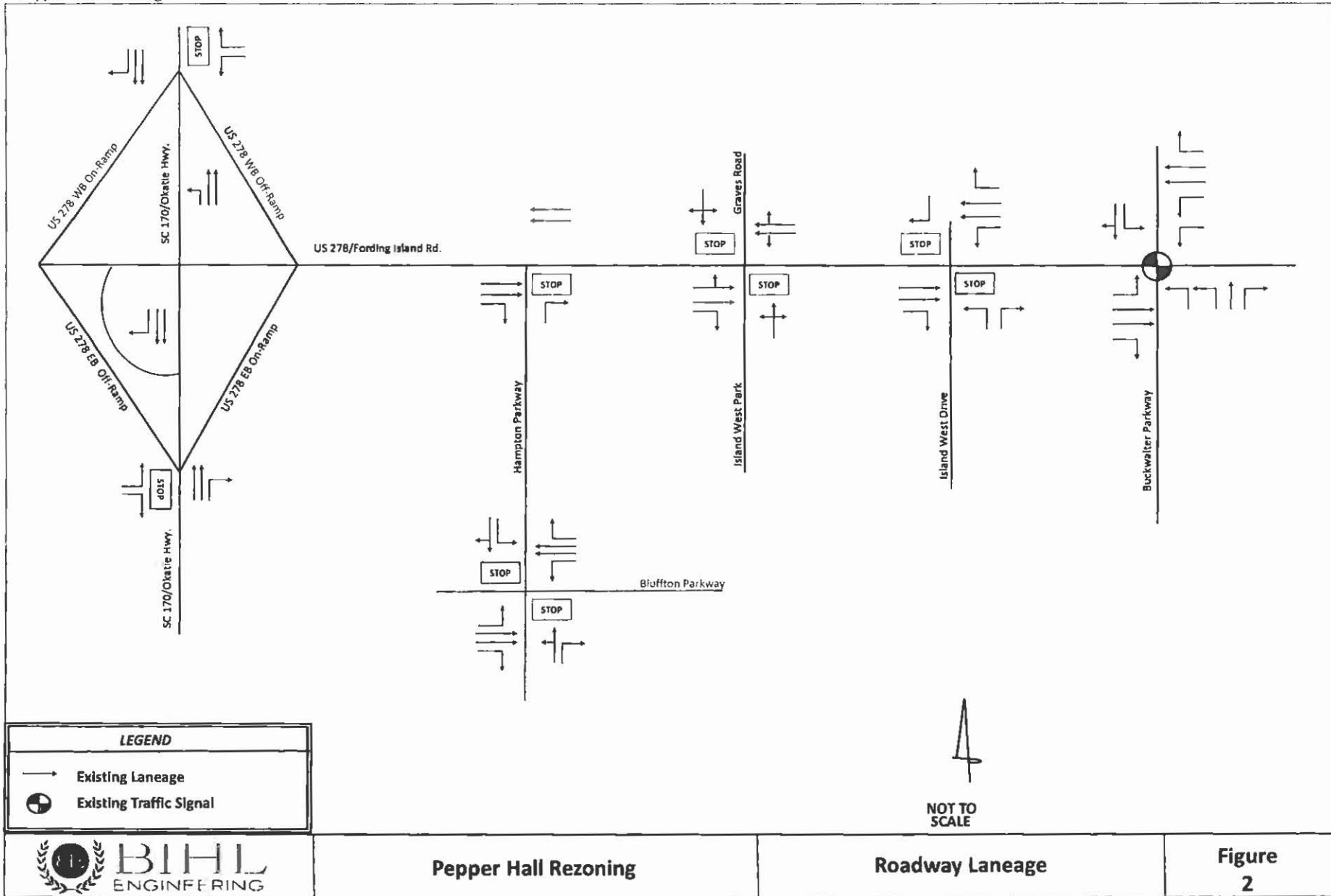
Site Location



**Pepper Hall Rezoning**

**Site Location**

**Figure  
1**





## 4.0 Traffic Generation

The traffic generation potential of the proposed development was determined using trip generation rates published in Institute of Transportation Engineers (ITE) *Trip Generation* handbook (Institute of Transportation Engineers, Ninth Edition).

**Table 1** summarizes the 2018 Phase 1 projected peak hour trips associated with the proposed site for the rezoning application.

**Table 2** summarizes the 2023 projected peak hour trips associated with the proposed site for the rezoning application.

Internal capture values reflect the internal capture within the site as outlined in the ITE's *Trip Generation Handbook* as well as internal capture with the adjacent Buckwalter Commons development. The latter trips were assigned to the through movements at the US 278 at Hampton Parkway intersection.

Pass-by trips were calculated as outlined in the ITE's *Trip Generation Handbook*.

Table 1: Phase 1 – Trip Generation										
Land Use		Intensity		Daily Trips	AM Peak Hour			PM Peak Hour		
					Total	In	Out	Total	In	Out
Proposed Site Traffic										
820	Shopping Center	240	ksf	11,997	266	164	102	1,077	516	561
210	Single Family Residential	120	DU	1,242	94	23	71	124	78	46
710	General Office	140	ksf	1,695	250	220	30	235	39	196
230	Condo/Townhome	120	DU	754	60	10	50	70	46	24
Gross Trips				15,688	610	407	203	1,436	679	827
Internal Capture					161	81	80	464	237	227
Driveway Volumes					449	326	123	972	442	600
Pass-by Trips					35	21	14	294	141	153
New Trips					414	305	109	678	301	447



Table 2: Year 2023 – Trip Generation										
Land Use		Intensity		Daily Trips	AM Peak Hour			PM Peak Hour		
					Total	In	Out	Total	In	Out
<u>Proposed Site Traffic</u>										
820	Shopping Center	420	ksf	17,260	374	231	143	1,567	752	815
210	Single Family Residential	240	DU	2,871	436	383	53	392	66	326
710	General Office	280	ksf	2,350	178	44	134	231	145	86
230	Condo/Townhome	240	DU	1,378	104	17	87	123	82	41
Gross Trips				23,859	988	658	330	2,190	1,045	1,268
Internal Capture					327	171	156	867	402	465
Driveway Volumes					661	487	174	1,323	643	803
Pass-by Trips					42	26	16	362	174	188
New Trips					619	461	158	961	469	615

## 5.0 Beaufort County Traffic Model

The 2004 Beaufort County traffic model was used to review future total volumes and distribution of the site.

The following adjustments were made to the model socioeconomic data. These changes are land uses for areas that have been entered into Rural and Critical Lands program or areas where there has been an agreed upon reduction in development.

- Zone 74: Remove 20 employees.
- Zone 83: Remove 35 employees
- Zone 84: Remove 40 employees and 83 DU

The following roadway adjustments were added to the model transportation network.

- US 278 – 6-lane divided between McGarvey’s corner and the Hilton Head Bridges
- Bluffton Parkway – configured as approved by County Council (including section 5b between Buckwalter & Buck Island Rd)
- Bluffton Parkway north – divided 4-lane between SC 170 and Buckwalter Parkway
- Bluffton Parkway south – divided 4-lane between Buckwalter Parkway east to US 278
- SC 170 – 6-lane divided between McGarvey’s Corner and SC 46 as defined in the County’s Comp Plan

- Old Miller Road extended to Buckwalter Parkway as a 2-lane collector
- N/S Connector – Added this roadway between US 278 and Bluffton Pkwy 5b
- Add Davis Road Connector
- Add Buckwalter Place Connectors
- Add Pennington Drive
- Add Malphrus/Foreman Hill Connector

Model outputs are included in the **Appendix**.

## **6.0 Traffic Distribution**

The proposed project traffic was assigned to the surrounding roadway network. The directional distribution and assignment were based on knowledge of the area and model output results of the select zone analysis. The select zone results were adjusted to reflect the projected impact of the congested conditions of the network, increasing the percentage of trips on Hampton Parkway. For example, because the model assumes freeflow conditions, traffic was utilizing US 278 and SC 170 in heavy traffic to travel southbound on SC 170 rather than take the underutilized Hampton Parkway and Bluffton Parkway to SC 170.

The following cardinal directional distribution was applied to/from the site.

- 38% to/from west
- 37% to/from east
- 25% to/from south

Project trip assignment is shown in the volume figures in the next section.

## **7.0 Traffic Volumes**

### *7.1 2012 Existing Traffic*

Peak hour intersection turning movement counts were performed in December 2012 from 7 AM to 9 AM and from 4 PM to 6 PM at the following intersections:

- US 278 WB Off-Ramp at SC 170
- US 278 EB Off-Ramp at SC 170
- SC 170 SB On-Ramp at US 278

- US 278 at Hampton Parkway
- US 278 at Island West Park/Graves Road
- US 278 at Island West Drive
- US 278 at Buckwalter Parkway/Berkeley Hall
- Bluffton Parkway at Hampton Parkway

The turning movement count data are included in the **Appendix** and the AM and PM peak hour existing traffic volumes are shown in **Figure 3**.

## 7.2 Background Traffic

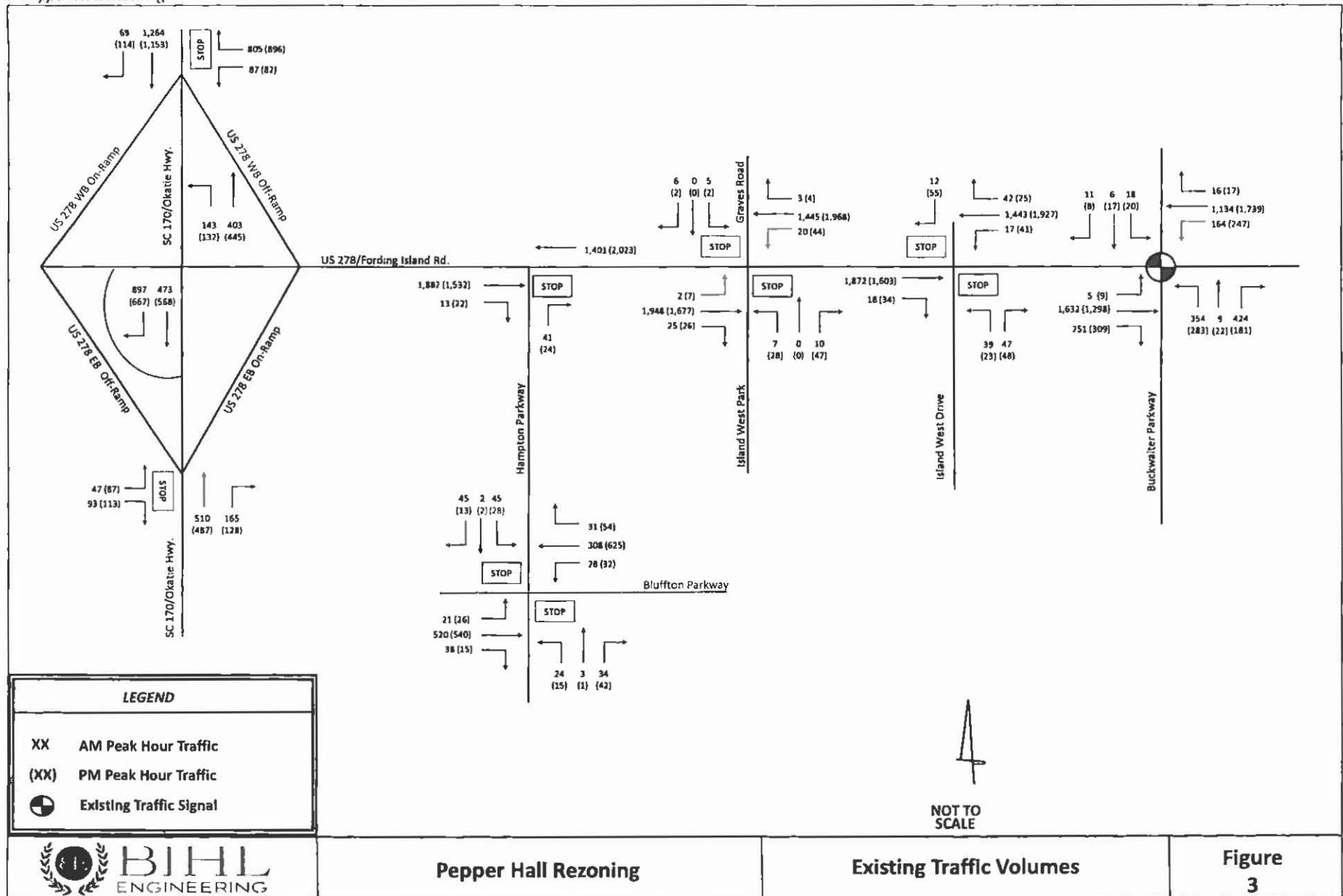
Historic growth is the increase in existing traffic volumes due to usage increases and non-specific growth throughout the area. Historically, based on SCDOT data, traffic has remained relatively consistent with growth occurring over the past year in the area. **Table 3** shows the SCDOT historic traffic volumes on US 278 in the vicinity of the site.

<b>Table 3: Historic Daily Traffic</b>	
Year	SCDOT Annual Average Daily Traffic Volume
2006	41,900
2007	39,200
2008	35,500
2009	35,500
2010	32,900
2011	32,900

The model results show growth in traffic volumes of 4.7% per year.

Though traffic growth has shown to drop over the past years for a variety of reasons such as the completion of Bluffton Parkway and slowing of development in the area, the model incorporates the planned improvements and projects in the County, therefore, the model growth of 4.7% per year was used in the analysis.

Pepper Hall Rezoning





In addition to the model growth, the following approved development traffic was added to the overall growth rate: Buckwalter Commons, Willow Run, Graves Tract (east of this site), and the Enmark site. Due to the age of these studies, the trip assignments were adjusted as follows for the 2023 conditions.

- Buckwalter Commons was paired with this site and internal capture was calculated as these areas will likely interact together.
- Willow Run was adjusted to reflect assignment to the Bluffton Parkway; therefore 40% of the trips were assigned to access the site from the South.
- Graves Tract (east of this site) was reduced to reflect the remaining acreage left to develop.
- The Enmark site had no adjustments.

For the 2018 conditions, these developments were applied at 50% intensity as there are no updated plans for the first three sites at this time.

**Figure 4** and **Figure 5** show the 2018 background AM and PM peak hour traffic volumes. **Figure 6** and **Figure 7** show the 2023 background AM and PM peak hour traffic volumes.

### *7.3 Project Traffic*

The AM peak hour and PM peak hour projected project trips were assigned based on the trip distribution discussed in **Section 5**.

### *7.4 2018 Buildout Traffic*

The 2018 total traffic volumes include the 2018 background traffic and the proposed development traffic at buildout. The 2018 AM peak hour and PM peak hour total traffic volumes are shown in **Figure 4** and **Figure 5**, respectively.

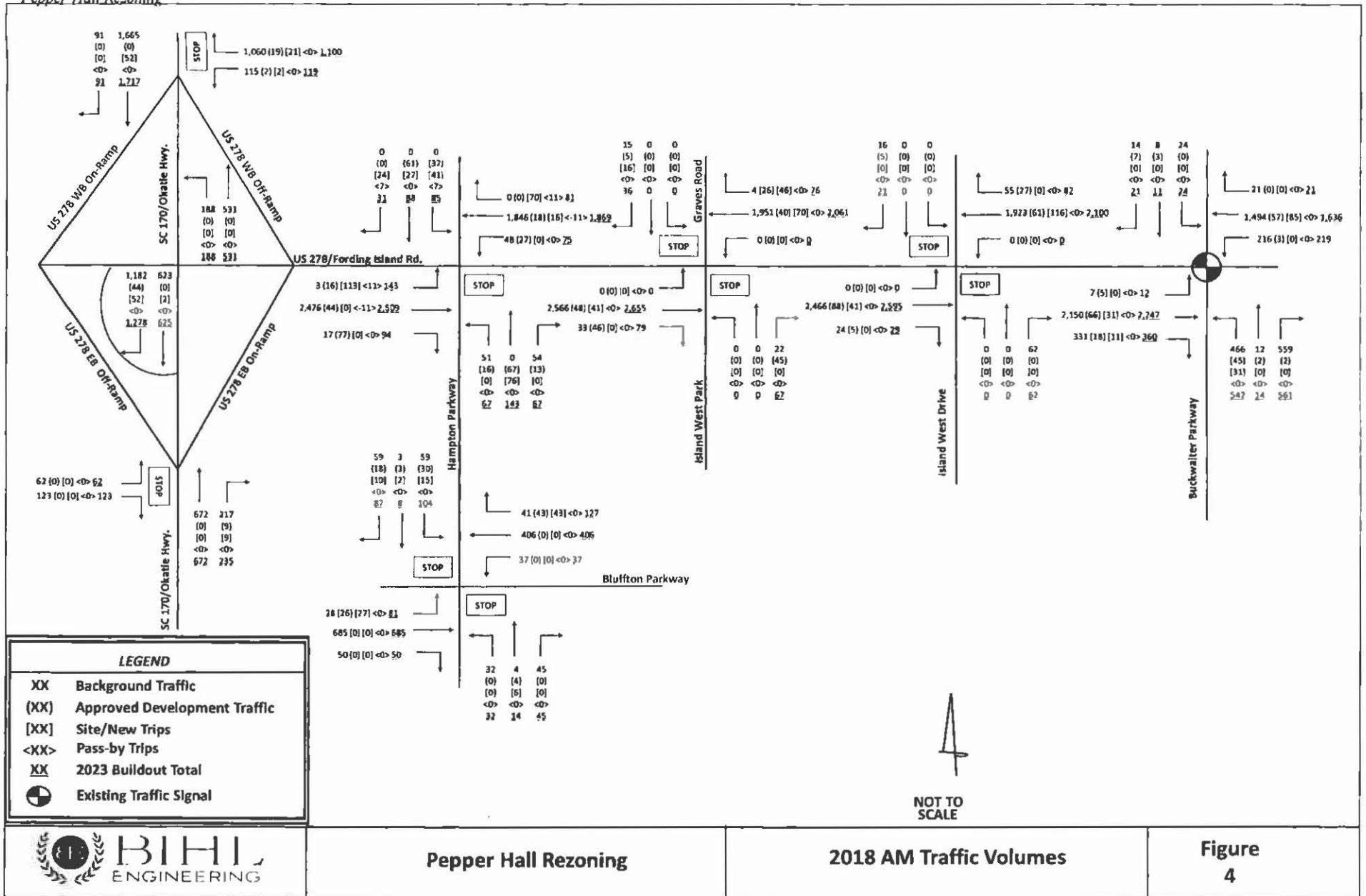
Intersection volume development worksheets are included in the **Appendix**.

### *7.5 2023 Buildout Traffic*

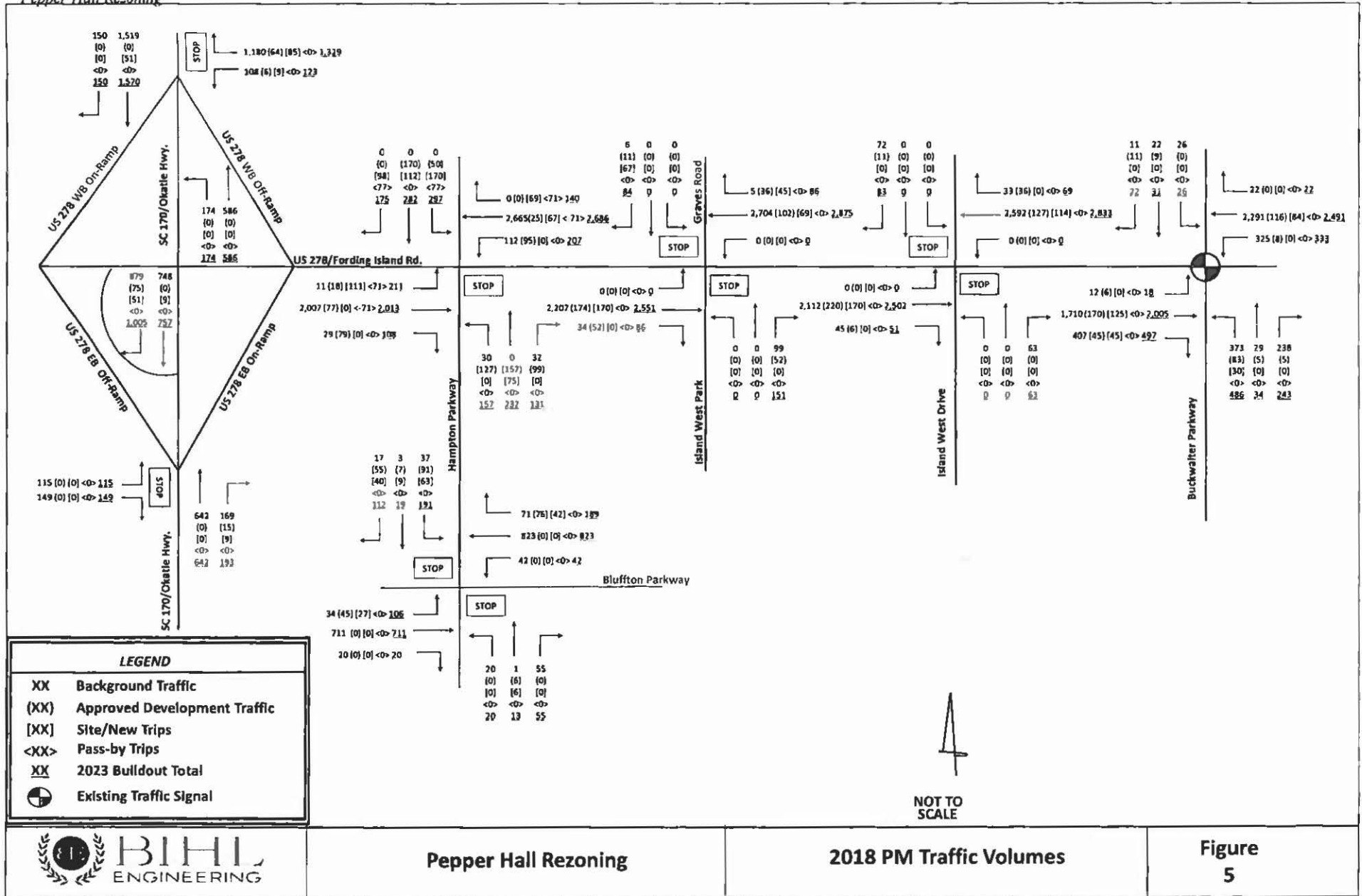
The 2023 total traffic volumes include the 2023 background traffic and the proposed development traffic at buildout. The 2023 AM peak hour and PM peak hour total traffic volumes are shown in **Figure 6** and **Figure 7**, respectively.

Intersection volume development worksheets are included in the **Appendix**.

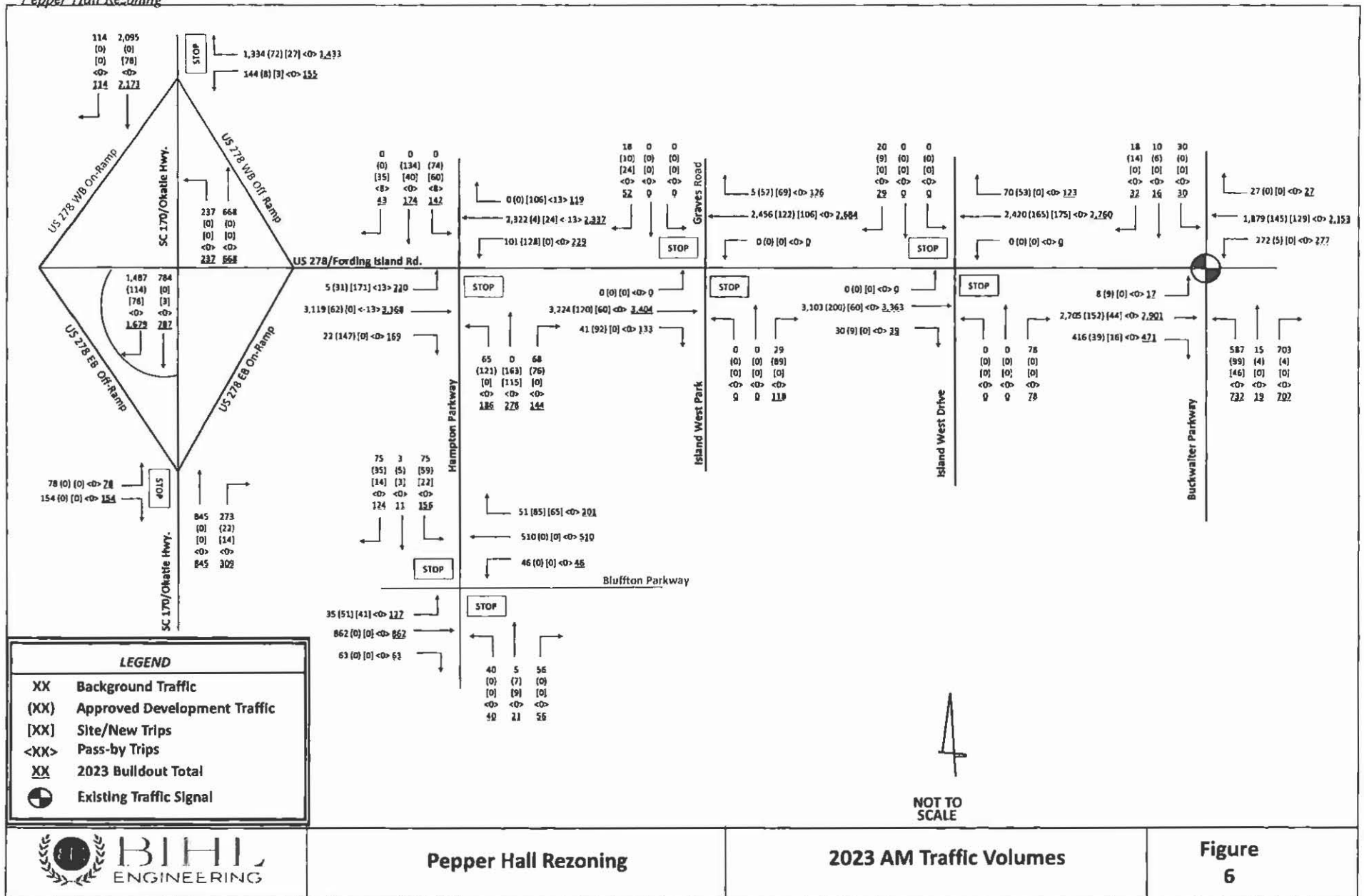
Pepper Hall Rezoning



Pepper Hall Rezoning

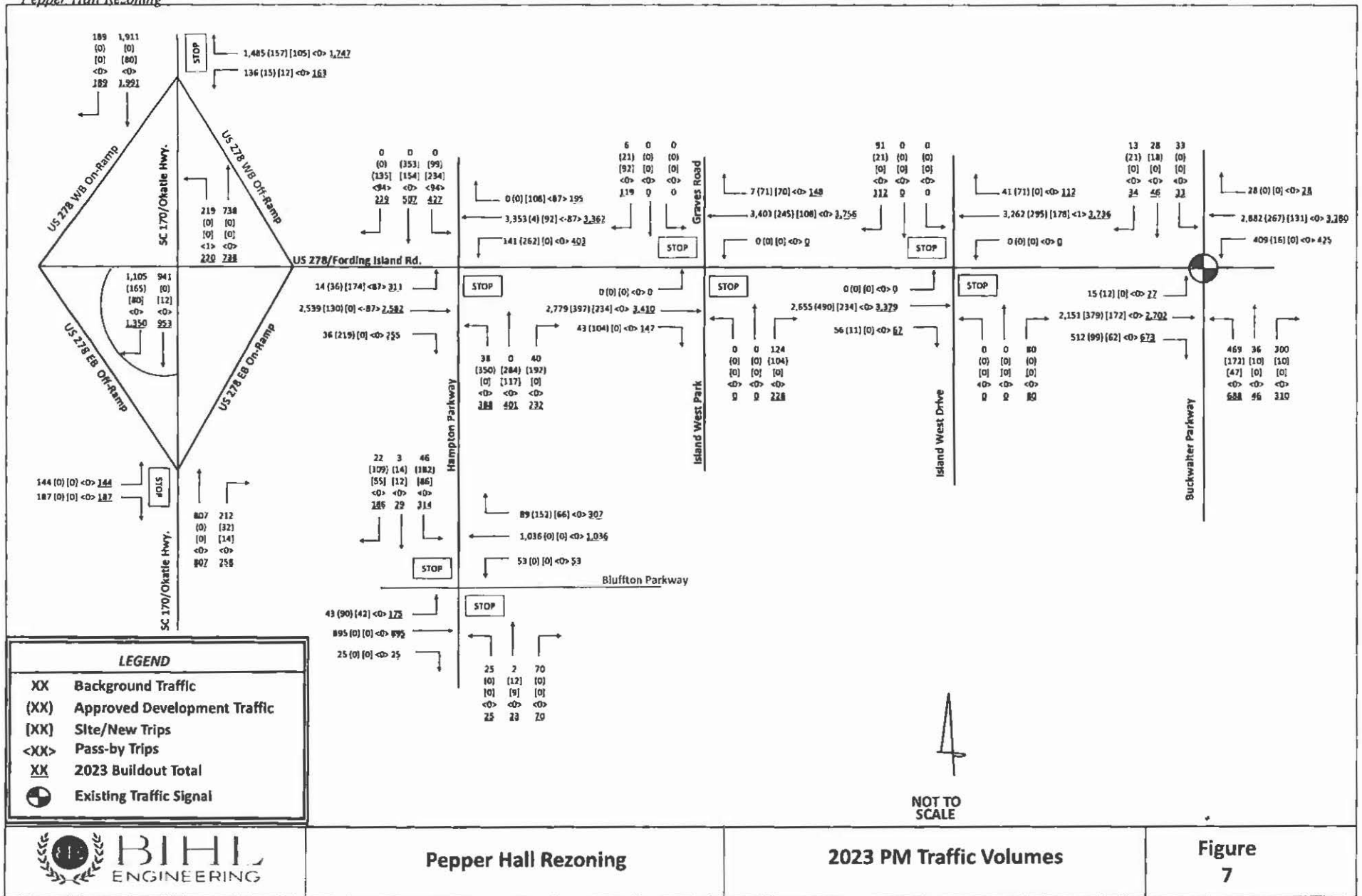


Pepper Hall Rezoning





Pepper Hall Rezoning



## 8.0 Capacity Analysis

Capacity analyses were performed for the AM and PM peak hours for the 2012 existing, 2018 background and buildout conditions, and 2023 background and buildout conditions using the Synchro Version 8 software to determine the operating characteristics of the adjacent road network and the potential traffic impacts of the proposed project. The analyses were conducted with methodologies contained in the *2000 Highway Capacity Manual* (TRB Special Report 209, 2000 update).

Capacity of an intersection is the maximum number of vehicles that can pass over a particular road segment or through a particular intersection during a specified time, typically an hour. Level-of-Service (LOS) describes the operating characteristics of an intersection. LOS is defined as a qualitative measure that describes operational conditions and motorist perceptions within a traffic stream. The *Highway Capacity Manual* defines six levels of service, LOS A through LOS F, with A being the best and F being the worst.

LOS for a two-way stop-controlled (TWSC) intersection is determined by the delay of the poorest performing minor approach as LOS is not defined for TWSC intersections as a whole. Capacity analyses were performed for the 2012 existing, 2018 background and buildout conditions, and 2023 background and buildout conditions for the following intersections:

- US 278 Westbound Off-Ramp at SC 170
- US 278 Eastbound Off-Ramp at SC 170
- SC 170 Southbound On-Ramp to US 278 Eastbound
- US 278 at Hampton Parkway
- US 278 at Island West Park/Graves Road
- US 278 at Island West Drive
- US 278 at Buckwalter Parkway/Berkeley Hall
- Bluffton Parkway at Hampton Parkway

**Table 4** summarizes the level-of-service (LOS) and control delay (average seconds of delay per vehicle) for the study intersections with 2012 existing, 2018 background and buildout conditions, and 2023 background and buildout conditions for the AM and PM peak hours.

**Table 5** shows the results of the ramp operations analysis from SC 170 southbound loop ramp to US 278 eastbound. This analysis was performed using the HCS 2010 software program.

**Table 4:**  
**Level of Service<sup>1</sup> and average delay in seconds per vehicle**

Intersection	Traffic Control <sup>2</sup>	Existing Conditions		2018 Background Conditions		2018 Buildout Conditions		2023 Background Conditions		2023 Buildout Conditions	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
US 278 at Hampton Parkway	U/S	C (23.3) - NB	C (18.7) - NB	C (29.7)	D (52.2)	D (37.9)	F (87.0)	F (86.6)	F (211.1)	F (99.5)	F (274.8)
US 278 at Island West Park/Graves Road	U	F (1178.0) - NB	F (*) - NB	C (15.4) - SB	C (21.6) - SB	C (17.5) - SB	F (52.0) - SB	C (21.1) - SB	E (39.7) - SB	D (29.3) - SB	F (400.3) - SB
US 278 at Island West Drive	U	F (4547.9) - NB	F (3252.0) - NB	C (21.7) - NB	D (26.5) - SB	C (22.2) - NB	D (28.6) - SB	E (39.9) - NB	F (81.5) - SB	E (42.0) - NB	F (104.2) - SB
US 278 at Buckwalter Parkway	S	E (77.8)	D (47.7)	F (83.3)	D (48.6)	F (87.1)	D (53.3)	F (168.8)	F (138.6)	F (173.1)	F (159.7)
Hampton Parkway at Bluffton Parkway	U/S	C (20.2) - NB	D (32.0) - SB	B (12.0)	B (17.6)	A (9.4)	B (18.8)	C (25.8)	C (31.9)	C (27.7)	C (33.6)
US 278 WB Off-Ramp at SC 170	U	F (192.3) - WB	F (196.2) - WB	B (16.4)	B (17.2)	B (16.0)	C (20.7)	D (50.1)	F (80.5)	E (66.7)	F (94.5)
SC 170 at US 278 EB Off-Ramp	U	C (15.0) - EB	C (19.4) - EB	C (20.0) - EB	F (50.5) - EB	C (20.1) - EB	F (52.3) - EB	E (42.0) - EB	F (543.8) - EB	E (42.4) - EB	F (566.1) - EB

1. For unsignalized intersections, the level of service of the poorest performing minor approach is reported. LOS A = Level of Service A

2. S = Signalized, U = Unsignalized

3. EB = Eastbound, WB = Westbound, SB = Southbound, NB = Northbound

**Table 5:**  
**Weaving Level of Service<sup>1</sup> and density in passenger cars per mile per lane**

Intersection	Traffic Control <sup>2</sup>	Existing Conditions		2018 Background Conditions		2018 Buildout Conditions		2023 Background Conditions		2023 Buildout Conditions	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
SC 170 SB to US 278 EB	Merge	C (22.7)	B (17.5)	D (31.1)	C (24.6)	D (32.6)	C (26.1)	F (40.0)	D (32.7)	F (42.3)	F (35.1)



The results of the analysis show that currently some of the side street movements on US 278 are experiencing high delay during the peak hours.

The future year analysis shows the implementation of the following roadway network improvements:

- US 278 widened to six lanes in the area of the project and stricter access management applied to existing full access driveways
- Hampton Parkway relocated and signalized at US 278 with the Island West connector constructed
- Signalization of Bluffton Parkway at Hampton Parkway
- Improvements to SC 170 and ramps with US 278
- US 278 Frontage Road from Berkeley Hall to site
- Bluffton Parkway flyover to US 278

As this is a rezoning traffic study, it was assumed these were in place; specific responsibility for these improvements has not been identified or allocated as part of this study.

The analysis shows that there are intersections experiencing delay in the future with and without this project. With a 4.7%/year growth rate, US 278 traffic volumes are expected to double by year 2025, so the current six-laning is projected to operate at LOS F. The addition of the Bluffton Parkway as an alternative route is expected to help lessen the impacts on US 278 although the freeflow methodology of the 2004 model does not completely replicate the expected shift to the Parkway. However, it is expected the US 278 will continue to carry a large percentage of regional traffic in the future.

The main access intersection for the project, US 278 at Hampton Parkway, is projected to operate at elevated levels of service in the future conditions with dual left turn lanes for all approaches. The intersection of US 278 at Buckwalter Parkway continues to deteriorate in the future as well, as US 278 traffic increases.

The right-in, right-out side street movements operate with some delay as expected on a corridor such as US 278. At buildout, US 278 at Graves Road experiences elevated levels of delay during the PM peak hour.

If the project was phased with partial buildout in 2018, the roadway network would experience elevated delay in the peak hour at the main access point at US 278 and at Buckwalter Parkway at US 278, but not as severe as 2023 conditions.

The merge movement from SB SC 170 to EB US 278 begins to experience LOS F conditions between years 2018 and 2023 as traffic volumes are projected to increase.

Capacity analysis and ramp operations analysis reports are included in the **Appendix**.

## **9.0 Conclusion**

The proposed Pepper Hall development is located on US 278 between SC 170 and Buckwalter Parkway in Beaufort County, SC. The proposed rezoning application includes a limitation of the total non-residential square footage to 700,000 square feet and 480 residential units. Non-residential includes commercial and office uses and the residential uses include both single family and condominium/townhome uses.

For the purposes of this Traffic Impact Analysis (TIA), the proposed development is assumed to be completed by 2023. A phased development of 350,000 square feet of non-residential area and 240 residential units is assumed to be completed by 2018.

The results of the analysis show that in year 2023 there is expected to be increased congestion on US 278 in the background and buildout conditions at the signalized intersections with the committed roadway improvements. However, this assumes a 4.7% per year growth rate along the corridor. Due to the added transportation network facilities and the revision of other project plans relative to the data in the model (which is current as of 2004) the growth rate may or may not be that high in the future.

The main access intersection for the project, US 278 at Hampton Parkway, is projected to operate at elevated levels of service in the future conditions with dual left turn lanes for all approaches. The intersection of US 278 at Buckwalter Parkway also continues to increase in delay in the future, as traffic on US 278 increases. US 278 at Graves Road is also expected to have elevated delay during the 2023 PM peak hour conditions.

The right-in, right-out side street movements operate as expected on a corridor such as US 278 in both the 2018 and 2023 buildout and background conditions.

If the project was phased with partial buildout in 2018, the roadway network would experience elevated delay in the peak hours at the main access point at US 278 and at Buckwalter Parkway at US 278 but more manageable than 2023 conditions, with other intersections operating acceptably.

In summary, this area is expected to experience a large amount of growth in the future and therefore intersections in the area are expected to experience high levels of delay during the peak

hours. However, due to the uncertainty of development schedules and the potential revision to the intensity of projects in the area, when and at what level growth will exactly occur is unknown. As these projects return with updated development plans and the new congestion-based model is completed for the County, there will be updated projections of the regional conditions on the updated transportation network in the County. That being said, US 278 will continue to be the main thoroughfare in southern Beaufort County carrying a majority of the traffic volume, but the Bluffton Parkway and the frontage road program (among other transportation network improvements) will add capacity to this area of the County providing some future relief to US 278.