

# Camp Lejeune Railroad Commercial Freight Feasibility Study



*Prepared for the*  
**North Carolina**  
**Department of Transportation**  
**Rail Division**  
*In partnership with the*  
**Jacksonville Urban Area Metropolitan Planning Organization**

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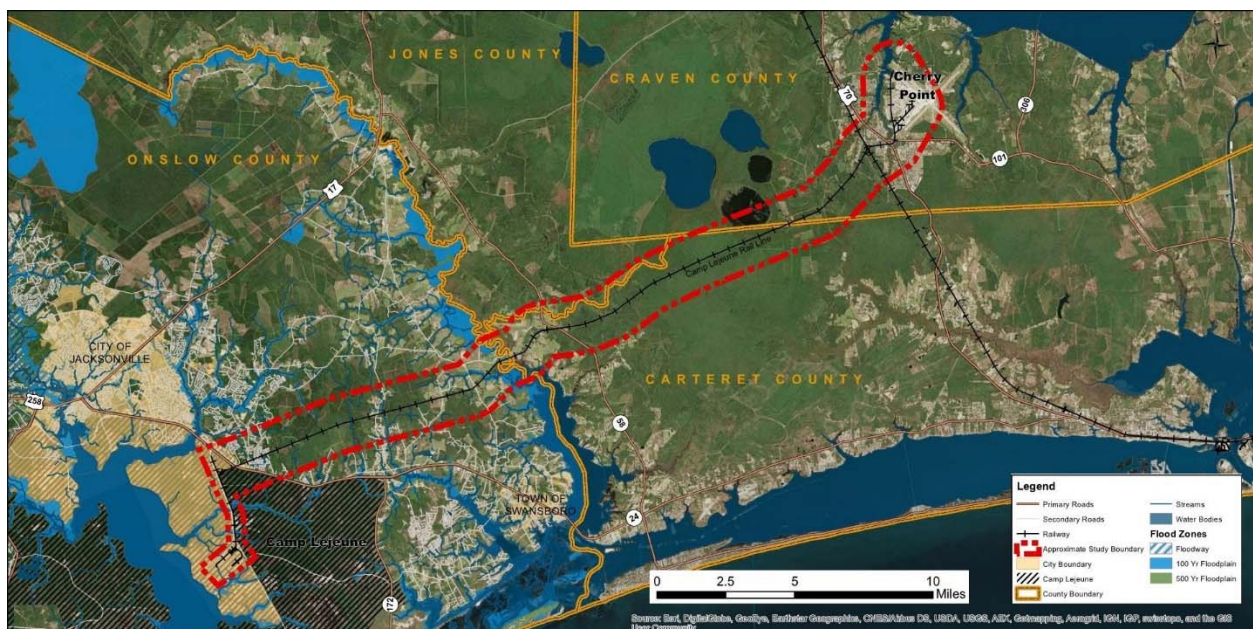
# Executive Summary

## S.1 Scope and Purpose of Study

Interest has been expressed in utilizing the Camp Lejeune Railroad line (CPLJ) for the purpose of transporting commercial freight and enhancing the local economy, leveraging its proximity to a Class I railroad (operated by Norfolk Southern) and the Port of Morehead City. ***The purpose of this Study is to evaluate the feasibility and advisability of establishing commercial freight rail service on the CPLJ.*** The scope of the study includes an evaluation of the maintenance needs of the CPLJ, the enhancements needed to support commercial freight service, and the potential economic development opportunities along the CPLJ corridor. The study also contains a review of partnership opportunities for sharing the costs of recommended maintenance and enhancement activities.

The study addresses three primary challenges that were identified through stakeholder coordination as barriers to commercial freight use of the CPLJ:

- The potential increase in **maintenance costs** associated with additional freight use of the CPLJ, with recommendations on a mechanism for the military to accept outside funding specifically for CPLJ maintenance;
- The potential **military liability** associated with private use of a military facility; and
- Alternatives for **ownership control and operation** of the CPLJ if it is being used for commercial freight service.



Camp Lejeune Railroad Commercial Freight Feasibility Study Corridor (see **Figure 1**).

## S.2 Background

The CPLJ is a 30-mile line that is connected to a Class I railroad operated by Norfolk Southern (NS) at Havelock NC, approximately 140 miles east of Raleigh. The CPLJ extends through Craven and Onslow counties in a southwesterly direction to its terminus at the Camp Lejeune Junction. The line was constructed in 1954 by the U.S. Government to connect Camp Lejeune with the Cherry Point Marine Air Station and Morehead City. The CPLJ is currently operated under agreement with NS.



*Camp Lejeune Railroad, 1978. Photo Credit: Tim Carroll*

Approximately 480 carloads representing 48,000 tons of coal are carried over the line annually, along with as many as 275 additional carloads of military shipments. There is no passenger service on the corridor, which includes approximately 12 public crossings and 20 private crossings. The corridor is mostly held in fee, with the exception of an 80-acre easement within the Croatan National Forest in Carteret and Craven Counties.

## S.3 Findings

The CPLJ is maintained to Class 2 FRA track standards (designed for operating speeds no greater than 25 miles per hour) from NC 24 to the Havelock junction. The line is a low-density connector line on the Strategic Rail Corridor Network (STRACNET). A review of the track condition and maintenance records indicates that, at this time, the CPLJ can support additional commercial freight service in addition to the existing military use. Depending upon the number and frequency of freight shipments, it is recommended that sections of lighter weight rail within five curves (total length of one track-mile) be evaluated for replacement; these upgrades are estimated to cost between \$250,000 and \$350,000.

An analysis of properties within the project study area identified four sites in Onslow County that show potential for economic development opportunity. The four sites, which include the JE McCotter Land tract (Milepost 4.8), Onslow 22 (Milepost 6), Weyerhaeuser Company (Milepost 8), and Brunswick Timber properties (Mileposts 8 and 9), may yield hundreds of acres of developable area near the CPLJ. One additional property, which is proposed for development in Craven County by the Weyerhaeuser Real Estate Development Company (Milepost 28), would also benefit from access to commercial rail service on the CPLJ. Roadway and intersection improvements may be necessary in order to provide access to the sites in Onslow County. Cost estimates for these improvements, which include pavement upgrades and the associated earthwork

and drainage improvements needed to support industrial truck traffic, range between \$301,000 and \$5,450,000, depending upon the site and roadway to be improved.

There are three industries within the four study area counties that are projected to realize sustained positive growth and would be supported both by rail access and the existing local workforce: Construction Materials & Equipment, Metal Manufacturing, and Wood Products. These industries are projected to yield the following potential economic benefits for each rail-served user:

- Construction Materials & Equipment: 15 direct jobs, 29 indirect jobs, \$110,000 in annual income and \$190,000 in sales tax revenues.
- Metal Manufacturing: 50 direct jobs, 114 indirect jobs, \$430,000 in annual income and \$120,000 in sales tax revenues.
- Wood Products: 25 direct jobs, 56 indirect jobs, \$210,000 in annual income and \$170,000 in sales tax revenues.

The rezoning of targeted sites in the project study area could yield the following additional economic benefits:

<b>Site</b>	<b>Milepost</b>	<b># Rail-Served Users</b>	<b>Size (acres)</b>	<b>Projected Property Tax Income</b>
<b>JE McCotter</b>	4.8	1-2	80	\$3,400
<b>Onslow 22</b>	6	6-8	100	\$110,000
<b>Weyerhaeuser</b>	8	12-16	200	\$8,900
<b>Brunswick Timber</b>	8 and 9	12-16	200	\$31,800
<b>Craven 38</b>	28	8-10	140	\$16,300

In the course of this study, no legislation or regulatory restriction could be identified that would preclude or prohibit the provision of commercial freight rail service on the military-owned CPLJ. Based on a review of the Department of the Navy’s SECNAV (Secretary of the Navy) Instruction 11011.47C and the Naval Facilities Engineering Command (NAVFAC) real estate procedures, potential solutions for incorporating commercial freight service exist, including:

- Development of new, or amendment of the existing, agreements to allow Norfolk Southern (current operator) to provide commercial rail service and accept payment;
- Outleasing the CPLJ to a state or local government entity;
- Disposal of the CPLJ, transferring it to another government entity or government-owned entity; or
- Developing an Intergovernmental Support Agreement (IGSA) between the Navy and the appropriate state government agency, which would allow that agency to use the CPLJ for commercial freight service.

Each of these options, as discussed in existing Navy policies and guidelines, involves its own set of requirements that must be met in order to satisfy concerns over additional expenditures and liability.

It should also be noted that the Department of the Navy holds a Special Use Permit from the U.S. Forest Service, under the U.S. Department of Agriculture, (Forest Service) for the section of the CPLJ Right of Way Easement within the Croatan National Forest. The Permit includes an assignability clause stating that the Permit may be terminated if the CPLJ is sold or transferred to another entity. In that case, the new owner would be required to seek a new Permit from the Forest Service to allow the CPLJ Right of Way Easement to remain in place.

#### **S.4 Recommendations and Conclusions**

The research and stakeholder coordination conducted for this study has identified potential economic development sites along the CPLJ corridor, as well as industries that could best utilize these sites. If freight transport is allowed on the CPLJ, options exist for new users to share the cost of maintaining the rail facility with the military. Finally, the Department of the Navy has, in its real estate procedures, alternatives for the ownership control and operation of the CPLJ. The following conclusions can be made regarding the three challenges identified as barriers to commercial freight use of the CPLJ:

##### *Maintenance Costs and Funding*

Outside the Camp Lejeune base limits, the CPLJ is currently maintained to FRA Class 2 track standards, above the minimum required to meet the needs of commercial service. The majority of maintenance repairs will be due to decay of the facilities over time and due to weather, rather than specific damage associated with increased track use; these repairs will be required regardless of whether or not the CPLJ is used for commercial freight service. Any increase in maintenance costs due



to the addition of commercial freight service would be proportional to the increased tonnage that is being shipped on the track. The total additional tonnage will depend on the type of freight being shipped and the expected frequency of the shipments. A representative cost for the shipment of aggregate from the JE McCotter Land Tracts (Milepost 4.8) to connect with NS freight service at Havelock (based on a pre-existing site proposal from Lehigh Hanson) is estimated at \$40 in increased maintenance per additional rail car that uses the line.

Camp Lejeune cannot accept direct payments from an outside entity to compensate for the maintenance costs associated with the CPLJ. With the exception of lease payments, for which at least 50 percent (50%) must be directed to the needs of the local installation per NAVFAC policy, any payments from outside entities to the military are automatically directed to the military's general budget and cannot be directed to a specific installation or use without congressional action. The most likely mechanism for Camp Lejeune to accept payments would be through a credit arrangement or payments through a third-party agreement that includes NS, the track's operator.

### *Military Liability*

The current trackage agreement with NS identifies the liability to be incurred by each party to the agreement, including the Government and the railroad operator. The military's liability concerns can be addressed in a new trackage agreement by including stipulations that specify the responsibilities of each party.

### *Ownership Transfer*

If Camp Lejeune were to give up ownership of the CPLJ, the Department of the Navy's SECNAV Instruction 11011.47C includes options for the outleasing, licensing, special uses, and disposal of military property. These mechanisms each have regulatory and procedural requirements that, in some cases, could require a significant amount of time and investment to address. Potential partners for the future ownership or disposition of the CPLJ most likely include a government entity or government-owned entity; private railroad companies are not expected to want to hold a real estate interest in the rail line. In addition, coordination with the Forest Service would be required to determine how property transfer would affect the Special Use Permit for the section of the CPLJ Right of Way Easement within the Croatan National Forest. The Permit's assignability clause would likely require the new owner to seek a new Permit from the Forest Service to allow the CPLJ Right of Way Easement to remain in place.

### *Recommendations*

The study findings show that suitable properties for development exist along the CPLJ corridor, and that three potential industries that utilize rail access could be targeted for these properties. The current condition of the CPLJ makes it a viable facility for commercial freight use, especially given its proximity to the Class I railroad junction in Havelock and its connection to the Port of Morehead City.

In the near-term, the development of an updated trackage agreement with the existing railroad operator, Norfolk Southern, is the most likely mechanism available to meet the needs of the military while promoting economic development within the corridor. Key provisions to be addressed in the agreement would include such items as: priority for military shipments; clear definition of railroad improvements and operations that may be assumed by the railroad without interference with the military mission; standards, responsibility, and compensation to the railroad for baseline maintenance costs;

limitation of railroad responsibility for emergency repairs, long-term maintenance costs or capital replacement; and appropriate assignment of liability for railroad operations.

As the military use of the rail line continues to decline, longer term interests may make outleasing or disposal of the CPLJ to a government entity or a government-owned entity a desirable future outcome. Appropriate evaluation and approval processes within the Department of the Navy could be expected to take many years. For a property transfer, early coordination with the Forest Service will be essential to assure continued use of the CPLJ through the Croatan National Forest.



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## 1.0 Introduction

### 1.1 Scope and Purpose of Study

The Camp Lejeune Rail Line (CPLJ) extends from U.S. Marine Corps Base Camp Lejeune (Camp Lejeune) in Onslow County to the intersection with a Class I railroad<sup>1</sup> (operated by Norfolk Southern) in Craven County. An additional rail segment is located east of the Class I railroad and extends onto Marine Corps Air Station Cherry Point, also in Craven County. The CPLJ is used solely by Camp Lejeune for military purposes to access both Cherry Point and the Class I railroad.

Interest has been expressed in utilizing the CPLJ for the additional purpose of transporting commercial freight as a means of enhancing the local economy, leveraging its proximity to the Class I railroad and the Port of Morehead City. ***The purpose of this Study is to evaluate the feasibility and advisability of establishing commercial freight rail service on the CPLJ.*** The scope of the study includes an evaluation of the maintenance needs of the CPLJ, enhancements needed to support commercial freight service, and potential economic development opportunities along the CPLJ. The study also includes a review of partnership opportunities for sharing the costs of recommended maintenance and enhancement activities.

Based on coordination with the Project Committee (see Section 1.3) and further input from Camp Lejeune, three primary concerns were cited as challenges that need to be addressed as part of a feasibility study:

- The potential increase in **maintenance costs** associated with additional freight use of the CPLJ, with recommendations on a mechanism for the military to accept outside funding specifically for CPLJ maintenance;
- The potential **military liability** associated with private use of a military facility; and
- Alternatives for **ownership control and operation** of the CPLJ if it is being used for commercial freight service.

This feasibility study was developed by conducting a condition assessment of the CPLJ and the surrounding transportation infrastructure; analyzing the condition of adjacent properties to determine suitability for economic development; evaluating potential economic development opportunities and developing a market forecast; reviewing the governance issues associated with commercial use of military facilities; and meeting with key stakeholders.

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<sup>1</sup> Class I, II, and III railroads are defined by the Surface Transportation Board based on their carrier operating revenues, with the Class I railroad having the highest revenues. The Class I railroad that connects to the CPLJ is operated by Norfolk Southern and extends from Morehead City to Charlotte.

## 1.2 Project Study Area Description

The Project Study Area, as defined in **Figure 1**, includes a corridor approximately two miles wide centered on the CPLJ, encompassing portions of Onslow, Carteret, Jones, and Craven Counties. In order to address the needs of the study, the study team assessed the current condition and potential maintenance needs of the entire CPLJ. As the majority of the study area within Carteret and Craven Counties (east of the White Oak River) is federally owned land (national forest), the assessment of potential economic opportunities focuses on the Onslow County section of the study area.

## 1.3 Project Committee and Key Stakeholders

This feasibility study was developed through close coordination among key stakeholders with interests in the outcome of the project. A Project Committee was assembled to provide guidance on issues to research, input on stakeholder outreach, and feedback on study findings. The Project Committee includes members of the following government agencies:

- **NCDOT Rail Division**
- **City of Jacksonville**
- **Camp Lejeune**
- **Jacksonville Urban Area Metropolitan Planning Organization (JUMPO)**
- **Jacksonville Onslow Economic Development (JOED)**
- **Onslow County**
- **Carteret County**
- **Craven County**
- **Jones County**

In addition to the Project Committee, the study included meetings and phone calls with key stakeholders that have either existing or potential interest in the use of the CPLJ for commercial freight shipments. The study team sought specific input from the following entities:

- **USMCB Camp Lejeune:** Camp Lejeune staff was consulted for guidance on concerns relating to private use of military property, liability, and cost-sharing opportunities.
- **Norfolk Southern Corporation:** Norfolk Southern is responsible for the operation and inspection of the CPLJ through a trackage agreement with the U.S. Marine Corps.
- **JUMPO:** Input from the JUMPO was sought on potential long-term transportation improvements in the project study area and surrounding transportation network.

- **JOED:** The JOED was consulted regarding past economic development opportunities within the study area.
- **NCDOT Highway Divisions 2 and 3:** Staff from the Highway Divisions' offices were consulted regarding driveway access requirements for properties as well as potential improvements within the study area.
- **NC State Ports Authority:** Representatives of the NC Ports were contacted regarding potential economic development opportunities that could utilize the Port of Morehead City.
- **Lehigh Hanson:** Hanson has optioned property within the study area and has previously submitted a proposal to access the CPLJ for transporting freight.
- **North Carolina Railroad:** NCRR was contacted for feedback on potential investment opportunities associated with the CPLJ.
- **Weyerhaeuser:** Weyerhaeuser owns property within the study area and was consulted regarding potential options for site development.
- **Duke Energy:** Access to the Duke Energy Brunswick County (NC) Nuclear Plant is provided via a military-owned rail line that also serves the Military Ocean Terminal Sunny Point (MOTSU).
- **The Nature Conservancy:** The Nature Conservancy owns properties within the study area and was consulted regarding site plan and other easement restrictions associated with the properties.

No public meetings or other small group meetings were held as part of the study process.

## 2.0 Background and History of the Camp Lejeune Railroad

### 2.1 History and Previous Usage

Land for what would become the U.S. Marine Corps Base at Camp Lejeune was acquired in 1940, and the base was authorized in May 1941. One of the first orders of business was to construct an eight-mile railroad spur connecting the base to the Atlantic Coast Line (ACL) at Jacksonville. This spur was operational within two months and provided a way to receive materials necessary to build the base. It also afforded connection to the Port of Wilmington via the ACL. Connections were also possible via New Bern with the Atlantic & North Carolina Railroad's (ANC) line to Morehead City, as well as the original Norfolk Southern Railway to Norfolk. The ANC (which was merged into the North Carolina Railroad in 1989) was operated by the Atlantic & East Carolina Railroad (AEC), which was merged into the Southern Railway in 1957. In addition to providing connections to Morehead City, the Cherry Point Railroad at Havelock was opened in late 1943 to reach the Cherry Point Marine Air Station.



*Camp Lejeune Railroad, 1978. Photo Credit: Tim Carroll*

The railroad provided vital connections linking Camp Lejeune to the ports of Wilmington and Morehead City during World War II and the Korean War. In 1954, to provide a more direct route to Cherry Point and Morehead City, the U.S. Government built a rail line of approximately 27 miles from Marine Junction on the Jacksonville spur to Havelock. Southern

Railway created the Camp Lejeune Railroad Company (CPLJ Company) to try to lease the line from the government in 1961, but this attempt was denied by the Interstate Commerce Commission. The line continued as a government-operated line until 1984, when trackage rights were granted to the CPLJ Company for an initial term of 15 years.

By then the CPLJ Company's parent, Southern Railway, had been merged into Norfolk Southern Railway (NS) in 1982. The ACL line to Jacksonville, which eventually became part of CSXT, was abandoned in 1985; NS took over a piece of the line to serve a Weyerhaeuser mill at Kellum. This mill closed in the late 1990's, and the remaining industries in Jacksonville also stopped using rail by 1998. The CPLJ Company's lease on

the spur to Jacksonville ended in 1999 and was not renewed, so the remainder of that line was officially abandoned in 2000 and converted into a recreational trail.

In 1999 the trackage agreement with the CPLJ Company was renewed on the remaining section of the CPLJ between Camp Lejeune and Havelock (just under 30 miles). The line had been used for military shipments during the Gulf and Iraq Wars. Military equipment came into and departed Camp Lejeune regularly. In addition, Camp Lejeune's power generation network required a steady stream of inbound coal, which was supplied via the CPLJ.

## **2.2 Current Usage and Operation**

Today, the traffic on the CPLJ is light. Coal has comprised the primary freight traffic over the past decade; however, Camp Lejeune is in the process of decentralizing its heating system, which will eliminate the need for coal. Recent tonnage shipped on the CPLJ has totaled about 4,000 tons per month (about 48,000 tons or 480 cars annually). These volumes are expected to decrease to about 15,000 tons for the present fiscal year, eventually decreasing to zero as the heating system work is completed over the next few years.

Other military shipments carried over the CPLJ have totaled about 250 to 275 carloads annually. In FY 14, 113 carloads were shipped by rail from Camp Lejeune to other military bases; all of these railcars returned to the base loaded. Additional shipments to and from regional military bases included 19 outbound carloads and 5 inbound carloads. In FY 15, the base transported 78 carloads of military goods to forts, and all returned as loaded railcars. Rail traffic to and from logistics bases grew that year to 64 outbound carloads and 62 returning carloads. Shipments to and from other military installations are expected to increase in the coming years due to the rate efficiency achieved when shipping by rail; however, logistics base shipments depend on need and cannot be predicted.



Through its ownership of the Camp Lejeune Railroad<sup>2</sup>, Norfolk Southern (NS) has served as the operator of the CPLJ between Havelock and Camp Lejeune. A local crew

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<sup>2</sup> Camp Lejeune Railroad is a shortline railroad created to provide rail service to the Camp Lejeune Marine Corps Base over the military-owned CPLJ right-of-way and trackage.



works the line from the yard at New Bern. This crew operates Monday through Friday. Three days per week, the crew works at Cherry Point and then goes to Morehead City; two days per week, the crew is designated to work at Cherry Point and then serve Camp Lejeune. As traffic has declined, service to Camp Lejeune is not required, and the crew works instead at Morehead City.

The train is handled with one 6-axle locomotive, although a second unit is added if required by tonnage. The train has a two-person crew. The NS crew leaves New Bern about 7 a.m., and arrives at Camp Lejeune late in the morning. Historically, the NS crew dropped off traffic at the yard at Camp Lejeune and picked up any outbound loads or empties, arriving back at New Bern by mid- to late afternoon. Switching on the base was formerly performed by a local crew provided by Camp Lejeune; however, as traffic levels have declined, the base no longer has its own crew. The NS crews now perform this function on the base.

### **2.3 Existing Track Condition and Maintenance**

After leaving Havelock South (Milepost 29.6) in Carteret County, the rail line is operated at 25 MPH, which is FRA Class 2 track. Crossing into Onslow County over the 0.46-mile White Oak River Bridge near Milepost 13.8, the line continues to Camp Lejeune. At Milepost 3.0 (Lejeune North) south of NC 24, operations within yard limits begin<sup>3</sup>. NS inspects the rail line weekly.

Accompanying NS on one inspection from the Havelock junction to NC 24, the study team noted the line was in very good condition. The line is primarily 90-pound rail, with one short stretch of the main line at Stella near Milepost 15.6 laid with heavier rail in the curve. The rail, which was rolled in 1953 and laid when the line was built in 1954, does not exhibit any significant signs of wear or end batter. The line is well-anchored, with rails anchored to, at a minimum, every fourth tie (1 in 4 ties). Numerous sections of the CPLJ exceed this minimum anchorage pattern, with anchors at 1 in 3, and 1 in 2 ties. Overall the ties appear to be in good condition.

The line and surface is also in very good condition. The ballast section is not fouled and has kept the railroad well above areas of surrounding standing water. There are low spots that may require spot tamping. There is some damage evident along several miles of the ballast shoulders, most likely the result of ATV trespassers. Brush and trees are well-maintained, with no overhead canopy issues or overgrowth of weeds.

The line has 10 public grade crossings, seven of which are protected with gates, lights, and bells, while one additional crossing has lights and bells. Two crossings are protected

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<sup>3</sup> The study team review of existing track condition did not extend into CPLJ yard limits, which begin south of NC 24.

only with crossbucks. The equipment at the crossings is in good working order and well maintained. Approaches to grade crossings are in good repair. The bridge over the White Oak River (0.46-mile) also appears to be in good condition; the water course is well-controlled under this trestle. The three smaller bridges on the CPLJ (over Wallace Creek, Queen Creek, and Webb Creek) are also in good condition.

The line is maintained by a private track company, under annual service contracts with Camp Lejeune. The current contractor maintains the line between Havelock and Camp Lejeune, as well as all of the track within the base itself. This same contractor maintains the rail line serving Cherry Point under separate contract.

The current annual CPLJ maintenance contract is for \$199,600. It covers certain specific recurring services, both on the main line and the track within the base. These services include monthly inspections of the rail lines, bi-weekly signal inspections, and any minor preventative maintenance. The contract also covers up to 30 service trouble calls, 22 emergency trouble calls, and an annual tree and vegetation control program.

In addition, there is a budget of about \$336,500 for approximately 10-12 projects each year, consisting of items such as spot tie replacements, switch repairs, tree cutting (above the annual program), or ditch repairs. These projects may address items either on the main line or within Camp Lejeune itself. According to Camp Lejeune staff, the contractor is limited in the scope of the repairs that can be performed under this contract; in recent years, Camp Lejeune has been required to pay as much as an additional \$100,000 for work not included within the scope of the existing contract.

### **3.0 Study Area Site Analysis**

A site analysis was conducted in order to assess the community and environmental characteristics of properties within the Camp Lejeune Rail Line (CPLJ) study area. The existing conditions for the entire project area were evaluated in order to identify potential economic and land development opportunities. Although some Craven County economic development opportunities are discussed in this section, the site analysis of adjacent properties suitable for potential economic development is primarily focused on the Onslow County portion of the project.

#### **3.1 Existing Conditions**

The existing land uses within the study area are primarily agricultural, with concentrated areas of residential development along the corridor. Within Onslow County most of the residential development consists of single-family homes, located near the western end of the project area off NC 24 and Piney Green Road (SR 1406), and along Riggs (SR 1428), Parkertown (SR 1432), and Belgrade-Swansboro Roads (SR 1434). The remaining land use within Onslow County consists of undeveloped agricultural areas. East of the White Oak River, the CPLJ passes through the Croatan National Forest in Carteret and Craven Counties before crossing through limited residential and commercial development in the City of Havelock.

##### **A. Topography**

The rail line and adjacent properties are relatively flat with slopes less than five percent (5%), making it ideal for the development of large pad building facilities. However, special consideration will be required to ensure positive drainage.

##### **B. Hydrology (See Figures 2A & 2B, Hydrology Map)**

Onslow County falls under North Carolina's Coastal Area Management Act (CAMA) regulations for development in Areas of Environmental Concern (AEC) that may be easily destroyed by erosion and flooding. Permits for development within an AEC are administered by the North Carolina Division of Coastal Management. Freshwater swamps and inland, non-tidal wetlands are not in the CAMA permit jurisdiction unless the Coastal Resources Commission specifically designates them as AEC's. However, inland wetlands are protected by the federal Clean Water Act. A U.S. Army Corps of Engineers permit may be required for projects taking place in inland Waters of the U.S. The N.C. Division of Water Resources may also require a certification for certain impacts to Waters of the U.S. or Waters of the State.

The coastal area is characterized by wetlands as classified by the U.S. Fish and Wildlife Service (FWS) National Wetlands Inventory (NWI). NWI wetlands are primarily located south of the rail line providing opportunities for development along the north side. Twenty-foot (20') buffers are required adjacent to wetlands.

Individual sites will require stream/wetland delineations and avoidance/minimization of development for permitting. Initial research does not indicate the presence of Outstanding Resource Waters in the study area. However, CAMA Public Trust Waters and any estuarine systems that are in the study area would be subject to thirty-foot (30') and seventy-five-foot (75') regulated buffers, respectively.

The CPLJ crosses several streams and bodies of water including Juniper Run Branch, Peters Branch, Mill Creek Branch, Webb Creek and the White Oak River. Each of these crossings has associated floodplains. The study area is not located within a Special Flood Hazard Area per the NC Floodplain Mapping Information System. Fifty-foot (50') stream buffers are required from the top of bank inward.

Engineered stormwater management controls are required for developments greater than 12 percent (12%) impervious surface area.

### **C. Flora and Fauna**

The CPLJ passes primarily through undeveloped forest and agricultural land. Large tracts of pine forest are grown for the timber industry. Wetland areas are characterized by aquatic plantings.

In 2014, the Nature Conservancy acquired 1,050-acres of land adjacent to the CPLJ creating the Horse Swamp Preserve. The acquisition was funded by a private donation of land, the NC Clean Water Management Trust Fund, and the US Marine Corps, which provided a buffer adjacent to the base for future habitat for the endangered Red-cockaded Woodpecker (RCW). The RCW Easement extends over the Nature Conservancy and State of North Carolina properties protecting the land from future development. The Nature Conservancy hopes to build a safe corridor for wildlife to roam between the military base and the Croatan National Forest.

### **D. Utilities (See Figures 3A & 3B, Utilities Map)**

The Onslow Water and Sewer Authority (ONWASA), a public, non-profit entity, provides water and sewer (wastewater) services to unincorporated Onslow County. Currently, water service extends east along NC 24 and north along Piney Green Road (SR 1406), Rocky Run Road (SR 1413), Walton Road (SR 1459) and Riggs Road (SR 1428). Unpopulated areas not serviced by public water are on private wells.

Public sewer service is located along Piney Green Road (SR 1406), Rocky Run Road (SR 1413), and various residential subdivisions. Unpopulated areas to the east of the service area are on private septic systems. If major industries and development locate east of existing services, both water and sewer utilities will need to be extended.

Jones-Onslow Electric Membership Corporation, a private independent electric utility, is the power supplier for the study area. Overhead transmission lines and a proposed 230kv Grants Creek Substation are planned off of Old 30 Road (SR 1423), north of the study area. Electric lines may be extended to potential nearby industrial sites.

Piedmont Natural Gas is the service provider of natural gas to the City of Jacksonville, Camp Lejeune, and Onslow County.

## **E. Transportation** (See **Figure 4**, Transportation Plan Map)

### *Roadways*

Freight movement in Jacksonville and Onslow County is primarily by truck. Eastern Onslow County's major vehicular thoroughfares include the four-lane divided highways of US 17 and NC 24, connecting Craven and Carteret Counties to the east and converging in the City of Jacksonville. The CPLJ study area roadway access includes at-grade crossings at Piney Green Road (SR 1406), Walton Road (SR 1459), Riggs Road (SR 1428), Parkertown Road (SR 1432), and Belgrade-Swansboro Road (SR 1434), providing north-south connections to US 17 and NC 24.

The local roadway network, including Daly Street (SR 1884), Wood Road (SR 1414), Finch Lane, and Olde Towne Pointe Boulevard, provides access to potential development tracts within the study area. Several of the secondary roadways within the network will require improvements, the extent of which will be determined at the time of site plan and/or rezoning approval, depending upon the final uses and specific development plans (*See Section 5.1 for further discussion of potential Roadway Improvements*). Currently, the approved conditional rezoning (August 2015) for JE McCotter Land Company, LLC prohibits non-residential truck access on Daly Street (SR 1884) and Wood Road (SR 1414). Finch Road is an unpaved drive connecting to Lake Cole Road (SR 1415), and Olde Towne Pointe Boulevard is a divided residential subdivision street.

The Jacksonville Urban Area Metropolitan Organization (JUMPO) 2040 Long Range Transportation Plan (August 2012) recommends several corridor improvements in the study area, including the Piney Green Road (SR 1406) widening (U-3810), a four-lane divided facility with pedestrian improvements from NC 24 to US 17, to be completed in 2016.

Additionally, the Jacksonville Long Range Transportation Plan identifies an 11-mile north-south connection between US 17 at Ramsey Road and NC 24 at NC 172. Proposed improvements in this north-south corridor include:

- A new facility with bike and pedestrian improvements from Ramsey Road to Waters Road;
- Widening sections of Waters (SR 1411) and Old 30 (SR 1423) Roads;
- A new facility from Old 30 Road (SR 1423) at Rocky Run Road (SR 1413) to Riggs Road (SR 1428); and
- Widening a section of Riggs Road (SR 1428) to NC 24.

The completion of this north-south corridor will provide vehicular access to large parcels of undeveloped land for economic development.

### *Rail*

Onslow County’s ability to attract new businesses and industries will be supported by addressing their short- and long-term freight movement and logistics needs. Currently, rail freight availability in the Jacksonville-Onslow County area is limited to the CPLJ. This facility provides connections between Camp Lejeune and Marine Corps Air Station Cherry Point and onto the nearby Port of Morehead City. Access to the rail line should be considered as well as investment in spurs and/or trans-load facilities for future economic development opportunities to be realized in Onslow County.

## **3.2 Assessment of Adjacent Properties for Development**

### **A. Adjacent Properties** (See **Figures 5A & 5B**, Parcel Map)

Several large parcels lie adjacent to the CPLJ. Ownership within Onslow and Craven Counties is comprised primarily of the following:

#### **Onslow County:**

- |  |               |
|--|---------------|
| • The Nature Conservancy/NC Forestlands, LLC/State of NC | 1,844.90± ac. |
| • Weyerhaeuser Company                                   | 286.03± ac.   |
| • Onslow 22, LLC   | 920.84± ac.   |
| • Brunswick Timber, LLC                                  | 2,631.61± ac. |
| • JE McCotter Land Company                               | 80.47± ac.    |

#### **Craven County:**

- |                           |                |
|---------------------------|----------------|
| • Croatan National Forest | 48,060.20± ac. |
| • Camp Bryan Farms        | 8,653.35± ac.  |
| • Weyerhaeuser Company    | 2,085.30± ac.  |

Other than The Nature Conservancy properties and the Croatan National Forest, which are restricted from development, the remaining undeveloped parcels present opportunities for economic development. The JE McCotter Land Company, LLC has 80.47± acres adjacent to the CPLJ under option by Lehigh

Hanson, Inc. for a proposed storage/transfer/sales yard of crushed construction stone.

**B. Jurisdiction/ Zoning** (See **Figure 6A & 6B**, Zoning Map)

The Weyerhaeuser Company and Brunswick Timber properties are located in unincorporated Onslow County and zoned Rural Agriculture (RA). The Onslow 22, LLC parcels are zoned Medium-density, Single Family/Duplexes (R-10) and High-density, Multi-family (R-5).

The JE McCotter Land Company, LLC parcels were rezoned to Rural Agriculture, Conditional Zoning RA(CZ) in August 2015 (See **Figure 7**, McCotter-Conditional Zoning Map). The conditions stipulate:

1. All truck traffic associated with non-residential use is prohibited from using Wood Road (SR 1414) and Daly Street (SR 1884).
2. Use of the site is subject to an NCDOT access permit and any required roadway improvements.
3. Non-residential uses shall be restricted to operating hours between 6am and 9pm Eastern Standard Time, Monday thru Saturday, except for projects that are designated State or Federal night work projects in which case the County Planning Director shall be notified in advance of any such work.
4. In Buffer Zone Area A: Between the property line and non-residential use, a 10-foot minimum high berm shall be constructed with trees planted on the property line side of the berm.
5. In Buffer Zone Area B: A 60-foot minimum natural undisturbed buffer shall be retained between the property line and any non-residential use.
6. A 60-foot minimum buffer will be retained between the freight terminal/distribution area and any future residential development on the rezoning site.
7. For any non-residential use, the site operator's motor vehicles or material handling equipment working within the project site shall utilize an OSHA approved technology, other than a back-up alarm system, to minimize the threat to on-site workers from vehicles moving in reverse.
8. Except as explicitly stated to the contrary herein, development activity shall comply with the requirements of Onslow County Ordinances.
9. Site lighting shall be directed or shielded so as not to adversely affect adjoining properties.
10. The list of permitted uses is hereby incorporated into these conditions. Special requirements listed in the Onslow County Zoning Ordinance apply where indicated.
11. Any change in uses allowed, decrease in buffer requirements, or other changes that would alter the relationship of the proposed development to adjacent property will require approval by the Board of Commissioners in accordance with Article IV of the Onslow County Zoning Ordinance.

12. **Site Plan:** The Conceptual Site Plan is hereby adopted as part of the conditional zoning ordinance. The location, size, orientation, and shape of buildings, parking, detention areas, streets, open space/landscaping, etc. are shown on the Conceptual Site Plan for illustrative purposes only. Any deviation in future site development from Conceptual Site Plan will be consistent with the conditions listed herein.

**Allowed Uses:**

Bona Fide Farms	Community Centers, Private
Dwelling, Multi-family (Duplex)	Community Centers, Public
Dwelling, Multi-family (Townhouses)	Hunting Preserves/Hunt Clubs
Dwelling, Single-family (Manufactured Home)	Farm Supplies
Dwelling, Single-family (Modular)	Greenhouse and/or Nurseries (Commercial)
Dwelling, Single-family (Stick-built)	Contractor's Office
Children's Home	Truck/Freight Terminal (more than 6 trucks)
Family Care Home	Warehousing
Government Buildings and Facilities	Wholesale Distribution
Volunteer Fire Department	Recycling Collection Center
Ambulance Service/Rescue Squad (EMS)	Temporary Construction Office
Greenways	Temporary Staging Area
Parks and Playgrounds	Residential Development Sales (Office On-site)
Sewer System, Private	

**3.3 Summary of Area Land Use Plans**

The Onslow County Future Land Use Plan proposes Medium-Density Residential along the east urban fringe of the City of Jacksonville and north of NC 24, and Rural Residential and Agricultural/Forestry uses east to the White Oak River. The Craven County land use consists of the Croatan National Forest to the west, a private recreational game-hunting farm, and Agricultural/Forestry uses to the east.

**3.4 Summary of Land Use Findings, Opportunities, and Challenges**

**A. Potential Properties for Economic Development - Onslow County**  
(See **Figure 8A, 8B, 8C & 8D**, Potential Properties for Economic Development)

The project study area features several large tracts of developable land, each located on the north side of the CPLJ, for extension of future rail spurs. Properties to the south tend to have more extensive wetland areas and were thus not considered appropriate for potential development. The four properties discussed below, or combination of properties, may be developed for large single users or the creation of an industrial/business park. Each of the properties presents a unique set of opportunities and challenges to be overcome in development.



## **1. JE McCotter Land Company** (See **Figure 7**, McCotter-Conditional Zoning Map)

The JE McCotter Land Company (Milepost 4.8) owns 80.47± acres near Walton Road (SR 1459) with access from Daly Street (SR 1884) and Wood Road (SR 1414). The site has no known wetlands. Water service is adjacent to the property at Daly Street (SR 1884) and Wood Road (SR 1414). Depending on the use, sewer may be extended from nearby Harbord Drive, or septic may be utilized.

Lehigh Hanson, Inc. has the property under an option to purchase for a proposed storage/ transfer/ sales yard of crushed construction stone. The property was rezoned to Rural Agriculture, Conditional Zoning RA (CZ) in August 2015 with the condition for all truck traffic associated with non-residential use prohibited from using Wood Road (SR 1414) and Daly Street (SR 1884). Walton Road (SR 1459) will require improvements for additional truck loads and traffic. Hanson requested an access easement off Walton Road (SR 1459) via the CPLJ right-of-way but was denied in September 2015 due to liability and maintenance concerns.

## **2. Onslow 22, LLC Properties**

Onslow 22, LLC (Milepost 6) owns four parcels totaling 920.84± acres north of the CPLJ, zoned for Medium-Density, Single-Family/Duplex Residential development. Rezoning will be required for an industrial/business user. The presence of wetlands is minimal. Water and sewer service are accessible from the western edge of the property; however, road access is limited through residential subdivision/neighborhoods, providing the greatest development challenge. The site is directly adjacent to the CPLJ, which means an access track could be constructed on the site to allow for rail use.

## **3. Weyerhaeuser Company Property**

Weyerhaeuser (Milepost 8) owns a 286.03± acre site along the north side of the CPLJ with access off of Riggs Road (SR 1428). The site has limited areas of wetlands and streams. Public water service is accessible off of Riggs Road (SR 1428). Sewer service will require utility extension for several miles. Riggs Road (SR 1428) is currently a two lane roadway and will require improvements. The long-range transportation plan proposes a four-lane divided facility through widening and the addition of new roadway segments, connecting and providing improved access to US 17 and NC 24. The site is directly adjacent to the CPLJ, which means an access track could be constructed on the site to allow for rail use.

#### **4. Brunswick Timber, LLC Properties**

The Brunswick Timber sites (Mileposts 8 & 9) lie north of the CPLJ and are divided along the west and east sides of Riggs Road (SR 1428). Vehicular access is off of Riggs Road (SR 1428), approximately three miles north of the intersection with NC Hwy 24. A potential secondary access off of Parkertown Road (SR 1432) is possible with the purchase of a small parcel. The eastern parcels have rail access, while the western tracts will require acquisition of the Weyerhaeuser property for rail frontage. There are some limited areas of wetlands. Public water service is along Riggs Road (SR 1428), while public sewer service will require extension for several miles. Riggs Road (SR 1428) is currently a two lane roadway and will require improvements. The long-range transportation plan proposes a four-lane divided facility through widening and the addition of new roadway segments, connecting and providing improved access to US 17 and NC 24.

##### *Onslow County Economic Development Summary*

With direct access to a rail line and minimal presence of wetlands, the Weyerhaeuser and Brunswick Timber properties provide the greatest opportunities for future economic development for a large-scale industrial/business park. It is not unusual for utility extensions and/or off-site roadway improvements to be provided for creation of “shovel-ready” large-scale economic development projects and the attraction of potential users. Specific improvements will be determined per the proposed use(s) at the time of site plan approval and/or the rezoning of the property. In addition, although the proposed Hanson Aggregate project on the JE McCotter Land tract is a relatively small economic development endeavor, it provides the opportunity to establish future shared mechanisms for public-private working relationships in attracting greater economic development.

#### **B. Potential Properties for Economic Development - Craven County** (See **Figure 9**, Weyerhaeuser – Craven County Preliminary Conceptual Land Use Plan)

The Weyerhaeuser Company (Milepost 28) owns approximately 1,715± acres (currently called Craven 38) along the eastern end of the CPLJ in Havelock. A Preliminary Conceptual Land Use Plan has been prepared with a mix of uses and approximately 142.0± acres of proposed light industrial uses adjacent to the CPLJ and Lake Road. Public water and sewer service are currently being extended to market the “pad-ready” sites for development.

##### *Craven County Economic Development Summary*

The adjacent rail properties in Craven County consist primarily of National Forest or private recreational game-hunting land. Coastal wetlands are more prevalent in Craven County, with only a small portion of the land adjacent to the

rail potentially available for economic development. The Weyerhaeuser Company property provides the most likely opportunity for future economic development along the CPLJ.

## 4.0 Economic Development Opportunities

### 4.1 Economic Context

#### *Summary of Existing Industry and Employment Data*

The Camp Lejeune Rail Line (CPLJ) study area crosses through four counties in eastern North Carolina: Onslow, Craven, Jones, and Carteret. Located in North Carolina's Southeast Prosperity Zone, the study area is anchored by the larger population and employment centers in Onslow County (Jacksonville metropolitan statistical area) to the south and Carteret County (New Bern micropolitan statistical area) to the north.

**Table 1. Labor Force in Study Area Counties as Compared to North Carolina as a Whole (2014)**

	<b>North Carolina</b>	<b>Onslow</b>	<b>Craven</b>	<b>Jones</b>	<b>Carteret</b>
Civilian Labor Force (both employed and unemployed)	4,879,000 98%	68,000 69%	46,000 88%	5,000 >99%	34,000 97%
Armed Forces	86,000 2%	31,000 31%	6,000 12%	>0 <1%	1,000 3%
Total Labor Force	4,965,000	99,000	52,000	5,000	35,000
Average Weekly Wage, All Industries	\$842	\$613	\$771	\$601	\$580
Unemployment Rate (December 2015)	5.4%	5.7%	5.7%	5.7%	5.6%

*Source: U.S. Bureau of Labor Statistics, American Community Survey 2014 (employment figures, rounded to nearest 1,000) and NC Department of Commerce (unemployment rates and average weekly wages)*

As compared to the rest of North Carolina and surrounding counties, Onslow County and Craven County have significantly greater percentages of labor force in the military workforce. Wages in the study area counties are generally lower than the statewide average.

Per the North Carolina Department of Commerce Labor & Economic Analysis, unemployment rates in the Southeast region have been generally declining but remain somewhat higher than the state as a whole. Recent job growth has been primarily in government, food service, retail, education, and health care.

**Table 2. Civilian Employment and Wages by Industry (2014)**

<b>Industry</b>	<b>North Carolina</b>	<b>Onslow</b>	<b>Craven</b>	<b>Jones</b>	<b>Carteret</b>
Education and Healthcare	1,011,582	12,655	9,570	1,234	5,947
Manufacturing	535,084	1,912	4,230	475	1,869
Retail Trade	506,433	8,067	4,503	389	3,909
Professional Services	431,640	5,064	2,873	304	2,839
Entertainment and Recreation	402,861	8,434	4,102	217	3,918
Construction	284,986	4,777	2,406	275	2,475
Financial Services	268,732	2,412	1,531	134	1,881
Other services	211,390	2,714	2,093	162	1,469
Public Administration	195,091	8,479	4,726	275	2,760
Transportation, Warehousing and utilities	184,221	2,470	1,691	206	1,177
Wholesale Trade	118,706	749	431	114	583
Information	77,183	975	631	50	319
Agriculture, Forestry, Fishing and Hunting, and Mining	59,781	752	899	389	581

Source: U.S. Census Bureau, American Community Survey 2014

Employment in natural resource- and construction-related industries is generally higher in the study area than for the state as a whole. Jones County has a significantly higher dependence on agriculture-related industries than most of the state.

Manufacturing-related employment is underrepresented in the study area, particularly in Onslow and Carteret Counties (**Figure 10**). Across all counties, service-related industries and occupations make up a lower percentage of employment than is seen in the rest of North Carolina. Conversely, these counties have a high proportion of public administration jobs (state and local government), at 50 percent (50%) to more than 200 percent (200%) higher than the statewide average.

Jacksonville and Onslow County are home to Marine Corps Bases Camp Lejeune and New River Air Station. These bases offer a trained labor pool; an average of 9,500 annual exiting personnel are available to the local economy. Military retirees can offer skill sets, experience and education needed by regional employers. This may include unique training in technology and logistics, fiscal/financial management, and operations.

## Market Outlook

The North Carolina Department of Commerce publishes annual projections for the state and for its individual Prosperity Zones. These projections, which are based on historical data and current economic and industry trends, provide a guide for how the state industry landscape may develop into the future. The most recent projections, which cover the years 2012 to 2022 for approximately 400 industries, are summarized below for the Southeast Prosperity Zone.

**Table 3. Industry Growth Projections for Southeast Prosperity Zone (2012-2022)**

Industry (3-Digit NAICS)	Employment		Projected Growth	
	2012	2022	Jobs	%
Construction (236-238)	18,050	24,764	6,714	37%
Healthcare (621-624)	50,919	68,795	17,876	35%
Entertainment, Recreation, Accommodation & Food Service (711-722)	39,286	47,292	8,006	20%
Services (522-562, 811-814)	83,441	95,266	11,825	14%
Education (611)	28,873	32,468	3,595	12%
Plastics & Rubber Products (326)	749	830	81	11%
Retailers (441-454)	46,049	50,598	4,549	10%
Wholesalers (423-425)	11,314	12,474	1,160	10%
Nonmetallic Mineral Products (327)	1,586	1,719	133	8%
Metal Manufacturing (331-339)	11,767	12,201	434	4%
Transportation & Distribution (481-493)	7,912	8,243	331	4%
Government (999)	38,800	38,545	(255)	-1%
Delivery Services (491-493)	2,881	2,834	(47)	-2%
Wood Products (321-323)	2,281	2,163	(118)	-5%
Information (511-519)	3,622	3,441	(181)	-5%
Mining & Extractives (212-213)	227	211	(16)	-7%
Utilities (221)	2,132	1,976	(156)	-7%
Food Production (311-312)	10,495	9,760	(735)	-7%
Chemical Products (325)	1,831	1,596	(235)	-13%
Petroleum & Coal (324)	52	44	(8)	-15%
Apparel & Textiles (212-213)	1,303	851	(452)	-35%
Agriculture (111-115)	3,994	2,596	(1,398)	-35%

Source: North Carolina Department of Commerce, Occupational Projections - Southeast Region

## **4.2 Economic Development Opportunities**

### *Summary of Existing Land Use Plans and Economic Development Data*

Economic development opportunities along the CPLJ would ideally focus on those industries that:

1. Would benefit from rail access for movement of large or heavy materials and products;
2. Can be supported by the local workforce, as demonstrated by regional industry clusters and existing employment; and
3. Are projected to realize sustained positive growth.

Potential rail-served industries in the Southeast Prosperity Zone include construction, manufacturing of various durable and non-durable goods, wood products, chemicals, mining and extractives, agriculture, and food production.

The construction industry could benefit from more cost efficient movement of heavy construction materials and large equipment to align with the region's strong projected growth in construction employment. In its 2016-2025 State Transportation Improvement Program (STIP), the NC Department of Transportation (NCDOT) has included approximately \$2.036 billion in highway and other transportation improvements within Highway Divisions 2 and 3, which encompasses the southeastern counties in the state.

Manufacturing facilities often seek to locate along rail lines to support the transport of raw or in-process materials for production, or completed products for distribution. Evaluation of growth projections using North American Industry Classification System (NAICS) industry classifications projects each of the Plastics & Rubber Products, Non-Metallic Mineral Products, and Metal Manufacturing industries to grow in the region.

Regional employment in Wood Products is projected to drop somewhat over the next decade, which is consistent with broader regional trends that show a flattening of this market across the U.S. Southeast. As evidenced by Weyerhaeuser proposals for commercial development of its parcels in Craven County, some timberlands are being converted to other uses. Timber and wood products remain a strong component of the North Carolina economy, however, and longer-range development plans could provide a near-term opportunity to take advantage of existing timber properties adjacent to the rail line.

While also typically users of rail, Mining & Extractives and Petroleum & Coal industries represent a very small share of regional employment. These industries are projected to further shrink in coming years.

Food Production employment within the Southeast region is also projected to decline somewhat. At nearly 10,000 jobs, however, food production and meat processing could

still present an economic opportunity to the study area due to its proximity to agricultural lands. Agriculture is also a key industry in the North Carolina economy.

A review of existing businesses within the four study area counties reveals certain industry clusters that meet the three criteria described above. The counties along the CPLJ support a number of Metal Products & Metalworking industries, as well as Wood Products and Timber Production sites. Mining & Extractives and Petroleum & Coal sites do not have a significant presence within the study area counties.

Target industries for sites along the CPLJ include:

- Construction Materials & Equipment
- Metal Products
- Wood Products

**Table 4. Construction, Manufacturing, Agriculture and Food Production Sites in Study Area Counties**

<b>Industry</b>	<b>No. of Sites</b>	<b>Average Site Size (SF)</b>	<b>Total Employees</b>
<b>Carteret</b>			
Apparel & Textiles	9	10,307	228
Construction Equipment	3	33,238	116
Construction Materials	11	13,162	132
Electronic Equipment Manufacturing	10	14,313	279
Plastic & Rubber Product Manufacturing	5	11,137	100
Sporting Goods Manufacturing	2	82,500	310
Agriculture: Dairy Products	1	150,000	164
Metal Products & Metalworking	18	31,792	1118
Metal Products: Machinery Manufacturing	4	37,489	1246
Metal Products: Material Handling Equipment Manufacturing	1	50,000	57
Wood: Furniture Manufacturing	10	8,705	88
Wood: Lumber & Plywood Product Manufacturing	4	219,857	256
Wood: Timber Operations	1	11,178	6
<b>Craven</b>			
Apparel & Textiles	2	5,074	52
Chemical Manufacturing	2	11,065	20
Metal Products & Metalworking	1	5,271	6
Plastic & Rubber Product Manufacturing	2	27,601	27
Wood: Lumber & Plywood Product Manufacturing	1	420	15



<b>Industry</b>	<b>No. of Sites</b>	<b>Average Site Size (SF)</b>	<b>Total Employees</b>
Wood: Lumber Wholesalers	1	2,000	62
Wood: Timber Operations	2	37,492	624
<b>Jones</b>			
Metal Products & Metalworking	1	20,225	20
Plastic & Rubber Product Manufacturing	3	17,893	88
Agriculture: Meat Products	1	3,000	8
<b>Onslow</b>			
Agriculture	3	4,206	45
Apparel & Textiles	2	4,784	18
Automobile Parts Manufacturing	2	55,711	374
Biotechnology Manufacturing	1	23,828	25
Construction Equipment	1	5,556	8
Construction Materials	6	12,523	105
Electronic Equipment Manufacturing	2	12,014	38
Metal Products & Metalworking	9	5,802	83
Nonmetallic Mineral Mining & Quarrying	2	4,896	31
Plastic & Rubber Product Manufacturing	1	6,000	11
Agriculture: Hog and Pig Farming	2	5,189	29
Wood: Lumber & Plywood Product Manufacturing	1	6,875	14
Wood: Timber Operations	6	9,850	99

*Source: Moody's*

The Onslow County Future Land Use Plan proposes Medium-Density Residential along the east urban fringe of the City of Jacksonville and north of NC 24, and Rural Residential and Agricultural/Forestry uses east to the White Oak River. Amendment of the Land Use Plan and Zoning Map will be required if a use is desired other than what is permitted.

### *Stakeholder and Potential Client Interview Results*

#### Weyerhaeuser

Weyerhaeuser (Milepost 8 & 28) owns significant acreage of property that abuts the CPLJ in both Onslow and Craven Counties. This includes 286.03+/- acres off of Riggs Road (SR 1428), adjacent to and along the north side of the CPLJ, and two parcels totaling 2,448 +/- acres in Craven County off of Lake Road (SR 1756), west of Havelock. One thousand seven hundred (1,700) of the 2,448 acres have been conveyed from Weyerhaeuser Timberlands to Weyerhaeuser NR; the remaining balance will be

conveyed to WNR in the future. Weyerhaeuser has been working on the planning and due diligence on the 1,700 acres for three years, focusing on a mixed-use type of development that would include residential, commercial, and light industrial use. The Craven County-Lake Road (“Craven 38”) site has been surveyed, and Weyerhaeuser is currently in the process of extending utilities from Havelock to the site. They plan to market the Craven County-Lake Road site as shovel-ready in order to attract economic development to Craven County, including the option of support services for Cherry Point. Informational materials for the Craven 38 development identify potential rail access to the Port of Morehead City for wood pellet production as a site benefit.

### NCDOT

NCDOT (Division 3, District 1 Office) reviewed the Conditional Use Rezoning Site Plan with the proposed access drive onto Walton Road (SR 1459) from the JE McCotter parcels. It was determined that, although the location is not ideal, access to the site could not be denied. Improvements to Walton Road (SR 1459) will be required to increase the structural capacity for truck traffic. No Traffic Impact Analysis is required for the increase in traffic from Walton Road (SR 1459) onto NC 24. The NCDOT Rail Division will determine any improvements required for the railroad crossing.

### Lehigh Hanson

Lehigh Hanson identified the JE McCotter Land Company (Milepost 4.8) parcels for potential use for the handling of aggregate to support local construction projects. Efforts began in 2013 to secure rail service and to option and rezone the land. They experienced no opposition to the rezoning process involving the JE McCotter Land Company parcels. Adjacent property owners attended the rezoning public hearing and were informed of the proposed operation. Lehigh Hanson’s private consultant handled coordination with the County Commissioners.

### Norfolk Southern

Norfolk Southern (NS) has been working with Lehigh Hanson for more than four years to identify a solution to provide railway service for aggregate products on the CPLJ. While no other potential rail customers have approached NS requesting commercial rail service along the line, it is the railroad’s experience that those opportunities typically arise after the first service is initiated.

### North Carolina Ports

NC Ports has been working with private developers to take advantage of the demand for wood pellet exports, primarily to European markets, as a replenishable energy source. The near-term opportunities, however, have focused on facilities near the Port of Wilmington. While Weyerhaeuser has indicated wood pellets as a possible use for the industrial sites proposed as part of the Craven 38 (Milepost 28) development, the

possible export of wood pellets through the Port of Morehead City has not been discussed by Weyerhaeuser with NC Ports staff.

### 4.3 Potential Economic Development Sites

#### *Infrastructure Required for Potential Rail-Served Commercial Users*

As discussed in Section 3.0, the project study area features several large tracts of developable land adjacent to the CPLJ for extension of future rail spurs. Each of the properties, or combination of properties, may be developed for a large single user or creation of an industrial/business park. Typical industrial/manufacturing sites may require off-site roadway improvements and utility upgrades/extensions.

Potential industrial/business sites/parks will also require some type of off-site road improvements, including turn/deceleration lanes, roadway widening, addition of new roads, and/or potential traffic signals. Specific improvements will be determined by the proposed use(s) and anticipated traffic at the time of site plan approval and/or rezoning of the property. There were no clearance restrictions identified along the CPLJ that may limit the transport of dimensional loads; however, it should be noted that the construction of the proposed Havelock Bypass project in Craven County (*see page 29*) includes a new bridge crossing over the CPLJ. Utility extensions and/or upgrades may be required, ranging from upsizing of water and sewer lines to extensions of public services. All of the sites will require increased power supply, natural gas and fiber/telecommunications services. The potential sites for economic development are listed below in **Table 5**:

**Table 5. Targeted Economic Development Sites**

Site	Acreage	Location	Notes
1 – JE McCotter (Milepost 4.8)	80	Onslow County	Proposed site for Hanson Aggregate operation. Water service extends to the site at Daly Street (SR 1884) and Wood Road (SR 1414). Depending on the use, sewer may be extended from nearby Harbord Drive or septic may be utilized. Walton Road (SR 1459) will require improvements for additional truck loads and increased traffic. Additional roadway access will need to be determined based on the approved rezoning conditions.
2 – Onslow 22 (Milepost 6)	921	Onslow County	Four parcels north of the rail line. Water and sewer service are accessible from the western edge of the property. Road access is limited through residential subdivision/neighborhoods; therefore, alternate routes will be required to access the site for industrial uses. The sites will also need to be rezoned to accommodate industrial/business users.

<b>Site</b>	<b>Acreage</b>	<b>Location</b>	<b>Notes</b>
3 – Weyerhaeuser (Milepost 8)	286	Onslow County	Property has access from Riggs Road (SR 1428) approximately two miles north of the intersection with NC 24. Public water service is accessible off Riggs Road (SR 1428). Sewer service will require utility extension for several miles. Riggs Road (SR 1428) is currently a two-lane roadway and will require improvements. The long-range transportation plan proposes a four-lane divided facility through widening and the addition of new roadway segments connecting and providing improved access to US 17 and NC 24. The property will require rezoning for industrial/business users.
4 – Brunswick Timber (Mileposts 8 & 9)	2,632	Onslow County	Properties lie north of the rail line and are divided along the west and east sides of Riggs Road (SR 1428). Vehicular access to the east and west parcels is off Riggs Road (SR 1428), approximately three miles north of intersection with NC 24. Potential secondary access to the eastern property exists off Parkertown Road (SR 1432) with the purchase of a small parcel. The eastern property has rail access, while the western tracts would require acquisition of the Weyerhaeuser property for rail frontage. Public water service is along Riggs Road (SR 1428) while public sewer service will require extension for several miles. Riggs Road (SR 1428) is currently a two-lane roadway and will require improvements. The long-range transportation plan proposes a four-lane divided facility through widening and the addition of new roadway segments connecting and providing improved access to US 17 and NC 24. The properties will require rezoning for industrial/business development.
5 – Craven 38 (Milepost 28)	1,715	Craven County	Weyerhaeuser Real Estate Development Company has prepared a master plan for mixed-use development east of Lake Drive to take advantage of anticipated increased commercial and housing demand from the Cherry Point Marine Corps Air Station. Preliminary planning provides for 140 acres of light industrial use, including six rail-served parcels comprising approximately 100 acres, as well as 900 acres of commercial, medical and residential development. There was previous development interest in the industrial sites adjacent to the railroad for wood pellet manufacturing. Boundary survey, wetland determinations and extension of public utilities are underway to market the sites as “pad ready”.

With direct access to a rail line, the Weyerhaeuser (Milepost 8) and Brunswick Timber (Mileposts 8 & 9) properties provide the greatest opportunities for future economic development for a large-scale industrial/business park. It is not unusual for utilities extensions and/or off-site roadway improvements to be provided for creation of “shovel-ready” large-scale economic development projects and the attraction of potential users. In comparison, the proposed Hanson Aggregate project on the JE McCotter (Milepost 4.8) land is a relatively small economic development endeavor; however, it provides the opportunity to establish future shared mechanisms for public-private working relationships in attracting greater economic development.

## 5.0 Infrastructure Needs

### 5.1 Roadway Infrastructure

#### *Existing Roadway Network*

##### Major Thoroughfares

NC 24 (Lejeune Boulevard) is a major thoroughfare in Jacksonville that provides the main access point to Camp Lejeune. It is also the major east-west facility through the Jacksonville urban area. West of the US 17 split towards Richlands, NC 24 is a five-lane section with two travel lanes and a center bi-directional turn lane. At its intersection with the Camp Lejeune Rail Line (CPLJ), NC 24 is a four-lane median-divided facility. US 17 (Marine Boulevard) is a four-lane, median-divided roadway facility northeast of Jacksonville that extends between Wilmington and New Bern. Both NC 24 and US 17 are designated as non-Interstate Strategic Highway Corridor Network (STRAHNET) routes. Piney Green Road (SR 1406) is a major thoroughfare that provides a direct link between NC 24 and US 17. Piney Green Road (SR 1406) is currently being widened from a two- and three-lane roadway facility to a multilane facility between NC 24 and US 17 for a distance of 6.6 miles, including a railroad crossing with the CPLJ. NC 58 is a two-lane, two-way roadway facility that extends from US 17 in Maysville through Swansboro towards NC 24 and provides access to the beaches in Carteret County. US 70 is the main roadway corridor through the City of Havelock in Craven County, and it provides highway access to Cherry Point and NC 101.

##### Secondary Road Network

In addition to Piney Green Road (SR 1406), the secondary roads that have at-grade rail crossings with the CPLJ include:

- Lake Street (SR 1812)/Harbord Drive (SR 2307)

Lake Street/Harbord Drive (SR 1812/SR 2307) is a two-way residential road with unpaved shoulders. Mobile homes and single family homes are located on either side. South of the CPLJ, Lake Street provides direct access to NC 24 with a stop-controlled intersection with no median crossover.

- Walton Road (SR 1459)

Walton Road (SR 1459) is currently a two-lane, two-way roadway facility with valley gutters and drop inlets on the north side of the crossing and unpaved shoulders on the south side. It provides access to a residential mobile-home community and to Daly Street (SR 1884), which parallels the CPLJ right-of-way beginning at Harbord Drive (SR 2307) and ending just east of Walton Road (SR

1459). Walton Road (SR 1459) also provides direct access to NC 24 with a stop-controlled intersection.

- Riggs Road (SR 1428)

Riggs Road (SR 1428) is a two-lane, two-way road with unpaved shoulders and single-family homes located on either side. NC 24 must be accessed via Hubert Boulevard (SR 1744), which has a stop-controlled intersection with Riggs Road (SR 1428), and Old Highway 172, which has a signalized intersection with NC 24.

- Parkertown Road (SR 1432)

Parkertown Road (SR 1432) is a two-lane, two-way road with unpaved shoulders and single-family homes located on either side. NC 24 must be accessed via Hubert Boulevard, which has a stop-controlled intersection with Parkertown Road (SR 1432), and Old Highway 172, which has a signalized intersection with NC 24.

- Belgrade-Swansboro Road (SR 1434)

Belgrade-Swansboro Road (SR 1434) is a two-way, two-lane rural roadway with unpaved shoulders. It provides direct access to NC 24 with signalized intersection.

- Wetherington Landing Road (SR 1101)

Wetherington Landing Road (SR 1101) is a rural two-way, two-lane road with paved shoulders and a one-direction no-passing zone near the rail line. Single-family homes are located on one side of the road while the other side consists of wetlands.

- Farin Ward Road (SR 1102)

Farin Ward Road (SR 1102) is located in a residential area with single-family homes located on both sides. It is a two-way, two-lane road with unpaved shoulders and one- and two-direction passing zones.

- Morristown Road (SR 1103)

Morristown Road (SR 1103) is a two-way, two-lane road that extends from NC 58 to Wetherington Landing Road, with paved shoulders and single-family homes located on either side of the road.

- Lake Road (SR 1756)

Lake Road (SR 1756) is a rural two-way, two-lane road with paved shoulders.

### *Proposed Transportation Improvements Near the CPLJ*

There are several projects listed in the 2016-2025 NCDOT State Transportation Improvement Program (STIP) that are located in the general vicinity of the study area. The nearly complete STIP Project U-3810 widens Piney Green Road (SR 1406) to a four-lane median-divided curb-and-gutter facility, part on new location, from US 17 to NC 24 in Jacksonville for a total distance of 6.6 miles. Construction began in 2012. U-3810 is identified as Priority 2 among the top 25 highway projects in the Jacksonville LRTP.

STIP Project R-1015 is the Future I-42/US 70 Havelock Bypass located in Craven County. It proposes to construct a four-lane median-divided highway with full access control on new location from north of Pine Grove to north of the Carteret County line. The length of the project is 10.1 miles. The project includes three grade-separated railroad crossings, one of which involves a bridge crossing over the CPLJ. The project design was developed to provide an adequate horizontal clearance of 20 feet and vertical clearance of 23 feet. No changes to rail travel patterns are proposed, and the design of the project does not account for potential future additional rail lines.

There are also two bridge replacement projects in the vicinity of the study area listed in the STIP: Bridge #33 on US 17 (Northbound lane) over Wolf Swamp (B-5652), and Bridge #7 on NC 24 (Westbound lane) over Northeast Creek (B-5650).

There are two proposed railroad crossing improvements being managed by the NCDOT Rail Division that include the installation of gates and flashing lights at Wetherington Landing Road (SR 1101) (Z-5400BH) and at Farin Ward Road (SR 1102) (Z-5400GI).

EB-4705 is a multi-use project to be located on the south side of NC 24 (Lejeune Boulevard) from Montford Point Road to the existing Rail Trail for a length of 1.5 miles. There is a multi-use project listed in the LRTP that proposes to construct a multi-use path adjacent to NC 24 on the south from Holcomb Boulevard to Piney Green Road (SR 1406) and connect to the existing facility along Piney Green Road (SR 1406). This creates a continuous network of multi-use paths from Camp Lejeune and the MPO boundary to Jacksonville. The Lejeune Railroad Greenway is a multi-use path proposed in the JUMPO LRTP to be located within the CPLJ easement. It follows the rail line (approximate Mileposts 3.15 to 8.4) and extends from NC 24 to Riggs Road (SR 1428).

U-4007E is an intersection upgrade on US 17 at NC 53 (Western Boulevard) and at Piney Green Road (SR 1406). It is one of five segments of the larger U-4007 project that



proposes to widen US 17 to a freeway/expressway from the Jacksonville Bypass to Drummer Kellum Road (SR 1326), for a total project length of 1.4 miles:

- U-4007A: Bell Fork Road (SR 1308) to East of Western Boulevard (SR 1470)
- U-4007B: Country Club Road (SR 1403) to Western Boulevard (SR 1470)
- U-4007C: Western Boulevard to Fairway Drive – Add additional lanes
- U-4007D: US 17, Fairway Drive to Drummer Kellum Road (SR 1326) – Add additional lanes

U-4007A & B are complete. U-4007E is also listed in the JUMPO 2040 LRTP.

STIP Project U-5741 involves access management, ITS, and drainage improvements on NC 24 (Lejeune Boulevard) from NC 24 Business (Johnson Boulevard) to the Jacksonville Urban area boundary. It has been identified as Priority 13 among the top 25 highway projects in the JUMPO 2040 LRTP.

The Waters Road (SR 1411)/Old 30 Road (SR 1423) Extension project is listed as Priority 21 among the top 25 highway projects in the JUMPO 2040 LRTP. The project proposes a continuous four-lane divided facility between US 17 at Ramsey Road (SR 1324) and NC 25 at NC 172. It will provide a link between the primary routes of NC 24 and US 17, enhancing north-south mobility in Jacksonville.

### *Recommended Roadway Improvements*

In addition to the projects cited in the state and local transportation plans, limited transportation improvements may be necessary in order to provide access to the potential economic development properties identified in Section 3.0. Based on input from the JUMPO, the costs of these transportation improvements would be funded entirely by the developer. The estimated roadway improvement costs include pavement upgrades, earthwork, and drainage. The costs discussed in the following section are conceptual and would need to be refined as further design and traffic information is available. These costs also do not account for any right-of-way acquisition that may be necessary.

### JE McCotter Tracts

Walton Road (SR 1459) provides access to the JE McCotter Tracts. Pavement improvements will likely be necessary for a portion of the roadway extending from NC 24 to Daly Street (SR 1884) to account for additional tonnage carried by truck traffic. The road would also have to be widened to 12-foot (12') lanes to account for additional traffic and to meet NCDOT roadway standards. Direct roadway access from Walton Road (SR 1459) to the McCotter tracts is provided via Daly Street (SR 1884), which is located within a mobile-home community. Daly Street (SR 1884) is a two-way

road that dead ends at a vegetative area. Pavement improvements will likely be necessary on the portion of Daly Street (SR 1884) east of Walton Road (SR 1459). Access via Walton Road (SR 1459) could also be provided on a new facility, located south of Daly Street (SR 1884) but outside of the CPLJ right-of-way.

Located off of Lake Cole Road (SR 1415), Wood Road (SR 1414) is a two-way residential road that serves a mobile-home community. It has no shoulders and dead ends at a vegetative area. Improvements to the length of Wood Road (SR 1414) will involve pavement upgrades and widening to 12-foot (12') lanes to meet roadway standards and to account for the additional truck traffic. Because Wood Road (SR 1414) is located off of Lake Cole Road (SR 1415), roadway improvements may be necessary at its intersection with Lake Cole Road (SR 1415), as well as on Lake Cole Road (SR 1415) between Rocky Run Road (SR 1413) and Wood Road (SR 1414) to account for the additional weight from the truck traffic.

Currently, under the JE McCotter Land Company, LLC Rezoning Condition, *all truck traffic associated with non-residential use is prohibited from using Wood Road (SR 1414) and Daly Street (SR 1884)*. Rezoning would be necessary to allow for any additional truck traffic in relation to development.

**Table 6. Access to JE McCotter Tracts – Estimated Roadway Improvement Costs**

Road Name	Total Cost (\$)
Walton Road (SR 1459)	1,400,000
Wood Road (SR 1414)	975,000
Lake Cole Rd (SR 1415) (from Wood)	1,100,000
Daly Street (SR 1884)	325,000

Onslow 22 Tract

Finch Lane is a private dirt road that provides access to the property owned by Onslow 22. It is located in a residential area off of Lake Cole Road (SR 1415). While the purchase of Finch Lane and its roadway improvements will be left to the discretion of the developer, roadway upgrades may be necessary for Lake Cole Road (SR 1415) from Rocky Run Road (SR 1413) to Finch Lane, as well as at its intersection with Finch Lane. These improvements may include pavement design, shoulders and widening in order to meet NCDOT roadway standards for the potential additional truck traffic. Old Towne Pointe Boulevard is a two-way divided roadway located in a residential neighborhood. It provides access to Onslow 22 tract that is being developed for a residential neighborhood. No truck traffic is likely to use this road for access.

**Table 7. Access to Onslow 22 Tract – Estimated Roadway Improvement Costs**

Road Name	Total Cost (\$)
Lake Cole Rd (SR1415) (from Finch)	900,000

## Brunswick Timber Properties

Riggs Road (SR 1428) will likely need pavement upgrades extending from Hubert Boulevard to Smith Road. Because Riggs Road (SR 1428) does not directly access NC 24, upgrades to turnouts at its intersection with Hubert Boulevard (SR 1744) may be necessary. Upgrades to the Old 172 Highway (SR 1749) and NC 24 signalized intersection may be necessary as well.

Roadway improvements for the length of Parkertown Road (SR 1432) may also be necessary. Parkertown Road (SR 1432) also does not provide direct access to NC 24. Direct roadway access from Parkertown Road (SR 1432) to the Brunswick Timber Properties can be provided on a new facility. Upgrades may be necessary to the turnouts at Parkertown Road's intersection with Hubert Boulevard (SR 1744) as well as to the signalized intersection of Old 172 Highway (SR 1749) and NC 24. There is an intersection at Hubert Boulevard (SR 1744) and NC 24 that provides additional access to Parkertown Road (SR 1432). It may be necessary to increase right lane storage lengths on NC 24 at this intersection. To account for potential additional truck weight and volume of traffic, pavement improvements may be necessary for the length of Hubert Boulevard (SR 1744) and for Old 172 Highway (SR 1749) between NC 24 and Hubert Boulevard (SR 1744).

**Table 8. Access to Brunswick Timber Properties – Estimated Roadway Improvement Costs**

<b>Road Name</b>	<b>Total Cost (\$)</b>
Riggs Road (SR 1428)	5,450,000
Hubert Boulevard (SR 1744)	301,000
Parkertown Road (SR 1432)	5,400,000
Old Highway 172 (SR 1749)	400,000

## Weyerhaeuser Co. Tract

An access road off of Riggs Road (SR 1428) within the CPLJ right-of-way provides access to the Weyerhaeuser Co. Tract. The purchase of and the improvements made to the access road will be at the discretion of the developer. The aforementioned improvements to Riggs Road (SR 1428) will still be necessary.

**Table 9. Access to Weyerhaeuser Co. Tract – Estimated Roadway Improvement Costs**

<b>Road Name</b>	<b>Total Cost (\$)</b>
Riggs Road (SR 1428)	5,450,000

## 5.2 Rail Access and Infrastructure Enhancements

Freight railroads depend far more heavily on scale economies and density of use to provide cost-efficient and cost-competitive service than do motor freight competitors. The latter enjoy broad, low-cost access to a comprehensive network of publicly-financed and maintained highways, allowing truckers to easily serve even occasional or light-volume shippers. In contrast, railroads must build (or lease) relatively expensive infrastructure to serve occasional customers.

This contrast between economic structures challenges those seeking to preserve freight rail service over light-density lines. Infrastructure expenses are semi-fixed over a broad volume range on a rail branch line, meaning that service to a few remaining customers along a line quickly becomes uneconomic because the fixed cost of preserving the line must be shared across a smaller and smaller base. With infrequently used lines, most of the expense of maintaining the railroad's fixed facilities depends on time elapsed (i.e. scheduled preventative maintenance) rather than the volume of goods carried.

On the other hand, when a freight rail line is lightly used, new traffic can be added with little additional engineering or capital and maintenance investment. This is the case with the CPLJ. New commercial traffic can be added to the existing military traffic, with only very modest impacts on the costs associated with maintaining the line. A specific mechanism to offset these modest infrastructure impacts is described below.

### *Rail Access and Infrastructure Enhancements*

The CPLJ extends from Milepost 0.0 at the entrance to the Marine Base to Milepost 29.6 at Havelock South, where it connects to the Class I railroad (operated by Norfolk Southern) between Morehead City and New Bern. Outside yard limits, the line is currently operated as a Federal Railroad Administration (FRA) Class 2 railroad, with an authorized track speed of 25 MPH. It should be noted that this differs from Class 3 FRA standards prescribed in the USMC-NS trackage agreement. No documents were made available to the study team to reconcile this discrepancy; however, it is assumed that the reduced standard was agreed upon by both parties to eliminate unnecessary maintenance costs on the light-density line. Class 2 track is appropriate for the CPLJ current use.

The track consists primarily of 90-pound bolted or jointed rail, most of which was rolled in 1953 when the line was built. Some heavier 132-pound rail was observed in and around the curve at Stella, while 115-pound rail is used from the Marine Base to the end of yard limits at Camp Lejeune North (about Milepost 3.0). Tie spacing appears to average about 21 inches. The rail line is largely straight and flat with a maximum localized grade of 0.6 near Queen Creek, per track chart data. The railroad is single-track, except for a one-mile-long passing siding at Stella (near Milepost 15.6).

**Table 10. CPLJ Track Characteristics**

<b>Milepost</b>	<b>Location</b>	<b>Description</b>	<b>Rail Weight</b>	<b>Length</b>
0.0 to 3.0	Camp Lejeune	Yard limits	115-pound (portion)	3 miles
7.2		Curve 3: 0.5 degree	90-pound	0.1 mile
12.3	South of SR 1434 and Webb Creek	Curve 4: 1.3-degree	90-pound	0.5 mile
13.5	South bank White Oak River	Curve 4: 2.5-degree	90-pound	0.2 mile
13.5 to 13.9	White Oak River	Railroad bridge	90-pound	0.4 mile
14.5	North of Weatherington (SR1101)	Curve 5: 3.0-degree	90-pound	0.3 mile
15.1 to 16.1	Stella Farn Ward Rd (SR 1102)	Passing siding; Curve 6: 2-degree	132-pound	1 mile (siding) 0.6 mile (curve)
17.2	Croatan National Forest	Curve 7: 0.5-degree	90-pound	0.4 mile
18.2	Croatan National Forest	Curve 8: 1.0 -degree	90-pound	0.3 mile
20.0	Croatan National Forest	Curve 9: 1.0-degree	90-pound	0.2 mile
22.0	Croatan National Forest	Curve 10: 0.3-degree	90-pound	0.2 mile
26.7	South of Lake Rd (SR 1756)	Curve 11: 1.0-degree	90-pound	0.4 mile
28.3	Croatan National Forest	Curve 12: 1.0-degree	90-pound	0.2 mile
29.6	Havelock South (connection to Class I railroad)	Curve 13: 4.0-degree	90-pound	0.3 mile

As described in more detail in Section 2.0, the railroad is in good physical condition. The rail exhibits little wear, and the condition of the ties and ballast are both good. With the exception of a few low spots that need to be addressed and some spot tie replacements, nothing further needs to be done to maintain the line at FRA Class 2 standards under today's usage. The line has been handling about 100,000 gross tons per year, which is considered very light density by modern freight rail standards. Using what has been proposed as part of the Hanson Aggregate site plan (JE McCotter Land tract), a

forecasted movement of about 2,000 to 2,500 cars of stone each year would add 300,000 to 400,000 gross tons to the existing military use. The line would still be considered light density under this scenario, but the additional tonnage would likely require an additional level of maintenance and some modest capital improvements to sustain the condition of the line.

The line has 13 curves, including 11 outside the base that could see commercial freight usage. Of those 11, five of the curves are greater than 1.0 degree of curvature. It would be prudent to replace the lighter rail in all of the curves greater than 1.0 degree. One of these curves, at Stella, already has rail heavier than 90 pounds. The curve at the beginning of the line at Havelock and the three curves just west of Stella should probably also have heavier rail if the line begins to handle freight. This would require track replacements totaling slightly more than one track-mile. Assuming a 100- or 115-pound rail section, the estimated cost of these track replacements is \$250,000 to \$350,000.

Any new rail-served industries along CPLJ would also require industrial leads or sidings to load and unload commercial goods without potential interference with military through-traffic. The potential configurations of these industry connections are shown on **Figures 7 and 11 through 13**. To accommodate a range of potential freight rail access needs at each site, double-ended access is provided. A minimum storage of five railcars should be provided for loading/unloading outside of the CPLJ right-of-way and allowance should be made for future connection for rail-served customers that may not be immediately adjacent to the CPLJ right-of-way.

**Table 11. Estimated Industrial Track Costs**

Site	Turnouts	Industrial Track	Total Cost
JE McCotter Tracts (Milepost 4.8)	\$150,000	\$770,000	\$920,000
Onslow 22 Tract (Milepost 6)	\$150,000	\$630,000	\$780,000
Brunswick Timber Properties (Milepost 8 & 9)	\$150,000	\$590,000	\$740,000
Weyerhaeuser Co. Tract (Milepost 8)	\$150,000	\$630,000	\$780,000

### 5.3 Conceptual Operations and Maintenance Cost Estimates

#### *Operations Cost*

Norfolk Southern (NS) currently operates and maintains the CPLJ with a crew that is based in New Bern. This crew works the line once or twice weekly as required. The line is generally served with a single locomotive and a two-person crew.

Commercial freight rail traffic identified by the team for potential use of the line is unlikely to trigger significant changes to the nature of the train operations. Today's level

of service is at a practical minimum for customers to be served, and new freight volumes from the potential users identified by this study would be easily handled by the crew and locomotives presently assigned to the CPLJ.

The typical labor cost for a shortline railroad<sup>4</sup> crew (including salaries, benefits, and overhead) is estimated to total about \$600 to \$750 per crew. The operating cost for fuel and locomotive supplies is estimated to add \$200 to \$250 per trip, depending on the price of fuel and type of locomotive utilized. Other costs would include weekly track inspection, electronic data reporting and other clerical and supervisory functions, car hire expenses (depending on the type of cars used), insurance, etc.

Operation costs are a component of the commercial rate paid by rail customers, including the military, to move railcars between specific locations. Camp Lejeune would bear no additional operating cost as a result of new commercial rail service on CPLJ as the commercial customers that cost would pay NS directly for this service.

### *Maintenance Cost*

Typically, shortlines spend about \$7,500 to \$10,000 per mile per year to maintain low-to mid-density track to FRA Class 2 standards (25 MPH). For the CPLJ, this level of expenditure will maintain the basic track infrastructure.

Incremental additional traffic usually has very little impact on railroad maintenance expenditures. For each typical loaded car/empty return cycle, about 160 gross tons are moved over the line. Each railcar delivered from Havelock to the Marine Base, therefore, represents about 4,800 gross ton-miles of rail traffic (160 gross tons x 30 miles). Work done previously by some track consulting companies indicates that the incremental maintenance cost of each additional car is about \$0.006 per gross ton mile above the basic track maintenance cost.

A significant increase in tonnage, however, would trigger a somewhat higher incremental cost per car. Using the potential stone trains as an example, 2,000 to 2,500 additional cars travelling 25 miles between the Hanson site and Havelock junction would add eight to 10 million gross ton-miles to the CPLJ. Since this traffic density would be three to four times the recent historic use of the line, this type of commercial rail service could increase the incremental maintenance cost to as much as \$0.01 per gross ton-mile, or \$75,000 to \$100,000 per year. On a per-unit basis, this represents an incremental maintenance cost of up to \$40 per car load. One way to address the additional maintenance costs would be for the user to pay a maintenance surcharge fee of \$40 per loaded railcar to the railroad operator, who would then be responsible for maintaining the track to prescribed standards.

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<sup>4</sup> A shortline is a railroad that does not meet Class I railroad thresholds of 350 miles of road or \$40 million in annual operating revenue.

### *Shortline vs. Class I Railroad Operating & Maintenance Costs*

It should be noted that Norfolk Southern's operating costs are likely somewhat higher than estimated here due to typical cost structure of shortlines as compared to Class I railroad operations, which favor longer-haul, point-to-point, and higher density freight service. Regardless, actual operating costs would be borne by the customer, and any costs required to move commercial freight would have no financial impact on USMC.

Similarly, shortline railroads generally can maintain their track at a lower cost than the Class I railroads due to their lower overheads and flexibility to competitively bid out and contract certain kinds of work. That said, the conservative maintenance cost figures presented herein would adequately address incremental costs resulting from proposed commercial rail service.



## **6.0 Governance**

### **6.1 Federal Governance, Liability, and Financial Issues**

#### *Federal Interests and Agreements*

##### Railroad Operations and Maintenance

The Department of the Navy has entered into a trackage agreement with Norfolk Southern (NS) for rail service over the Camp Lejeune Rail Line (CPLJ). The current agreement, executed in 1984 by the Government with the Camp Lejeune Railroad Company, was assigned to Atlantic & East Carolina Railway (a subsidiary of NS) in 1991. As part of its responsibilities under the trackage agreement, NS delivers and accepts loaded and empty rail cars to and from the military base.

The trackage agreement designates NS as a common carrier, which establishes the responsibility for NS to provide rail service to customers on the CPLJ upon reasonable request. NS is granted the right to move commercial and non-Government traffic over the Camp Lejeune Rail Line provided that it does not interfere with Government activities. The CPLJ trackage agreement states that NS may, at its own cost, construct turnouts, extensions and industrial spurs to serve industries or customers other than the Government. These rail facilities may not interfere with military activities and operations and require prior approval by the Camp Lejeune Commanding General; however, "Such approval...shall not be unreasonably withheld." To date, no new track connections have been approved by the Government or added by NS to serve potential customers along the rail line. Only military freight is currently handled.

Liabilities for death or injury are "subject to applicable laws," with certain indemnification offered to both parties of the agreement.

Under the trackage agreement, track maintenance responsibility is shared by the Government and NS to assure safe operation. The railroad is required to be maintained to minimum FRA Class 2 standards from Camp Lejeune to Milepost 3 and to Class 3 standards from Milepost 3 to the Havelock junction. NS is responsible to perform weekly track inspections and to provide routine track maintenance to correct any defects discovered. The Government is responsible for all other maintenance, for which the USMC has entered into annual services contracts with a third party to provide maintenance and repair of railroad trackage.

##### U.S Department of Agriculture- Forest Service Special Use Permit

The Croatan National Forest encompasses 160,000 acres in Jones, Carteret, and Craven Counties. Approximately 6.6 miles of the CPLJ falls within the national forest in Carteret and Craven Counties. The U.S. Forest Service, under the U.S. Department of Agriculture (Forest Service) has granted the Department of the Navy (Norfolk Naval Facilities Engineering Command) a 275-foot (275') Right of Way Easement within the national forest for the purpose of "Operating and Maintaining a Railroad on National

Forest Lands.” The original Special Use Permit granting the Easement was issued in 1951 and has been renewed as needed.

The current Special Use Permit, issued in 2004, expires in 2020; it authorizes the use of federally owned land without granting the Navy any permanent interest in the property. The Forest Service retains the right to use any portion of the Easement, as long as the use does not interfere with the Navy’s ability to operate or maintain the CPLJ. The Special Use Permit does not include any terms or conditions that prohibit commercial freight use of the CPLJ.

The Special Use Permit states that the holder of the permit “assumes all risk of loss to the authorized improvements.” The Permit holder, within legal limitations, is responsible for costs of damage and injury associated with the operations and activities authorized under the Permit.

The Special Use Permit includes an assignability clause, which states that the Permit is not assignable or transferable to another entity. Should the Navy decide to sell or transfer the CPLJ to another entity, the Permit may be terminated, and the Forest Service would determine whether to issue a new Special Use Permit to the new owner of the railroad. In this situation, the Navy would be required to provide documentation to the Forest Service that states the intent to transfer ownership, the proposed new owner, and the new owner’s proposed use of the facility. Upon receipt of this information, the Forest Service would review the condition of the facility and assess a right-of-way acreage fee to be paid by the new owner; this fee would be waived if the CPLJ is transferred to another public entity. If there is commercial freight use of the CPLJ at the time a new permit is requested, the Forest Service may consider including an operation and maintenance plan in the permit conditions in order to address any potential hazards associated with the additional facility use. According to Forest Service staff, the process of transferring a Permit to another entity is expected to take approximately three months following submittal of the initial request, depending upon the availability of staff. The Forest Service supervisor (located in Asheville) has final approval of any new Special Use Permit.

#### Management of U.S. Military-Owned Real Estate

The Naval Facilities Engineering Command (NAVFAC) Real Estate Division is responsible for the acquisition, management, and disposal of real estate interests required by the Navy and Marine Corps.

The Department of the Navy’s (DON) policy for acquisition, management, and disposal of real property and real property interests is described in SECNAV Instruction 11011.47C, published in 2013. The Navy’s general policy is that real property may only be acquired to meet the Navy’s military mission; when property is no longer needed, it should be sold (“disposed of”). However, the policy also recognizes that some unused property may be kept for future use, leased, or licensed. A lease is defined as an agreement that provides someone other than the owner “exclusive rights to possess, use, and enjoy that property for a specified period of time in exchange for consideration,”

while a license is defined as a nonexclusive grant “for a specific purpose ... on real property without [the licensee] possessing any estate or interest in it.” A license is also revocable at will. Finally, an “outgrant” is defined as “any agreement whereby a non-DON entity may ... enjoy an interest in, or use of, DON-controlled real property and includes leases, licenses, use agreements, ... easements, permits, rights of entry, or any other term applied to a similar agreement.”

The policy allows for real property to be made available for non-military uses under certain circumstances, including that “[its] use by others will not interfere with or adversely affect the accomplishment of the activity’s mission, or with the [Department of Defense’s] present or foreseeable use of the property,” and that “[the] use will be at minimal expense to DON.” Before making property available to users outside of the Navy, the agency must prepare an Environmental Condition of Property (ECP) report to analyze the property’s environmental condition and suitability for the proposed use. The policy generally requires such users to reimburse the Navy for administrative expenses and cost of utilities and services, in addition to “an amount not less than the fair market value of the property being used.” Typically a lease is granted for exclusive use (up to five years); therefore, a license or easement may be more appropriate in the case of the CPLJ to allow the Navy’s continued access to the track.

### Strategic Rail Corridor Network (STRACNET)

The Strategic Rail Corridor Network (STRACNET), established as the key component of the U.S. Military Railroads for National Defense (RND) Program, consists of 38,800 miles of rail lines important to national defense and provides service to 193 defense installations whose mission requires rail service. The STRACNET was developed in 1976 to satisfy a need for rail lines that were maintained and could be used in a defense emergency. The principal importance of STRACNET lines relative to other lines is the priority restoration of service in the event of any emergency that causes large-scale loss of rail lines. STRACNET is made up primarily of privately owned railroad rights-of-way operated by Class I carriers. In fact, in making designations of rail lines for inclusion within STRACNET, the Military Traffic Management Command (MTMC) seeks available rail lines with sufficient commercial traffic to assure ready availability of rail service and a good state of repair of the physical infrastructure.

Over the years, MTMC and the Federal Railroad Administration (FRA) have conducted periodic joint reviews for the STRACNET and connectors to ensure that previously designated lines continue to meet defense readiness requirements, and to review and update as necessary the list of military installations and activities requiring rail service.

In identifying rail lines within STRACNET, MTMC has recognized that traffic volume is a good indicator of rail viability. Rail viability for STRACNET means that the identified rail line can be expected to be available to provide rail service to the military, and it will be maintained to the class of track, load-bearing capabilities, and clearance requirements for military loads. For civil rail lines within STRACNET, annual traffic of at least 20 million gross tons (MGT) is considered sufficient to ensure that the line will

be well maintained. When traffic density falls below 20 MGT, MTMC may seek an alternate route available with higher density.

The Camp Lejeune Rail Line is one of 69 low-density (less than three MGT) defense connector lines designated by MTMC (See **Figure 14**).

**Table 12. Measure of Civil Rail Line Defense Readiness Condition**

	<b>Acceptable</b>	<b>Desirable</b>
<b>STRACNET</b>		
FRA Track Class	2	3+
Freight Train Speed (Maximum)	25 mph	40+ mph
<b>Connectors</b>		
FRA Track Class	1	2+
Freight Train Speed (Maximum)	10 mph	25+ mph

Source: Military Traffic Management command Transportation Engineering Agency, Strategic Rail Corridor Network (STRACNET) and Defense Connector Lines, December 1998

### *Codes and Regulations*

#### U.S. Code (USC) Title 49, Chapter 111 – Operation of Carriers

49 USC 111 defines the responsibilities of common carriers providing transportation services. Under the jurisdiction of the Interstate Commerce Commission (ICC), common carriers have the following responsibilities and obligations:

- Provide transportation or service to customers on reasonable request;
- During time of war or threatened war, give preference and precedence to the transportation of troops and material of war over all other traffic; and
- Deliver shipments consigned by the U.S. Government as promptly as possible.

As a common carrier for CPLJ, NS may be expected, or perhaps obligated by ICC regulation, to respond to reasonable requests for service by potential commercial users along the line, in addition to meeting its obligation for prompt delivery of military loads.

#### 2013 National Defense Authorization Act, Section 331

DODI 4000.19 "Support Agreements" grant military installations the authority to enter into Intergovernmental Support Agreements (IGSA) with state or local governments in order to enhance mission effectiveness and/or create efficiencies or economies of scale by sharing, providing or receiving installation support services.

An IGSA may be entered into on a sole-source basis, but cannot exceed a term of five years and are only permitted for services already provided by either the Marine Corps or the partnering state or local government entity. State or local governments may be compensated at wage grades determined by the Government for services provided. Public-private agreements are excluded from this authorization.

Memoranda issued by the Navy and the Marine Corps to clarify the intent of Section 331 further state that ISGA is a beneficial tool that will:

- Help sustain and enhance installation support of the Marine Corps mission;
- Foster healthy relationships with military communities; and
- Maximize the use of Navy/Marine Corps resources.

Through these memoranda, Regional Commanding Generals and Installation Commanders are encouraged to identify opportunities to enter into IGSA as a means to meet new fiscal realities and strategic priorities. It is acknowledged, however, that there are many open questions related to how IGSA will be identified and implemented.

## **6.2 Potential Sale, Transfer, or Lease of CPLJ Right of Way**

### *Legal and Operational Implications and Outcomes*

Review of available regulatory documentation and guidance identifies several alternative outcomes, opportunities, and challenges related to use of the CJLR right-of-way for commercial rail service. No legislation or restriction could be identified that precludes or prohibits the provision of commercial rail service to private customers over the Navy-controlled rail line.

It is recognized that any proposed solution for commercial rail service on CPLJ must realize the following goals:

- Align with the military mission of Camp Lejeune and the Navy;
- Not interfere with military use; and
- Offer military benefit or other public benefit.

Potential solutions include:

- 1. *Trackage Agreement:*** Approve NS requests to provide commercial rail service under existing RSTA (special use) agreement. A trackage agreement:
  - May require modification of existing agreement or supplemental agreement that places additional routine maintenance responsibility on NS to compensate for higher track maintenance costs that may be incurred as a result of higher traffic density on the CPLJ;
  - May require modification of contracting approach for routine maintenance services on the CPLJ to consolidate O&M responsibility with a single entity;
  - Allows for decisions to be made by Marine Corps Commanding Officer (though the NAVFAC Mid-Atlantic Office has final authority);
  - Would reduce near-term maintenance costs for the Navy while protecting use of the CPLJ to meet the military mission;
  - Continues to give the Navy responsibility for long-term maintenance costs; and
  - Would support local community interests and assist the local economy.

**2. *Outlease:*** Lease right of way to a state or local government entity or a government-owned entity, allowing that entity to use CPLJ for both military and commercial rail service. To best achieve cost savings for the Navy while also capturing value received by rail customers, the outlease would ideally provide for in-kind lease payments such as rail improvements, routine track maintenance, and long-term maintenance to the public entity. An outlease:

- Requires significant effort by the Navy and the Marine Corps, including numerous levels of reporting and approvals;
- Requires identification and engagement of a single, appropriate state or local government lessee, to whom such lease would be beneficial to the nation;
- Requires determination of fair-market value of lease of railroad property, for which there is a limited number of potential lessees;
- Requires approval by Principal Deputy Assistant Secretary of the Navy (EI&E) and reporting to Congress under 10 U.S.C. 2662 for agreements with a lease value greater than \$750,000;
- Requires approval by the Principal Deputy Secretary of the Navy if the lease exceeds 5 years;
- Requires engagement by state or local government in agreements with rail operator and maintainer;
- Would transfer responsibility for routine track maintenance and some share of long-term maintenance costs of the right-of-way from the military;
- Would preserve rail corridor for future military use as STRACNET connector; and
- Would support local community interests and assist the local economy.

**3. *Disposal:*** Per SECNAV Instruction 11011.47, transfer right-of-way to local government entity or a government-owned entity, perhaps in anticipation of, or at the time that, regular coal deliveries to Camp Lejeune are no longer required. Disposal of the right-of-way:

- Requires determination by the Installation that property is no longer required for current or future military purposes;
- Requires identification and engagement of single, appropriate state or local government lessee, to whom such sale or transfer would be beneficial to the nation;
- Requires negotiation between GSA and state or local government entity to determine fair market value of property;
- Requires engagement by state or local government in agreements with rail operator and maintainer;
- Would terminate the current special use permit with the Forest Service and require new application for continued use of the rail corridor through the Croatan National Forest; advance consultation with the Forest Service would be required to protect the Navy's future interest in retaining military rail service to Camp Lejeune;

- Would need to preserve rail corridor for future military use as STRACNET connector, providing that new lease could be achieved with the Forest Service; and
- Would support local community interests and assist the local economy.

**4. Intergovernmental Support Agreement (IGSA):** Enter into an agreement between the Navy and appropriate state governmental entity to provide rail service to Camp Lejeune. Such agreement would also allow said entity to use CPLJ for commercial rail service to local rail-served industries. An IGSA:

- Would require renewal of agreement each five years, which could be detrimental to attracting commercial industrial customers with interest in long-term availability of rail services;
- Requires further clarification of Navy authority and responsibilities under Section 331 of the National Defense Authorization Act;
- Requires engagement by state or local government in agreements with rail operator and maintainer;
- Would transfer, for five-year duration of agreement, responsibility for routine maintenance of CPLJ to state entity, thereby reducing near-term maintenance costs for the Navy while protecting use of CPLJ to meet the military mission;
- Places the continued responsibility for long-term maintenance costs with the Navy;
- Could serve as a cost-saving partnership/interim solution during period where Camp Lejeune requires regular coal deliveries; and
- Would support local community interests and assist the local economy.

#### *Potential Public/Private Partner Entities*

Depending upon the alternative approach, the following public and private entities may be engaged in realizing a common solution for future military and commercial use of CPLJ:

- Department of the Navy, including Marine Corps
- General Services Administration
- United States Department of Agriculture, Forest Service
- NCDOT
- NCRR
- NCDEQ, local counties and municipalities
- Norfolk Southern Railway Company
- Private railroad maintenance contractor

## **7.0 Potential Economic Benefits and Costs**

### **7.1 Military Interest**

#### *Baseline Cost Conditions Without Commercial Rail Service*

Today the Camp Lejeune Rail Line (CPLJ) handles less than 100,000 gross tons annually. This comprises approximately 480 railcars of coal and 250 carloads of other military shipments (primarily between military bases). Coal requirements at Camp Lejeune can be expected to fall to zero as the heating system work on base is completed. The Marine Corps pays commercial rates to Norfolk Southern for all rail deliveries to and from Camp Lejeune.

Both routine and long-term maintenance of the CPLJ is the responsibility of the U.S. Marine Corps to support the military mission and activities at Camp Lejeune. The Marine Corps has executed service agreements with a private contractor to perform monthly inspections, minor preventative maintenance, and vegetation control, totaling \$199,600 for the most recent year for which data was provided. An additional annual task order authorization of \$336,500 was issued that same year for targeted tie replacements, switch repairs, and other more significant maintenance efforts along the right-of-way. Any major track renewal or bridge replacement as required for long-term capital maintenance would be above and beyond the scope of the current estimated \$550,000 annual maintenance program.

#### *Incremental Additional O&M Costs*

The cost of physical infrastructure is semi-fixed for rail service. At lower tonnages, such as is the case for the CPLJ, new traffic can be added with little marginal investment for new capital facilities or routine infrastructure maintenance. With a traffic density of only about 100,000 gross tons, the line is well below the threshold for what is generally considered a low-density line (3 MGT). As noted in Section 5, shortline railroads typically spend \$7,500 to \$10,000 per mile per year to maintain low- to mid-density track to Class 2 standards (25 mph). At an approximate total of \$300,000 (\$10,000 per mile over 30 miles of CPLJ), this figure is generally consistent with, though somewhat lower than, the annual expenditures by USMC to maintain its railroad from Camp Lejeune to the Havelock junction.

While it could be argued that potential commercial use of CPLJ would have no incremental effect on maintenance costs, heavier products (such as the crushed stone as proposed by Lehigh Hanson for the JE McCotter site) would place a somewhat greater burden on railway maintenance than other products. Using crushed stone as an example, an individual rail-served customer transporting construction products may be expected to add up to 400,000 gross tons of annual traffic to CPLJ. At \$0.01 per gross-ton-mile over 25 miles, this incremental additional maintenance cost is conservatively estimated at \$75,000 per year.



Should commercial users be added to CPLJ, the additional cost for rail service operation would be borne by the new commercial rail customer – just as Camp Lejeune pays for its rail service at commercial rates on a per-unit basis.

### *Potential Revenues/Potential Cost Reduction*

Maintenance cost offsets (fees to commercial users) could be used to defray the additional maintenance burden that may be incurred by implementation of commercial rail service on the CPLJ. This could be achieved through contractual arrangements that direct the receipt of commercial rail service payments and the responsibility for railroad maintenance to a single service provider. The governance issues associated with this cost recovery method are further discussed in Section 6.

## **7.2 Regional Economic Interest**

### *Economic Development Benefits*

The economic development benefits that may be realized by attracting new industries or facilities to the study area can be characterized by direct impacts and indirect impacts. Direct economic benefits result from the construction and operation of the facility and may include temporary construction jobs, as well as new permanent jobs at the business. Indirect economic benefits are realized by supplier and supporting industries; induced impacts are also garnered by increased demand for goods and services by new employment.

While the scope of this study does not include a comprehensive economic impact analysis<sup>5</sup> or formal benefit cost assessment<sup>6</sup>, this feasibility analysis examines certain specific economic benefits that could be realized by attracting new rail-served industries within the study area. The economic benefits of interest evaluated include:

- Direct, permanent jobs;
- Indirect jobs;
- Property value benefits;
- Sales tax, property tax, and income tax benefits; and
- Potential benefits to the Port of Morehead City.

Each of these areas of interest is discussed further below.

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<sup>5</sup> An economic impact analysis examines the total of direct impacts resulting from expenditures associated with construction and operations, indirect impacts resulting from goods and services performed by suppliers, and induced impacts resulting from additional purchasing power due to economic activity. Indirect and induced impacts are typically calculated using comprehensive economic models, such as IMPLAN and REMI.

<sup>6</sup> A benefit cost assessment considers the potential net benefits attributable to a potential investment. Future year benefits and costs are discounted to a common base year. Public benefits may include transportation and operational savings such as travel time, travel cost, and accident reductions, environmental sustainability benefits, productivity gains, third party benefits, and residual value of the investment.

## Direct, Permanent Jobs

New employment that could be realized by attracting new rail-served business along the CPLJ has been estimated for the targeted industries of:

- Construction-supportive uses (handling and distribution of construction-related materials and equipment)
- Metal manufacturing
- Wood products

Estimates of direct, permanent jobs for each economic development opportunity were developed by looking at similar facilities within North Carolina's Southeast Prosperity Zone, as well as recent industry investments in the broader region.

Review of Moody's data for the four study area counties identified 86 businesses that support more than 3,700 jobs in the industries of construction equipment, construction materials, metal product and machinery manufacturing, automobile parts manufacturing, metal-working, electronic equipment manufacturing, furniture manufacturing, lumber and plywood product manufacturing, and lumber wholesalers. In total, these businesses represent an investment in approximately 2.5 million square feet of industrial facilities. Larger enterprises engaged in the manufacture of metal products (generally located in Carteret County), employ an average of about 50 people per site. Wood product businesses support an average 25 jobs at each location. The 24 local sites handling construction equipment and materials employ an average of 15 people each.

As part of its Craven 38 (Milepost 28) development master plan near Lake Drive in Craven County, Weyerhaeuser Real Estate Development has set aside 140 acres for light industrial use. The marketing information for the development suggests its potential for rail-served industries, including a wood pellet plant with connection to the Port of Morehead City.

Looking at new economic investments, the Economic Development Partnership of North Carolina, which is a public-private economic development resource for businesses seeking to locate and expand in North Carolina, has recently reported several new businesses or business expansions in the target industries. While these new investments are outside the study area counties, they are useful data points related to the investment and jobs that can result by attracting certain industries:

- Metal Products: KSM Castings (Cleveland County) – \$80 million expansion of existing automotive component manufacturing facility, adding approximately 200,000 square feet and 80 new full-time jobs.
- Wood Products: RSI Home Products (Richmond County) – new 300,000 square-foot facility for the manufacture of kitchen cabinets, supporting 175 new jobs.

In South Carolina, SafeRack recently announced a 100,000-square-foot expansion of their metal products manufacturing facility and the planned addition of 100 new jobs. A

new metal manufacturing plant planned by Advanced Manufacturing & Power Systems in Abbeville, South Carolina will support 48 new jobs.

Based on these data points, the estimated number of new jobs that could be generated from a new industrial development along the CPLJ is presented in **Table 13**. Acreage per user assumes ample space for building; pad and landscaping (facility); employee parking and circulation; outside storage and material handling; and rail loading and unloading. Development of multi-user sites with shared rail facilities could reduce assumed acreage requirements per user.

**Table 13. Estimated Facility Size and Employment for Target Industries**

Industry	Facility Size (SF)	Estimated Acreage per User	Full-Time Employment per User
Construction Materials & Equipment	25,000	30	15
Metal Products	50,000	10	50
Wood Products	100,000	15	25

### Indirect Jobs

Indirect employment from any given industry results from the combination of supplier effects, re-spending effects, and government employment effects. Investment in a given industry will also help create new, indirect jobs in supplier industries (supplier effects), new jobs in other industry sectors where workers spend their paychecks (re-spending effects), and the support of new government jobs through increased tax revenues (government effects).

The generation of indirect jobs resulting from new industries is estimated using aggregate employment multipliers that estimate total indirect employment resulting from 100 direct jobs. For this study, indirect job benefits are estimated using employment multipliers developed by the Economic Policy Institute as summarized in **Table 14**.

**Table 14. Employment Multipliers for Target Industries**

Industry	Supplier Jobs	Re-Spending Jobs	Government Jobs	Employment Multiplier
15-17 Construction	95.2	91.1	3.7	190.1
24 Lumber and Wood (except furniture)	132.5	87.2	5.7	225.4
34 Fabricated Metals	126.7	91.7	4.8	223.2
35 Industrial Machinery, Non-Electrical	125.6	100.8	5.4	231.9

*Source: Economic Policy Institute, Updated Employment Multipliers for the U.S. Economy, August 2003*

As can be seen from these figures, the indirect jobs that may result from the attraction of new rail-served businesses can be expected to vary significantly from industry to industry. Employment multipliers are recognized by economists to be much higher in manufacturing industries than in the rest of the economy.

Applying average aggregate employment multipliers to rail-served industries targeted along the CPLJ, anticipated indirect job benefits are presented in **Table 15** below.

**Table 15. Potential Creation of Indirect Jobs for Target Industries**

<b>Industry</b>	<b>Direct Jobs per User</b>	<b>Employment Multiplier</b>	<b>Indirect Jobs per User</b>
Construction Materials & Equipment	15	1.90	29
Metal Products	50	2.27	114
Wood Products	25	2.25	56

### Property Value Benefits

Two of the target properties identified for potential economic development are currently zoned for Rural Agricultural use. Rezoning of the properties for industrial use and preparation of parcels for development (provision of utilities and roadway and rail access) can, conservatively, be expected to increase property values by a factor of four. Within Onslow County, well-situated (good roadway access and closer to population centers) and larger (greater than 100 acres) sites that are zoned for rural agricultural use are realizing prices of \$40,000 to \$70,000 per acre. Industrial-zoned properties with similar features (access, size) are priced at \$150,000 to \$200,000 per acre. This growth in property value is similar to empirical values noted by the project team for new industrial parks in the region.

Assuming rezoning and development of property immediately adjacent to the CPLJ right-of-way, increased property value estimates are shown below. Estimated property value impacts may not include the entire parcel available for development, only that portion abutting the railroad. It should be noted that these estimates are intended to be illustrative only. Existing property values are based on current assessed values and future values are estimated by applying a multiplier based on limited data points. Actual market values may differ significantly. No real estate appraisal was performed as part of this study.

For the purposes of this calculation, the estimated area suitable for industrial use is the approximate area of the parcel that abuts the CPLJ (within 2000 feet of the railroad right-of-way) and does not lie within mapped wetland. For the JE McCotter property, it is assumed that full acreage would support industrial use. For the Craven 38 property, total acreage of industrial use is taken from the preliminary site master plan developed by Weyerhaeuser.

**Table 16. Potential Property Value Benefits**

Site	Total Parcel Size	Estimated Area Suitable for Industrial Use	Current Assessed Value of Target Parcel Area	Potential Future Property Value of Target Parcel Area	Net Increase in Property Value
1 – JE McCotter (Milepost 4.8)	80	80	\$168,150	\$672,600	\$504,450
2 – Onslow 22 (Milepost 6)	921	100	\$5,436,150	\$21,744,600	\$16,308,450
3 – Weyerhaeuser (Milepost 8)	286	200	\$437,200	\$1,748,800	\$1,311,600
4 – Brunswick (Mileposts 8 & 9)	2,632	200	\$1,572,300	\$6,289,200	\$4,716,900
5 – Craven 38 (Milepost 28)	1,715	140	\$1,161,170	\$4,644,680	\$3,483,510

**Sales Tax, Property Tax, and Income Tax Benefits**

Local sales tax benefits are calculated as annual gross sales that may be generated from a new development multiplied by the North Carolina sales tax rate (4.75 percent). Annual gross sales revenues are estimated, per user, based upon Hoover’s data for sites of similar size and use within the study area counties. Estimates are per user; multi-user sites could have potential to generate sales tax benefits at multiples of the figures shown below.

**Table 17. Annual Sales Tax Benefits per Site**

Site Use	Assumed Annual Gross Sales Revenue (per User)	Estimated Net Increase in Sales Tax Revenue (per User)
Construction Materials & Equipment	\$4,000,000	\$190,000
Metal Manufacturing	\$2,500,000	\$120,000
Wood Products	\$3,500,000	\$170,000

Potential annual property tax benefits are calculated as the product of the estimated increase in property value for target site (portion abutting railroad only) and property tax rate (0.675 percent for Onslow County and 0.4675 percent for Craven County).

**Table 18. Annual Property Tax Benefits**

Site Use	Estimated Increase in Property Value	Estimated net Increase in Property Tax Revenue
1 – JE McCotter (Milepost 4.8)	\$500,000	\$3,400

Site Use	Estimated Increase in Property Value	Estimated net Increase in Property Tax Revenue
2 – Onslow 22 (Milepost 6)	\$16,300,000	\$110,000
3 – Weyerhaeuser (Milepost 8)	\$1,310,000	\$8,900
4 – Brunswick (Mileposts 8 & 9)	\$4,720,000	\$31,800
5 – Craven 38 (Milepost 28)	\$3,480,000	\$16,300

Annual income tax benefits vary by industry. Recent average annual wages, as reported by NC Department of Commerce for the third quarter of 2014, are provided in **Table 19**. For the purposes of this study, an average of wage rates for Transportation and Warehousing and Wholesale Trade was applied to construction materials and equipment.

**Table 19. Distribution of Wages for Targeted Industries (2014)**

Industry	Average Hourly Wage	
	Southeast Prosperity Zone	North Carolina
Manufacturing	\$21.96	\$25.70
Transportation and Warehousing	\$19.38	\$22.20
Wholesale Trade	\$20.76	\$30.65

Source: NC Department of Commerce, Labor & Economic Analysis Division - Quarterly Census & Wages (QCEW), Qtr 3 2014

Annual local income tax benefits for potential economic development opportunities are calculated as the product of total number of projected full-time jobs (direct and indirect) that could be created per site; estimated annual salaries (average hourly wage x 2,080 hours) for the target use; and the North Carolina individual income tax rate (5.75 percent).

**Table 20. Annual Income Tax Benefits**

Site Use	Total Direct and Indirect Jobs per User	Estimated Annual Income Tax Revenues per User
Construction Materials & Equipment	44	\$110,000
Metal Manufacturing	164	\$430,000
Wood Products	81	\$210,000

### Potential Benefits to the Port of Morehead City

Commercial rail service along the CPLJ could provide direct rail connection from target industrial sites to and from cargo terminals at the Port of Morehead City via the connection from the CPLJ to the Class I line operated by NS at Havelock. The Port of

Morehead City, owned and operated by the North Carolina State Ports Authority, specializes in the handling of bulk and breakbulk goods. The port also supports roll-on/roll-off cargo and has heavy lift capability. The port is served by NS, which runs three trains per week into the port.

Summary of Potential Benefits

Each of the targeted parcels for potential economic development may offer opportunities to develop a multi-user industrial site. Even the JE McCotter property, which is proposed for a single user by Lehigh Hanson, would accommodate twice the volumes and production assumed for a single user in the estimate of economic benefits.

As an illustrative estimate of total economic benefit that could be realized by attracting rail-served industries along the CPLJ, a possible mix and number of users for each target site is presented below. Benefits shown are per year and assume full build-out of the targeted industrial acreage, as well as realization of the estimated job creation, gross sales, and property value growth presented above.

**Table 21. Summary of Annual Economic Benefits based on Illustrative Site Uses**

Site	Potential Users (Industry-#)	Direct Jobs	Indirect Jobs	Income Tax Revenue	Sales Tax Revenue	Property Tax Revenue
1 – JE McCotter (Milepost 4.8)	Construction-2	30	58	220,000	380,000	\$3405
2 – Onslow 22 (Milepost 6)	Metal-4 Wood-4	300	680	2,560,000	1,160,000	\$110,000
3 – Weyerhaeuser (Milepost 8)	Construction-3 Metal-4 Wood-4	345	767	2,890,000	1,730,000	\$8900
4 – Brunswick (Mileposts 8 & 9)	Construction-3 Metal-4 Wood-4	345	767	2,890,000	1,730,000	\$31,800
5 – Craven 38 (Milepost 28)	Metal-5 Wood-6	315	709	2,670,000	1,350,000	\$16,300

*Potential Public Investment*

Capital Costs for Roadway and Rail Improvements

Limited roadway and intersection improvements may be necessary in order to provide for access to each of the potential properties. A range of improvements may need to be considered, including roadway widening and pavement upgrades to account for additional truck access. **Table 22** presents a range of roadway improvement costs

associated with each of the four Onslow County properties; these costs account for pavement upgrades, earthwork, and drainage improvements only.

**Table 22. Potential Public Investment in Roadway Improvements**

Site	Type of Improvement	Estimated Cost (\$)
JE McCotter (Milepost 4.8)	Roadway widening, pavement upgrades	325,000 – 1,400,000
Onslow 22 (Milepost 6)	Roadway widening, pavement upgrades	1,100,000
Brunswick Timber (Mileposts 8 & 9)	Roadway widening, pavement upgrades	400,000 – 5,450,000
Weyerhaeuser (Milepost 8)	Roadway widening, pavement upgrades	5,450,000

An estimated total of \$250,000 to \$350,000 in one-time track upgrades along curves over one degree is recommended to handle greater tonnage that would result from rail-served industrial development along CPLJ. New rail connections, including new turnouts and industrial sidings into each targeted site, will also be critical for implementation of commercial rail service. Each target economic development site is of sufficient size to accommodate set-out tracks that will keep rail loading and unloading operations outside of the railroad right-of-way. Estimated capital investments in industrial rail access exclude any further ladder tracks or connections into the site, which could be accommodated on site and built by the rail customer.

Rail improvements would comply with NS standards for industrial rail access. Rough order-of-magnitude cost of railroad construction assumes \$200 per track foot for industrial leads and sidings, \$75,000 each for installation of new turnouts (two per location).

**Table 23. Potential Public Investment in Rail Improvements**

Rail Element	JE McCotter (Milepost 4.8)	Onslow 22 (Milepost 6)	Brunswick (Mileposts 8 & 9)	Weyerhaeuser (Milepost 8)
Track Upgrades	\$250,000	\$250,000	\$250,000	\$250,000
New No. 10 Turnouts	2 each	2 each	2 each	2 each
Industrial Track	3800 track feet	3200 track feet	3000 track feet	3200 track feet
Additional Connection into Site	By user if needed	By user if needed	By user if needed	By user if needed
Estimated Public Investment	\$920,000	\$780,000	\$750,000	\$780,000



### Increased Operating and Maintenance Expenses

An industrial rail user would be expected to pay commercial rates for rail service from an industrial property. No operating expense would be borne by the public. Ideally, a single provider of rail service and railroad maintenance services would assure that the benefits (rail car revenues) and costs (incremental additional maintenance costs) would be borne by the same entity and not by the public.

As discussed in Section 5.2, where there is a significant growth in annual rail traffic over current basic traffic density of 100,000 gross tons, the incremental additional maintenance costs incurred may be conservatively estimated at \$0.01 per gross ton-mile. Annual increase in maintenance cost is calculated as the product of total estimated rail tonnage, miles traveled along CPLJ, and this \$0.01 incremental annual maintenance burden.

Assuming the same theoretical mix of industrial users as shown in **Table 21** above, the increased cost of annual rail maintenance is presented below.

**Table 24. Estimated Annual Rail Maintenance Costs Based on Illustrative Site Uses**

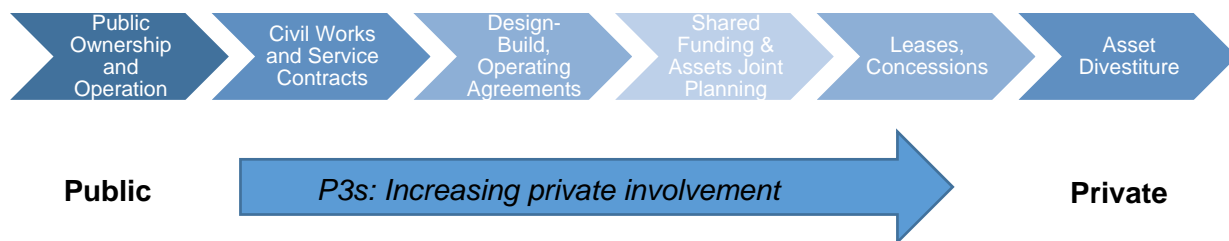
<b>Site</b>	<b>Potential Users (Industry-#)</b>	<b>Estimated Annual Ton-Miles</b>	<b>Estimate Annual Maintenance Cost</b>	<b>Additional Maintenance Cost per Railcar</b>
1 – JE McCotter (Milepost 4.8)	Construction-2	7,500,000	\$750,000	\$34
2 – Onslow 22 (Milepost 6)	Metal-4 Wood-4	10,000,000	\$1,000,000	\$22
3 – Weyerhaeuser (Milepost 8)	Construction-3 Metal-4 Wood-4	10,000,000	\$1,000,000	\$13
4 – Brunswick (Mileposts 8 & 9)	Construction-3 Metal-4 Wood-4	9,000,000	\$900,000	\$12
5 – Craven 38 (Milepost 28)	Metal-5 Wood-6	600,000	\$60,000	\$1

## 8.0 Partnership Opportunities

### 8.1 P3 Considerations and Constraints

#### *Legal Authority and Responsibility*

A public-private partnership (P3) can take many forms. The extent of public and private sector participation may vary according to the level of risk and responsibility that each is willing and able to assume. The best P3 arrangements will allocate responsibilities to the entity that is best in control of its outcome.



P3 arrangements are encouraged in North Carolina, as evidenced by the state legislature's approval of House Bill 857 (HB 857) in 2013, which opened the door for a broader array of public-private partnership frameworks for the delivery of public infrastructure. While P3 procurement is not new to North Carolina, HB 857 specifically permits the use of design-build, design-build bridging, and public-private partnership financing along with multi-prime, single-prime, dual-bidding and construction management at risk by the state, counties, and local municipalities. Prior to the enactment of HB 857, local governments had to seek authorization from the General Assembly to enter into public private partnerships. HB 857 makes P3 options available statewide to all public entities. (Source: UNC School of Government)

Considered more broadly along the spectrum shown in the figure above, public-private partnerships may also include collaboration between businesses and government to realize common objectives. North Carolina's Certified Sites program is a good example of public efforts that can be taken to encourage private investment. A North Carolina Certified Site reduces the risks and costs associated with private development of industrial sites by pre-screening sites for such criteria as buildable area; availability of public utilities including water, electricity, natural gas, and wastewater; public road access including tractor/trailer access; and telecommunications service. Certified Sites will also have completed environmental reviews and will be properly zoned for industrial use. Certified Sites proposed for rail-served industrial use must demonstrate rail access and commitment by rail provider.

#### *Public vs. Private Interest*

Ideally a P3 will establish relationships among private entities and public agencies that take best advantage of the authorities and capabilities of each entity.

**Table 25. Illustrative Project Interests, Authorities and Risks of Public and Private Entities**

<b>Project Component</b>	<b>Public</b>	<b>Private</b>
Real property	Authority over acceptable property use and zoning over multiple sites and ownership; Acquisition of property by negotiation or eminent domain	Development of privately held sites
Utilities	Public utility infrastructure	Risk area
Environmental permitting	Review and approval	Risk area
Transportation access	Public roadway infrastructure	Risk area
Site construction	Building standards and codes	Construction means, methods, and cost
Funding and financing	Grant funds for public infrastructure	Private investment subject to ability to realize reasonable profit over target return period

## **8.2 Case Studies of Public-Private Agreements**

The joint engagement of public governments and private businesses to realize common interests in the delivery of capital infrastructure dates back to the early years of the United States; the Philadelphia and Lancaster Turnpike, which opened in 1794, was constructed on publicly owned right-of-way using private money. Fifty years later, the U.S. Government provided land grants that allowed for private construction of the Transcontinental Railroad.

Within North Carolina and in neighboring states, there are many examples of federal, state, and local governments partnering with private entities to build and/or operate facilities that have both public and private interest. These partnerships take a variety of forms:

In Brunswick County, the Department of the Army has contracted with CSX to serve as the common carrier for the U.S. Military-owned rail line to the Maritime Ocean Terminal at Sunny Point (MOTSU) and to perform railroad maintenance along the line. This arrangement allows CSX to provide commercial rail service to Duke Energy, Archer Daniels Midland and other commercial users along the line, and to make those private users responsible for the incremental additional railroad maintenance costs that result from their rail service.

The North Carolina Industrial Center (NCIC) in Alamance County has been developed by Samet Corporation to serve industrial users. In 2015 NCRB built a new \$1.53 million rail spur into the property, making NCIC the first state-certified site in the Triad with active rail service. Funding for the rail project included \$280,000 from Samet Corp., \$750,000 from NCRB, a \$200,000 NCDOT rail access grant, \$100,000 from the

Alamance County Economic Development Foundation, and \$100,000 each from the City of Mebane and Alamance County. The new rail spur will provide access to Cambro Manufacturing to serve its new \$30 million facility (supporting 100 jobs) as well as for future users of the 600-acre park.

Pelham Industrial Park is a 171-acre North Carolina Department of Commerce Certified Industrial Site. Offering close connections to U.S. 29/Future I-785, U.S. 58, and U.S. 360, the site was purchased by Caswell County for the purposes of attracting industrial users. The County has also been preparing the site to be “client-ready” through publicly-funded investments in utilities and other infrastructure. Caswell County received a Golden LEAF grant of \$914,842 for design and construction of waterline improvements into the park.

Cane Creek Centre, located in southern Virginia, is a 900-acre regional industrial park that aligns the interests of a variety of public and private partners to realize economic development opportunities in Pittsylvania County. Public partners include the City of Danville and Pittsylvania County, who joined forces to start the development of a jointly-owned, fully served “ready-to-go” mega-site on U.S. Route 58 near the Danville airport. The site benefits from rail service by Norfolk Southern Railway, which coordinated with the City and County to define rail operating and industrial track requirements and provide connection to the adjacent Class I main line. The Commonwealth of Virginia provided \$3 million in funding from the Governor’s Opportunity Fund, \$2.4 million in Tobacco Region Opportunity Funds from the Virginia Department of Housing and Community Development, and a total of \$1.35 million in rail and economic access grants from the Virginia Department of Rail and Public Transportation and the Virginia Department of Transportation. The Tobacco Region Revitalization Commission, whose mission is to enhance the economic growth and development in Virginia’s historically tobacco-dependent counties, has also contributed \$14.4 million in grant funding for Cane Creek Centre site development, infrastructure improvements, and recruitment incentives. Since 2015 Cane Creek has attracted private investment from several users, including Yorktowne Cabinetry (\$19 million new production facility that supports 540 jobs), Swedwood, a wholly owned subsidiary of The IKEA Group (new furniture manufacturing facility supporting 740 new jobs); and Com.40 Ltd. (\$36 million conversion of former tobacco processing facility for manufacturing of mattresses and upholstery to support 800 new jobs). The industrial park has been promoted by the Virginia Economic Development Partnership and the City of Danville Economic Development office.

### *Overall Investment*

Investments by public-private partnership interests are made in those areas where each can realize its respective tangible benefit.

For private partners, total investment, including upfront capital cost and long-term operating and maintenance costs cannot exceed anticipated financial return (profit) that could be realized through service revenues, lease payments, or equity growth.

Public investments may be justified by realization of a variety of public benefits. These may include:

- Cost savings realized by transferring construction, operations, or maintenance responsibility to a private entity;
- Industry attraction or expansion and job growth, and resulting income tax revenues and sales tax revenues;
- Improved land values and resulting property tax revenues;
- Reduced costs of transportation or traffic delay incurred by the public;
- Reduced public health costs that may be realized by projects that can reduce transportation delay or shift transportation use to a less impactful mode (such as from truck to rail); and
- Reduced costs due to death or injury resulting from safety improvements to publicly controlled transportation facilities.

### *Cost-Sharing Responsibility*

Responsibility for project capital and operating costs may be carried by one or another partners. Privately used facilities are best funded by private interests, while facilities that may serve multiple users can benefit from shared investment by private enterprise and through grants by public agencies. Public infrastructure, such as access roadways, may be funded fully by the public or may include some private contribution.

### *Funding and Financing*

There are many sources of public funds and grants that are aimed to promote economic development and to enhance the mobility of people and goods that is essential to a strong economy. These contributions can be critical to attracting shared investment by private businesses. Several available sources of funding and financial incentives are presented below.

**Table 26. Available Sources of Funding and Financial Incentives**

<b>Type</b>	<b>Responsible / Issuing Entity</b>	<b>Description</b>
Tax Credits	N.C. Department of Revenue	Article 3J: Provides tax credits to qualifying businesses for job creation, investment in business property and investment in real property
	N.C. Department of Revenue	Article 3K: provides tax credits of up to 50% for cost of constructing railroad intermodal facilities
	N.C. Department of Revenue	N.C. Ports: Provides tax credits toward income taxes paid by businesses or individuals using ports facilities at NC Ports at Morehead City and Wilmington

Type	Responsible / Issuing Entity	Description
	N.C. Department of Revenue	Renewable Energy: Provides a tax credit of 35% of the cost of equipment that uses renewable energy sources
Grant Programs	N.C. Department of Commerce	Job Development Investment Grant: Awards a limited number of cash grants directly to new and expanding businesses that will provide economic benefits to the State and need the grant to carry out the project in North Carolina
	N.C. Department of Commerce	One North Carolina Fund: Awards grants for job creation and/or retention in conjunction with local government matches
	N.C. Department of Commerce	Site and Infrastructure Grant Fund: Provides assistance for site development and infrastructure improvements for very high-impact projects
	N.C. Department of Commerce	Job Maintenance and Capital Development Fund: Provides limited number of grants to businesses located in Development Tier I or Tier 2 counties
	N.C. Department of Transportation	Freight Rail and Rail Crossing Safety Improvement Program: established in 2013 through Senate Bill 402, utilizes dividends distributed to the state by the North Carolina Railroad Company (NCR) to improve freight service and the safety of rail-highway crossings in the state
	N.C. Department of Transportation	Rail Industrial Access Program: Provides grants to municipal and county governments, non-profit or for-profit development organizations, railroads, and rail-served industries to fund a portion of cost to construct or rehabilitate railroad industrial access tracks to serve a new or expanded industry.
	N.C. Department of Transportation	Road Industrial Access Program: Provides grants for the construction of roads to new or expanded industrial facilities.
	Golden LEAF Foundation	Golden LEAF grants: Provides grants to 501(c)(3) nonprofits and governmental entities across North Carolina to fund projects that bring significant economic improvement to tobacco-dependent,

<b>Type</b>	<b>Responsible / Issuing Entity</b>	<b>Description</b>
		economically distressed, and/or rural communities of North Carolina
	U.S. Department of Transportation	FASTLANE: Competitive grants authorized under the 2015 FAST Act that provide funding to projects of national or regional significance that address critical freight issues and realize economic, mobility or safety benefits.
	U.S. Department of Transportation	TIGER: Competitive grants issued to state and local governments or government agencies with a transportation purpose for projects that meet the following objectives: state of good repair, economic competitiveness, quality of life, environmental sustainability, safety, innovation and partnership.
Cost-Saving Programs	U.S. Foreign Trade Zones Board	Foreign Trade Zones: Provides opportunities to defer, reduce and/or eliminate import duties.
	State of North Carolina and Local Municipalities	Industrial Revenue Bonds: Provides tax-exempt financing for eligible new or expanded manufacturing facilities in Tier 1 and Tier 2 counties.
	U.S. Department of Housing and Urban Development	Community Development Block Grants: Provides grants and loans for infrastructure development to eligible local governments.
	N.C. Department of Commerce	Industrial Development Fund: Provides grants and loans for infrastructure development to eligible local governments.
	N.C. Department of Transportation	Road Access Program: Provides funds for the construction of roads to new or expanded industrial facilities.
	U.S. Foreign Trade Zones Board	Foreign Trade Zones: Provides opportunities to defer, reduce and/or eliminate import duties.
	State of North Carolina and local municipalities	Industrial Revenue Bonds: Provides tax-exempt financing for eligible new or expanded manufacturing facilities in Tier 1 and Tier 2 counties.

<b>Type</b>	<b>Responsible / Issuing Entity</b>	<b>Description</b>
	N.C. Department of Revenue	Sales and Use Tax Discounts, Exemptions, and Refunds: Offers reduced rate allowances on certain parts, accessories and construction supplies for eligible industries and manufacturing processes.
Innovative Financing	U.S. Department of Transportation	Federal Loan Programs: Under the combined umbrella of the National Surface Transportation and Innovative Finance Bureau, offers loans to leverage federal dollars through the Transportation Infrastructure Finance and Innovation Act (TIFIA) and Railroad Rehabilitation and Improvement Financing (RRIF) program.



## 9.0 Summary Recommendations/Conclusions

### 9.1 Summary of Findings

At the present time, the Camp Lejeune Rail Line (CPLJ) between Camp Lejeune and the Havelock junction is in very good condition, with no significant signs of wear or other indications that immediate substantial maintenance is needed. From a condition standpoint, there is nothing to suggest that the CPLJ could not support commercial freight rail traffic. It is recommended that sections of lighter rail within five curves (total length of one track mile) be evaluated for replacement with at least 112-pound rail to help serve heavier freight traffic; this rail replacement is estimated to cost between \$250,000 and \$350,000.

Through a site analysis of properties within the project study area, four sites in Onslow County were determined to show potential for economic development opportunity. The four sites – currently owned by JE McCotter (Milepost 4.8), Onslow 22 (Milepost 6), the Weyerhaeuser Company (Milepost 8), and Brunswick Timber (Milepost 8 and 9)- may yield hundreds of acres of developable area near the CPLJ. One additional existing property proposed for development in Craven County by Weyerhaeuser Real Estate Development Company (Milepost 28) would also benefit from (but doesn't necessarily require) commercial freight access to the CPLJ. Limited roadway and intersection improvements may be necessary in order to handle increased traffic and provide truck access to the four Onslow County sites. Cost estimates for these improvements range between \$301,000 and \$5,450,000, depending upon the site and roadway to be improved.

An examination of the industries within the study area counties (industries that are projected to realize sustained positive growth and be supported both by rail access and the existing local workforce) suggests that three potential target industries for the study area are Construction Materials & Equipment, Metal Manufacturing, and Wood Products.

Based on a review of similar industry facilities within the study area counties, these industries are projected to yield the following potential economic benefits for each rail-served user:

**Table 27. Summary of Potential Economic Benefits per Rail-Served User**

<b>Construction Materials &amp; Equipment</b>	<b>Metal Manufacturing</b>	<b>Wood Manufacturing</b>
15 Direct Jobs	50 Direct Jobs	25 Direct Jobs
\$630,000 Direct Salaries	\$2.3 million Direct Salaries	\$1.1 million Direct Salaries
\$4 million Annual Gross Sales	\$3 million Annual Gross Sales	\$3.5 million Annual Gross Sales
<b>x 1.9 Indirect Benefits</b>	<b>x 2.27 Indirect Benefits</b>	<b>x 2.25 Indirect Benefits</b>

Sources: Direct salary information based on data from the NC Department of Commerce (2014); Annual Gross Sales data estimated from Hoover's data for sites of similar size; Indirect Benefits based on employment multipliers developed by the Economic Policy Institute.

The rezoning of targeted sites could yield the following additional economic benefits:

**Table 28. Property Value Benefits at Rail Served Industrial Property**

Site	# Rail-Served Users	Size (acres)	Projected Property Tax Income
<b>JE McCotter (Milepost 4.8)</b>	1-2	80	\$3,400
<b>Onslow 22 (Milepost 6)</b>	6-8	100	\$110,000
<b>Weyerhaeuser (Milepost 8)</b>	12-16	200	\$8,900
<b>Brunswick Timber (Mileposts 8 &amp; 9)</b>	12-16	200	\$31,800
<b>Craven 38 (Milepost 28)</b>	8-10	140	\$16,300

In the course of this study, no legislation or regulatory restriction could be identified that would preclude or prohibit the provision of commercial freight rail service on the military-owned CPLJ. In fact, overlay of commercial rail service could offer benefits to the military by preserving the rail line for continued military use while sharing the costs of its ongoing operation and maintenance. As discussed in existing the Department of the Navy's SECNAV Instruction 11011.47C, potential mechanisms exist for the military to allow commercial freight use of the facility. These mechanisms include:

- Development of a new **Trackage Agreement** to allow Norfolk Southern (current operator) to provide commercial rail service and accept payment from commercial users. To offset incremental additional maintenance costs that may be incurred as a result of increased traffic density, the agreement could assign responsibility to NS and provide for payment by Camp Lejeune to NS for baseline maintenance costs. NAVFAC policies allow for the development of railroad spur track agreements (RSTA), which may be executed by FEC Commanding Officers. With these agreements, the military would retain ownership of the railroad.
- **Outleasing** of the CPLJ to a state or local government entity. Unless considered by the Government to promote national defense or public interests, leases must be issued through a competitive bidding process and cannot be for a period of more than five years. In-kind payments as well as capital improvements and maintenance expenses may be considered as lease compensation. There are significant and time-intensive regulatory and procedural requirements associated with outleasing, including detailed property assessments, an estimate of the property's fair market value, and multi-level approvals from the appropriate military authorities. Congressional reporting is also required.

- **Disposal** of the CPLJ by transferring it to another government entity or government-owned entity. First, the CPLJ must be designated as “excess,” no longer required for the Camp Lejeune mission, and not needed for the mission of the other military branches or HUD. After this determination, the disposal of Navy-controlled surplus property is conducted by the General Services Administration. Disposals are to be made at fair-market value; however, if the property is to be transferred to another tax-supported agency, the fair market value may be determined through negotiation rather than competitive bid.
- Developing an **Intergovernmental Support Agreement (IGSA)** between the Navy and the appropriate state government agency, which would then be able to use the CPLJ for commercial freight service. Current policy memoranda related to the local and regional authority to enter into ISGA, the term of these agreements must be limited to five years.

As discussed in Section 6.2, each of these options involves its own set of requirements that must be met in order to satisfy concerns over additional expenditures and liability potentially incurred by the military.

The Department of the Navy holds a Special Use Permit from the U.S. Forest Service, under the U.S. Department of Agriculture, (Forest Service) for the section of the CPLJ Right of Way Easement within the Croatan National Forest. The Permit includes an assignability clause that states the Permit may be terminated if the CPLJ is sold or transferred to another entity. In that event, the new owner would be required to seek a new Permit from the Forest Service to allow the CPLJ Right of Way Easement to remain in place. Based on discussions with Forest Service staff, this process could be handled through a transfer of the Permit to the new owner following a review by the Forest Service of the proposed use.

## 9.2 Conclusions

The research and stakeholder coordination conducted for this study has identified potential economic development sites along the CPLJ corridor as well as industries that could be targeted for these sites. If commercial freight service is developed on the CPLJ, options exist for new users to share the cost of maintaining the rail facility with the military. Finally, the Department of the Navy has, in its real estate procedures, alternatives for the ownership control and operations of the CPLJ.

As discussed in Section 1.1, the Project Committee identified three primary challenges associated with commercial freight rail use of the CPLJ:

- A potential increase in **maintenance costs** associated with additional use of the CPLJ, with recommendations on a mechanism for the military to accept outside funding specifically for CPLJ maintenance;

- The potential **military liability** associated with private use of a military facility; and
- Alternatives for **ownership control and operations** of the CPLJ if it is being used for private freight service.

The following conclusions can be made regarding these challenges:

### *Maintenance Costs and Funding*

Outside the boundaries of the base at Camp Lejeune, the CPLJ is currently maintained FRA Class 2 track, above the minimum required to meet the needs of commercial service that may use the track. The majority of future anticipated maintenance repairs will be due to decay of the facilities over time, rather than specific damage associated with increased track use; these repairs will be required regardless of whether the CPLJ is used for commercial freight service. Any increase in maintenance costs due to the addition of commercial freight service would be proportional to the increased tonnage that is being shipped on the track. The total additional tonnage will depend on the type of freight being shipped and the expected frequency of the shipments. A representative cost for the shipment of aggregate from the JE McCotter Land (Milepost 4.8) Tracts to the Havelock junction (based on a pre-existing site proposal from Lehigh Hanson) is estimated at up to \$40 in increased maintenance per additional rail car that uses the line.

Camp Lejeune cannot accept direct payments from an outside entity to cover the maintenance costs associated with the CPLJ. With the exception of lease payments, for which at least 50 percent (50%) must be directed to the needs of the local installation per NAVFAC policy, any payments from outside entities to the military are automatically directed to the military's general budget and cannot be directed to a specific installation or use without congressional action. The most likely mechanism for Camp Lejeune to accept payments specifically for track maintenance would be through a third-party agreement that includes Norfolk Southern, the track's operator.

### *Military Liability*

The current CPLJ trackage agreements identify the liability to be incurred by each party to the agreements, including the Government and the railroad operator. The military's liability concerns can be addressed in a new trackage agreement by including stipulations of each party's responsibilities.

### *Ownership Transfer*

If Camp Lejeune decides to give up ownership of the CPLJ, the Department of the Navy's policy for acquisition, management, and disposal of real property and real property interests is described in SECNAV Instruction 11011.47C, published in 2013. Potential partners for the future ownership or disposition of the CPLJ would most likely

be a government agency or government-owned entity; private railroad companies are not expected to have interest in holding a real estate interest in the rail line.

Coordination with the Forest Service would be required to determine how property transfer would affect the Special Use Permit issued to the Department of the Navy for the section of the CPLJ Right of Way Easement within the Croatan National Forest. The Permit's assignability clause would likely require the new owner to seek a new Permit from the Forest Service to allow the CPLJ Right of Way Easement to remain in place.

### **9.3 Recommended Next Steps**

The findings to date indicate that suitable properties for development exist along the CPLJ corridor, and that three potential industries that would utilize rail access could be targeted for these properties. The current condition of the CPLJ makes it a viable facility for commercial freight use, especially given its proximity to the Class I railroad junction in Havelock and the connection to the Port of Morehead City.

In the near-term, the most efficacious means to realize the combined objectives of supporting the military mission, avoiding or reducing military costs, and promoting economic development along the CPLJ is the development of an updated trackage agreement with the existing railroad operator, Norfolk Southern. Key provisions to be addressed in the agreement would include such items as: priority for military shipments; clear definition of railroad improvements and operations that may be assumed by the railroad without interference with the military mission; standards, responsibility, and compensation to the railroad for baseline maintenance costs; limitation of railroad responsibility for emergency repairs, long-term maintenance costs or capital replacement; and appropriate assignment of liability for railroad operations.

Appropriate evaluation and approval processes within the Department of the Navy could be expected to take many years. For a property transfer, early coordination with the Forest Service would be required to assure continued use of the CPLJ through the Croatan National Forest.

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### **Personal Communication**

Alan Burnette, Director of Resource Development, Lehigh Hanson, Inc., March 2, 2016.

Anna Lea Moore, Vice President, Economic Development, North Carolina Railroad  
Company, March 9, 2016.

Ben Warren, Director, Planning & Development, Onslow County, NC, February 25,  
2016.

Daren McMorris, NC Sales Manager, Hanson Aggregates Southeast, LLC, March 2,  
2016.

Don Simon, Lands and Realty Specialist, USDA- Forest Service- Uwharrie Ranger  
District, April 26, 2016.

Hervey McIver, NC Longleaf Pine Protection Director, North Carolina Chapter of the  
Nature Conservancy, March 28, 2016.

Greg Fennell, Chief Commercial Officer, and Stephanie Ayers, Director of Port Planning  
and Development, NC Ports, April 4, 2016.

Kim Gerald, Brunswick Nuclear Plant Site Service Superintendent, Duke Energy, March  
3, 2016.

Peggy Holland, Senior Transportation Planner, JUMPO, March 2016.

Ray McIntyre, Unit Head, STIP and Feasibility Studies, NCDOT, March 29, 2016.

Richard Mullinax, Rail Signals Manager, NCDOT, March 29, 2016.

Robert Vause, PE, District Engineer, NCDOT Division 3, March 17, 2016.

Scott Dickson, Vice President/General Manager, Hanson Aggregates Southeast, LLC, March 2, 2016.

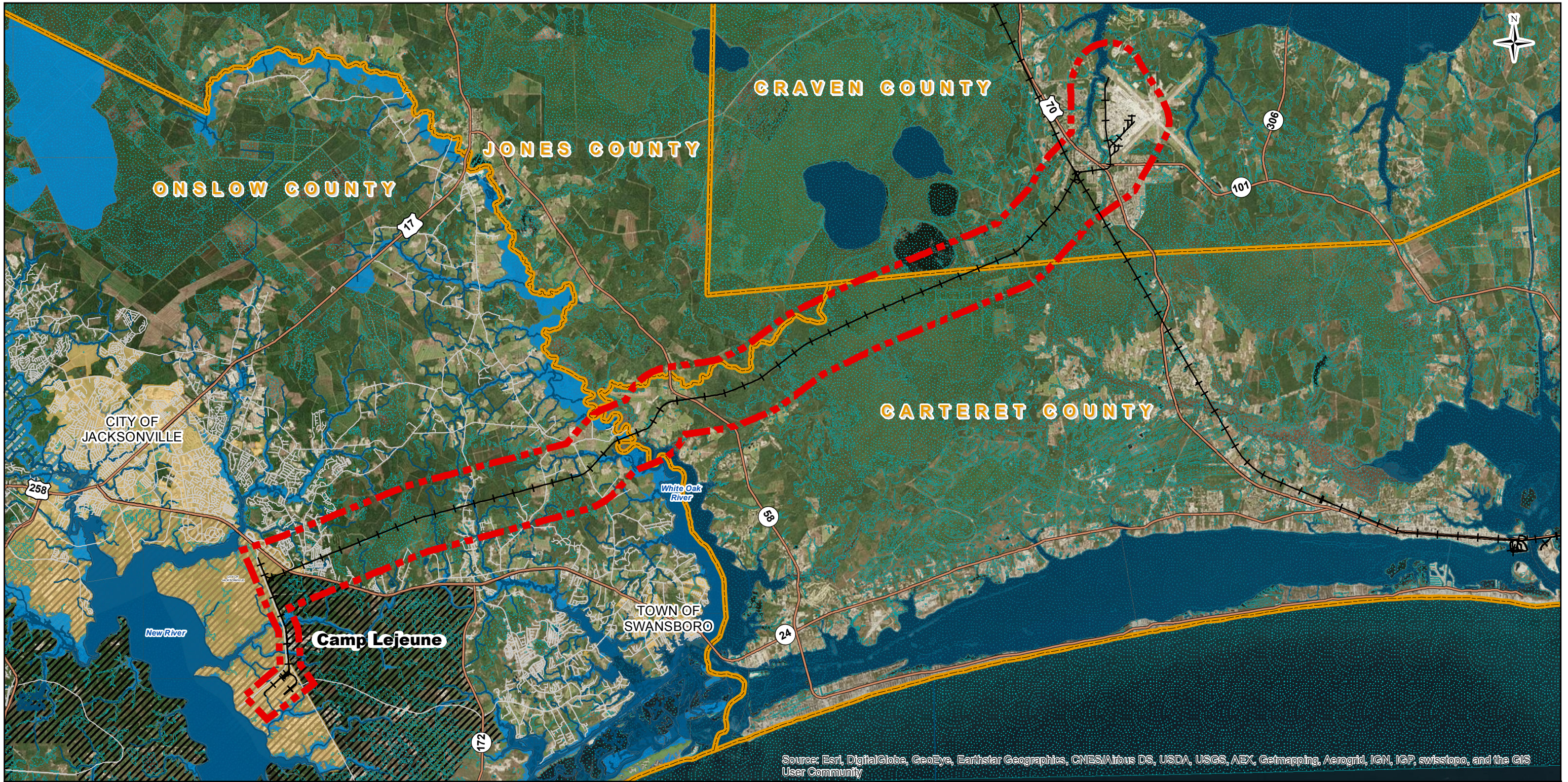
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# **Attachment A**

## **Figures**



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



## Camp Lejeune Railroad Commercial Freight Feasibility Study - Study Area Map

Legend	
	Primary Roads
	Secondary Roads
	Railway
	Approximate Study Boundary
	City Boundary
	Camp Lejeune
	County Boundary
	Streams
	Water Bodies
	FWS Wetlands
Flood Zones	
	Floodway
	100 Yr Floodplain
	500 Yr Floodplain



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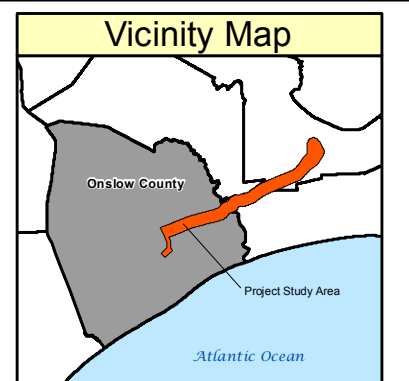
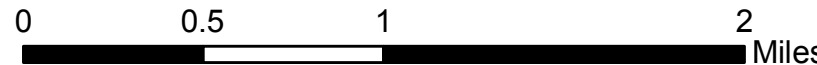
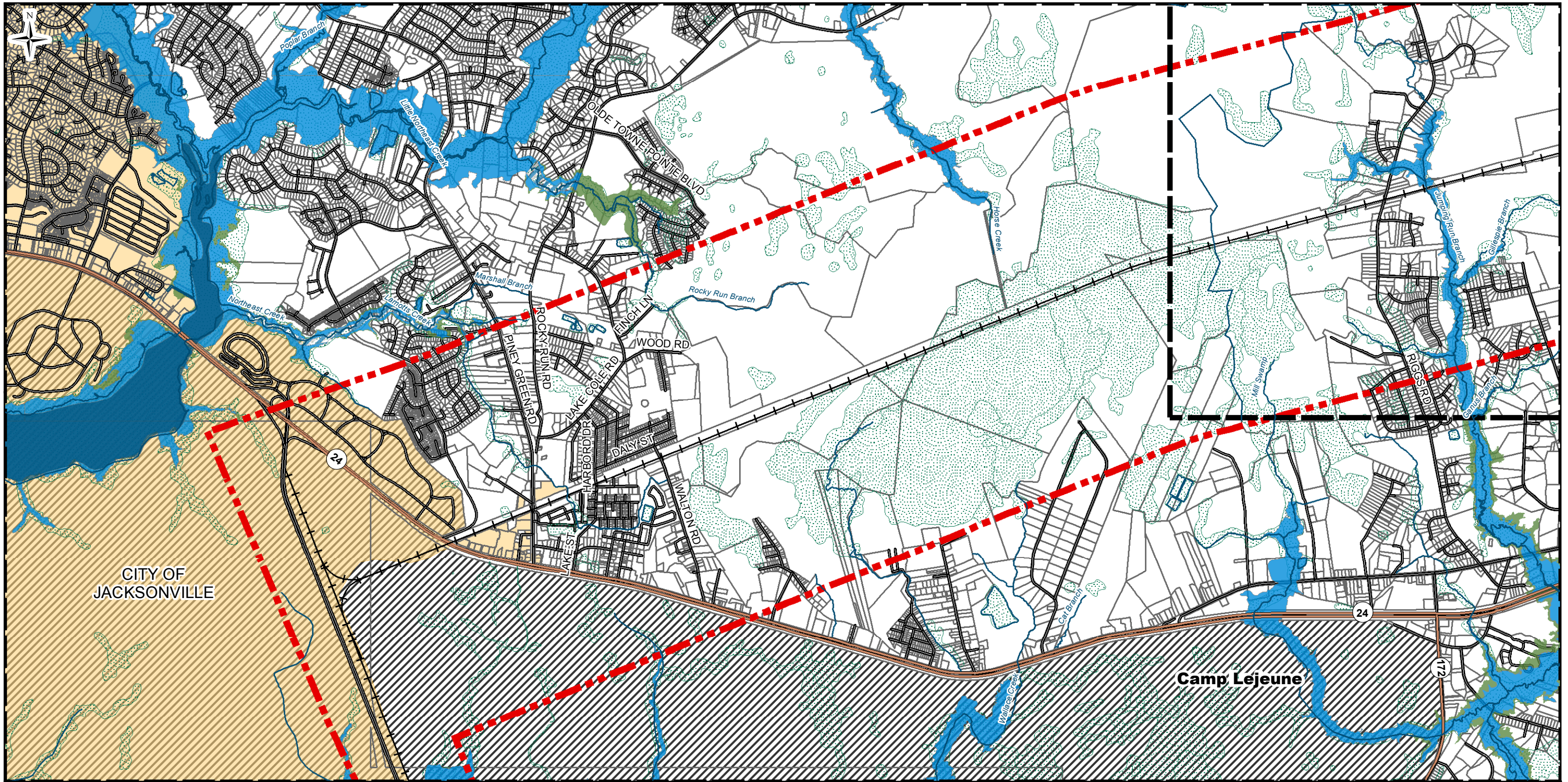


FIGURE 1



## Camp Lejeune Railroad Commercial Freight Feasibility Study - Hydrology Map

**Legend**

Primary Roads	Streams
Secondary Roads	Water Bodies
Railway	FWS Wetlands
Approximate Study Boundary	<b>Flood Zones</b>
City Boundary	Floodway
Camp Lejeune	100 Yr Floodplain
County Boundary	500 Yr Floodplain
Matchline	



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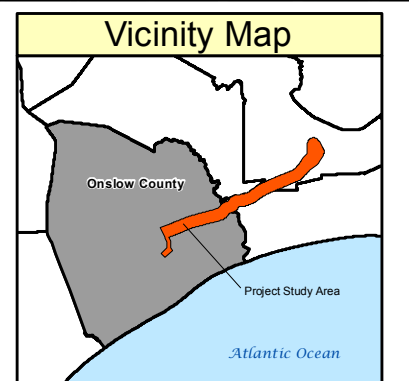
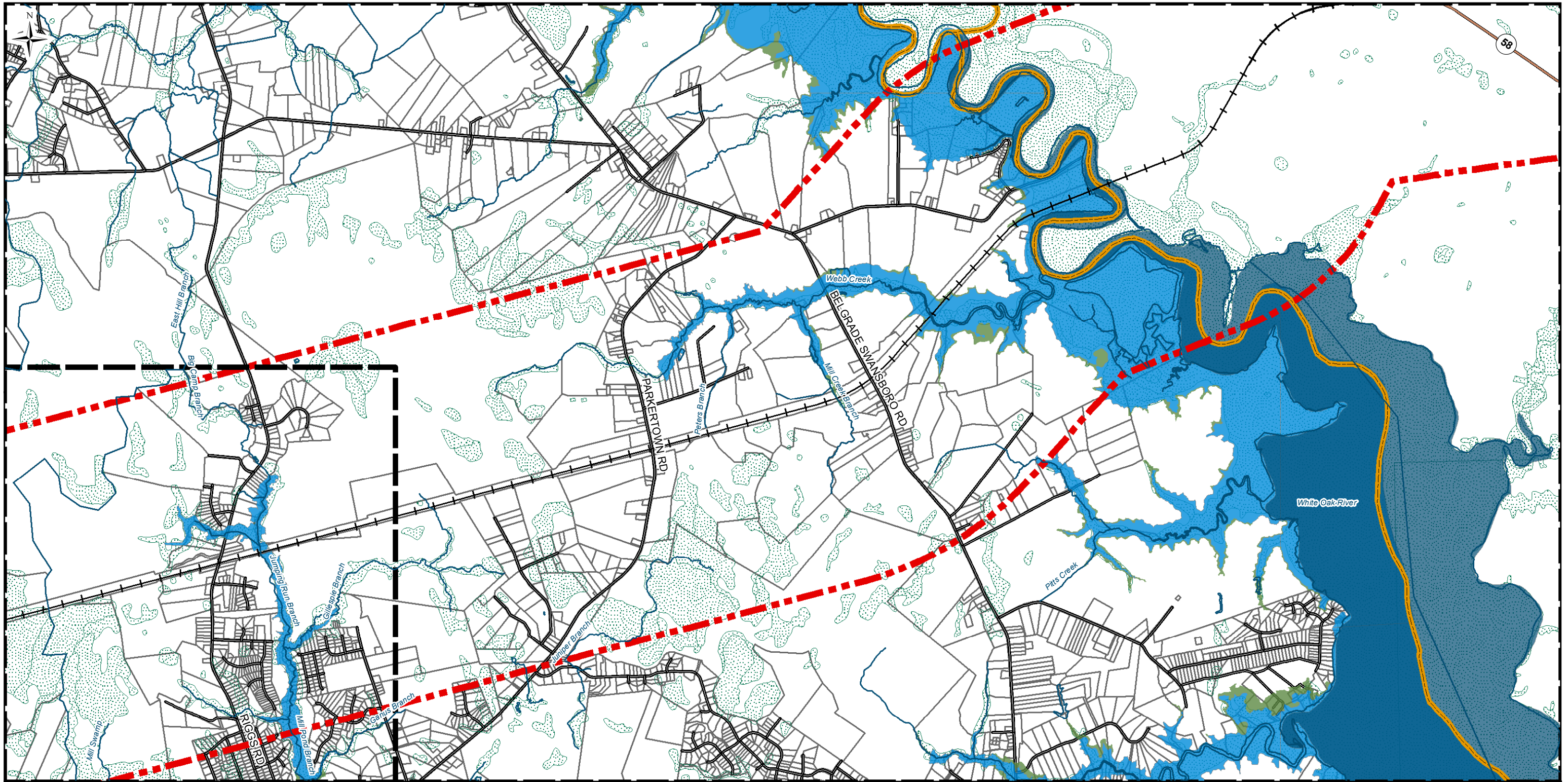
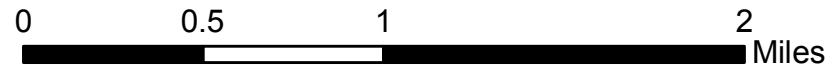


FIGURE 2A



**Legend**

	Primary Roads		Streams
	Secondary Roads		Water Bodies
	Railway		FWS Wetlands
	Approximate Study Boundary	<b>Flood Zones</b>	
	City Boundary		Floodway
	Camp Lejeune		100 Yr Floodplain
	County Boundary		500 Yr Floodplain
	Matchline		



## Camp Lejeune Railroad Commercial Freight Feasibility Study - Hydrology Map



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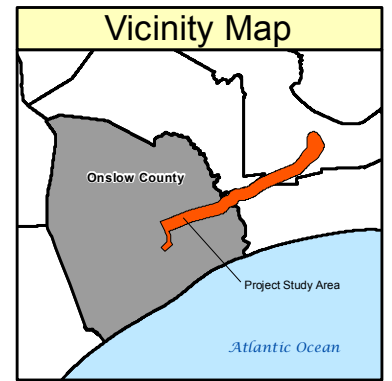
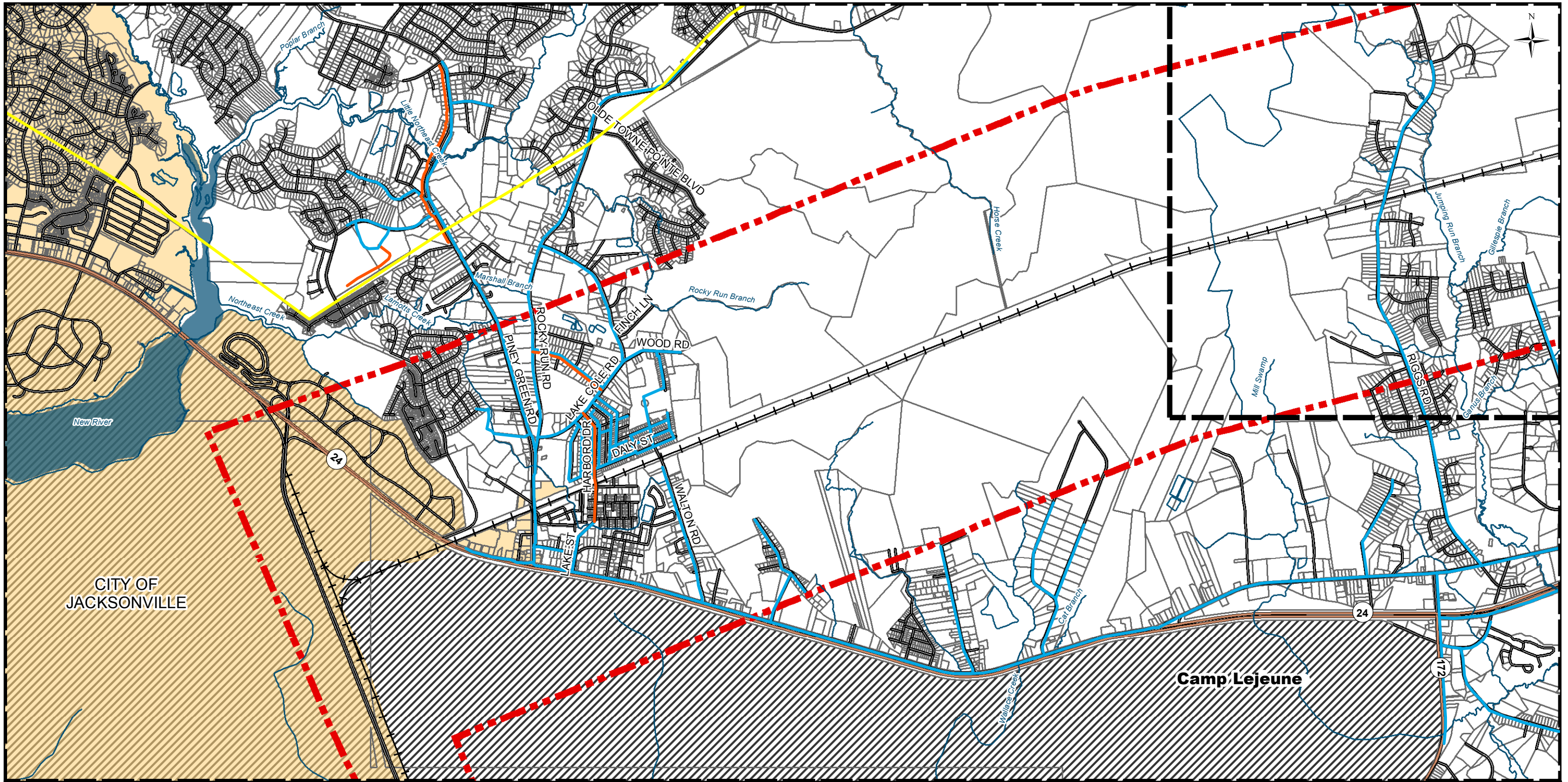
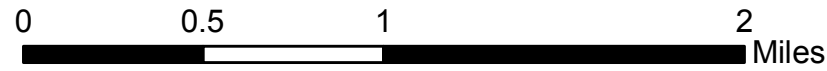


FIGURE 2B



**Legend**

	Primary Roads		Streams
	Secondary Roads		Water Bodies
	Railway	<b>Utilities</b>	
	Approximate Study Boundary		OHP
	City Boundary		Water Mains
	Camp Lejeune		Sewer Mains
	County Boundary		
	Matchline		



## Camp Lejeune Railroad Commercial Freight Feasibility Study - Utilities Map



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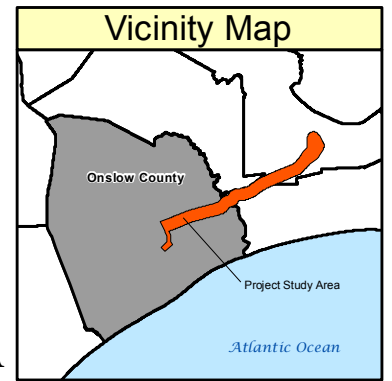
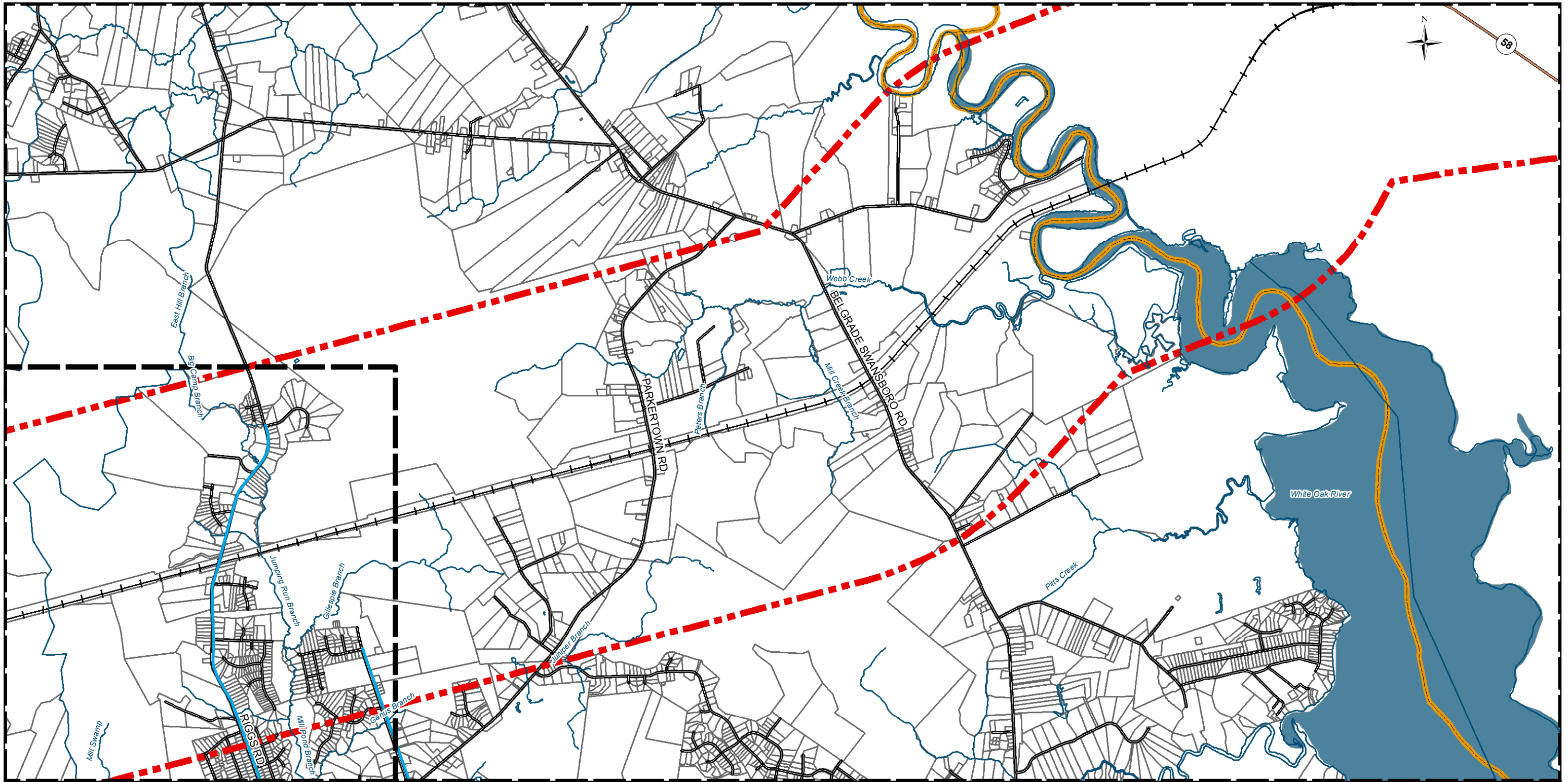


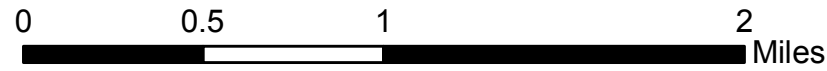
FIGURE 3A





**Legend**

	Primary Roads		Streams
	Secondary Roads		Water Bodies
	Railway	<b>Utilities</b>	
	Approximate Study Boundary		OHP
	City Boundary		Water Mains
	Camp Lejeune		Sewer Mains
	County Boundary		
	Matchline		



## Camp Lejeune Railroad Commercial Freight Feasibility Study - Utilities Map



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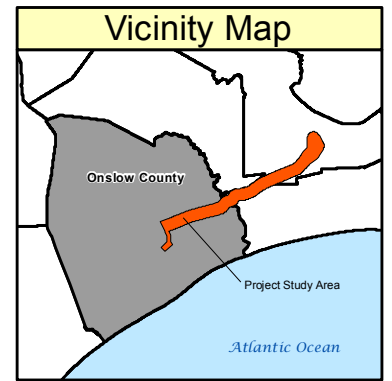
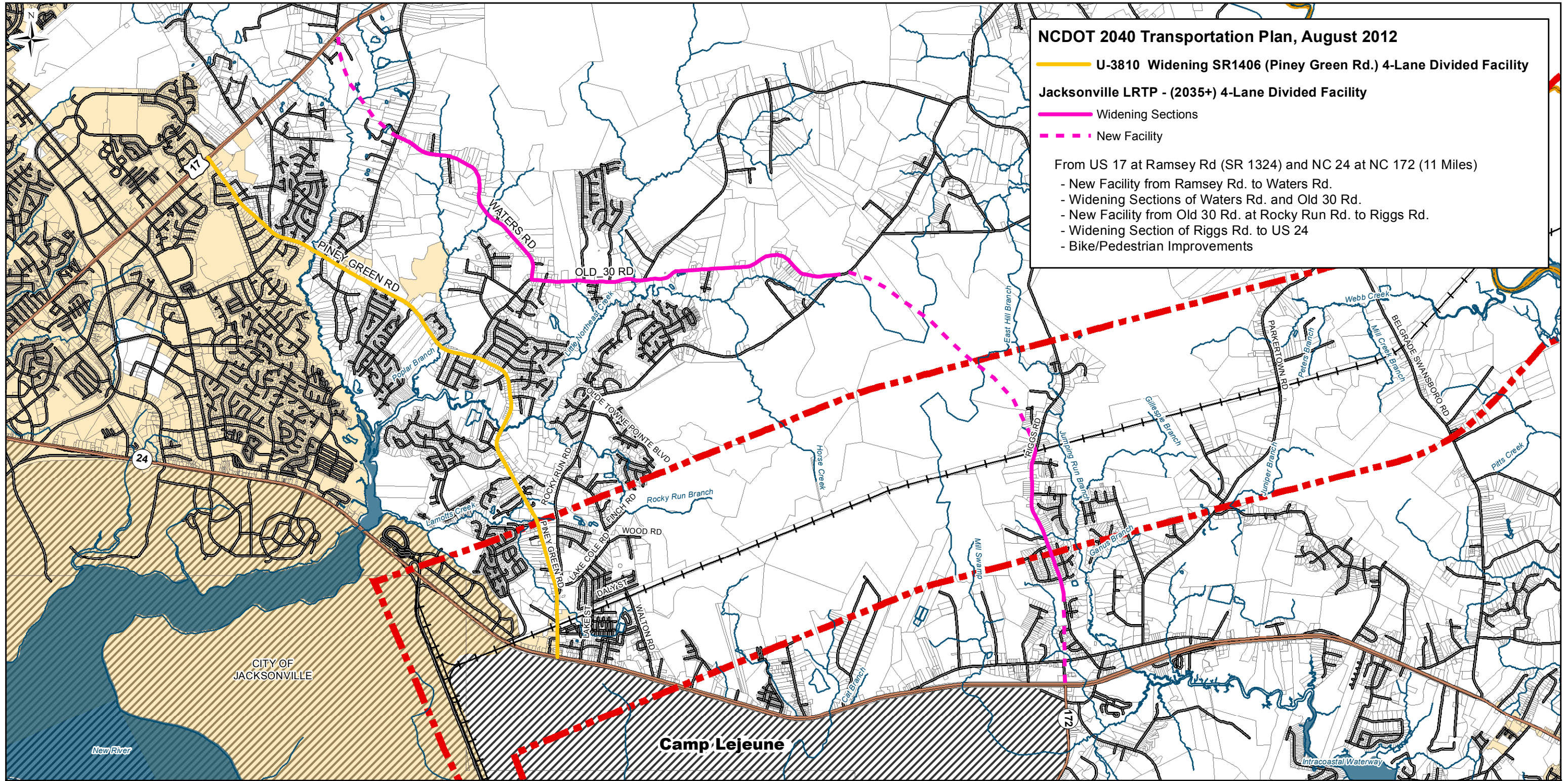


FIGURE 3B



**NCDOT 2040 Transportation Plan, August 2012**

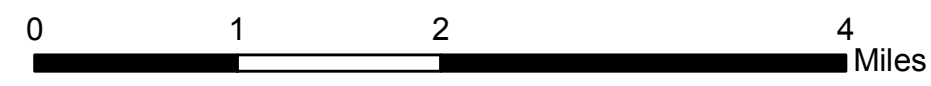
— U-3810 Widening SR1406 (Piney Green Rd.) 4-Lane Divided Facility  
— Jacksonville L RTP - (2035+) 4-Lane Divided Facility  
- - - Widening Sections  
- - - - - New Facility

From US 17 at Ramsey Rd (SR 1324) and NC 24 at NC 172 (11 Miles)

- New Facility from Ramsey Rd. to Waters Rd.
- Widening Sections of Waters Rd. and Old 30 Rd.
- New Facility from Old 30 Rd. at Rocky Run Rd. to Riggs Rd.
- Widening Section of Riggs Rd. to US 24
- Bike/Pedestrian Improvements

**Legend**

	Primary Roads		Streams
	Secondary Roads		Water Bodies
	Railway		
	Approximate Study Boundary		
	City Boundary		
	Camp Lejeune		
	County Boundary		



**Camp Lejeune Railroad Commercial Freight Feasibility Study - Transportation Plan Map**



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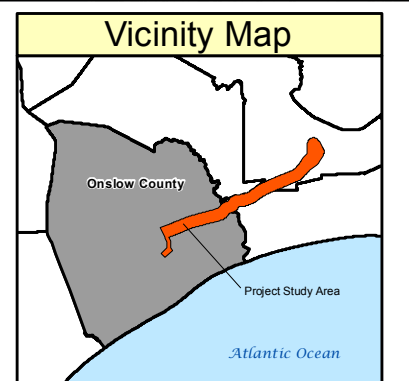
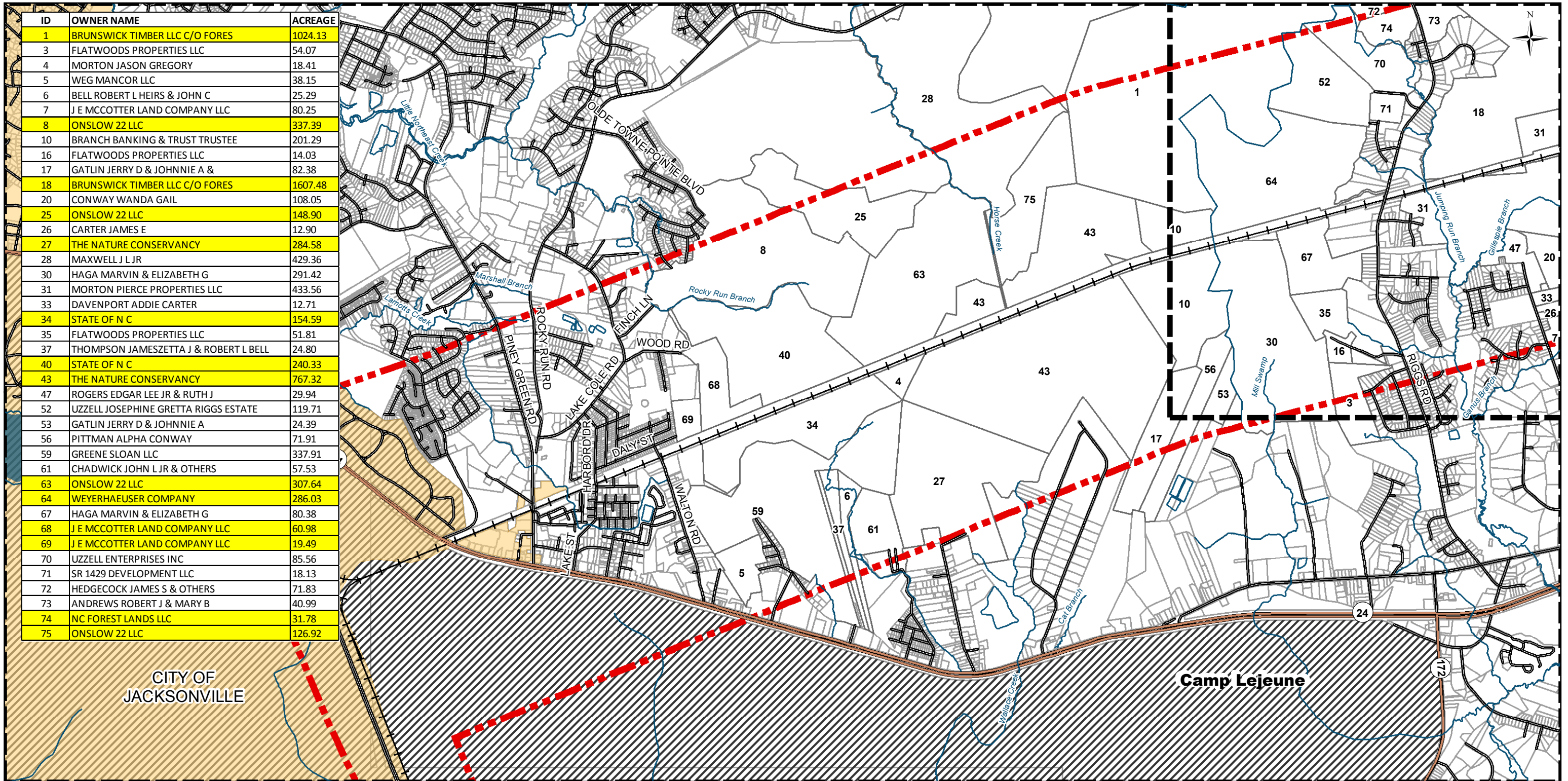


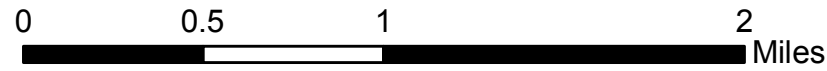
FIGURE 4



ID	OWNER NAME	ACREAGE
1	BRUNSWICK TIMBER LLC C/O FORES	1024.13
3	FLATWOODS PROPERTIES LLC	54.07
4	MORTON JASON GREGORY	18.41
5	WEG MANCOR LLC	38.15
6	BELL ROBERT L HEIRS & JOHN C	25.29
7	J E MCCOTTER LAND COMPANY LLC	80.25
8	ONSLow 22 LLC	337.39
10	BRANCH BANKING & TRUST TRUSTEE	201.29
16	FLATWOODS PROPERTIES LLC	14.03
17	GATLIN JERRY D & JOHNNIE A &	82.38
18	BRUNSWICK TIMBER LLC C/O FORES	1607.48
20	CONWAY WANDA GAIL	108.05
25	ONSLow 22 LLC	148.90
26	CARTER JAMES E	12.90
27	THE NATURE CONSERVANCY	284.58
28	MAXWELL J L JR	429.36
30	HAGA MARVIN & ELIZABETH G	291.42
31	MORTON PIERCE PROPERTIES LLC	433.56
33	DAVENPORT ADDIE CARTER	12.71
34	STATE OF N C	154.59
35	FLATWOODS PROPERTIES LLC	51.81
37	THOMPSON JAMESZETTA J & ROBERT L BELL	24.80
40	STATE OF N C	240.33
43	THE NATURE CONSERVANCY	767.32
47	ROGERS EDGAR LEE JR & RUTH J	29.94
52	UZZELL JOSEPHINE GRETTA RIGGS ESTATE	119.71
53	GATLIN JERRY D & JOHNNIE A	24.39
56	PITTMAN ALPHA CONWAY	71.91
59	GREENE SLOAN LLC	337.91
61	CHADWICK JOHN L JR & OTHERS	57.53
63	ONSLow 22 LLC	307.64
64	WEYERHAEUSER COMPANY	286.03
67	HAGA MARVIN & ELIZABETH G	80.38
68	J E MCCOTTER LAND COMPANY LLC	60.98
69	J E MCCOTTER LAND COMPANY LLC	19.49
70	UZZELL ENTERPRISES INC	85.56
71	SR 1429 DEVELOPMENT LLC	18.13
72	HEDGECOCK JAMES S & OTHERS	71.83
73	ANDREWS ROBERT J & MARY B	40.99
74	NC FOREST LANDS LLC	31.78
75	ONSLow 22 LLC	126.92

**Legend**

- Primary Roads
- Secondary Roads
- Railway
- Approximate Study Boundary
- City Boundary
- Camp Lejeune
- County Boundary
- Matchline
- Streams
- Water Bodies

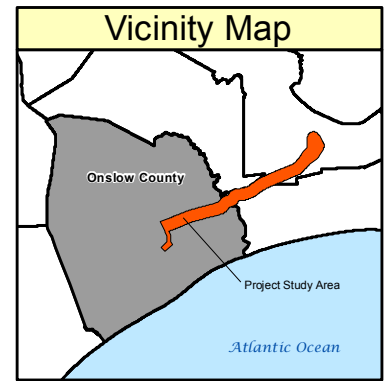


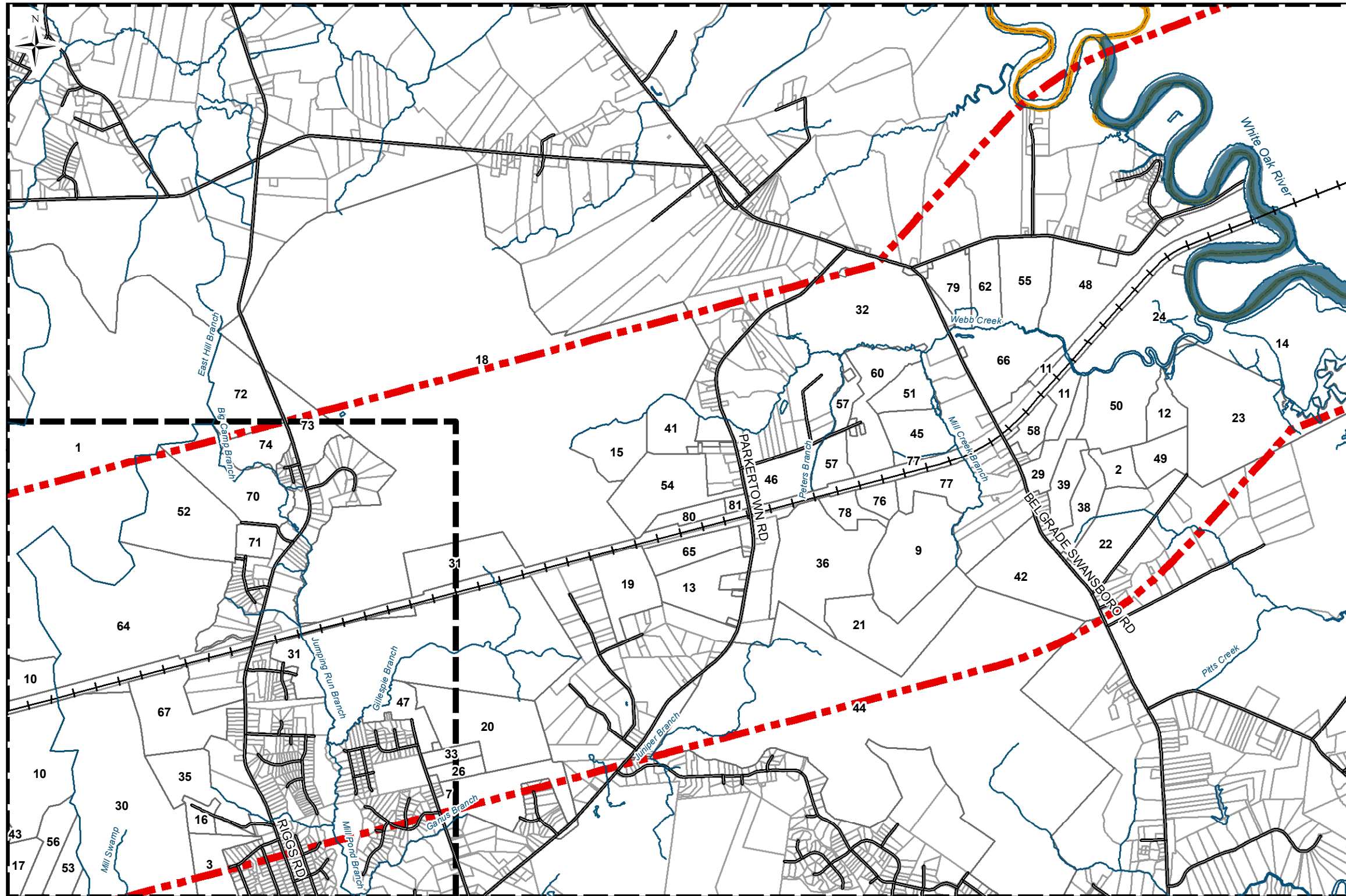
## Camp Lejeune Railroad Commercial Freight Feasibility Study- Parcel Map



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FIGURE 5A

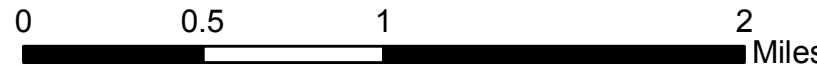




ID	PIN	OWNER	Acres
1	532600462391	BRUNSWICK TIMBER LLC C/O FORES	1024.13
2	535700100947	GILLETTE JAMES BLAIR & TAWNDA T	21.02
3	532600803547	FLATWOODS PROPERTIES LLC	54.07
7	533604526636	J E MCCOTTER LAND COMPANY LLC	80.25
9	534600589760	ENGLES TIMBERLAND PROPERTIES LLC	111.97
10	532600331359	BRANCH BANKING & TRUST TRUSTEE	201.29
11	534704926694	GILLETTE JOHN M	25.46
12	535700223318	GODWIN ROY LEE & ANITA S TRUST	24.62
13	534600077911	WILLIAMS JUDITH P & JOHN MILTON	60.14
14	535700449151	STATE OF N C	170.60
15	533700814464	GUTHRIE TOMMIE J & JUANITA L	46.48
16	532600820017	FLATWOODS PROPERTIES LLC	14.03
17	532501297648	GATLIN JERRY D & JOHNNIE A &	82.38
18	533700530473	BRUNSWICK TIMBER LLC C/O FORES	1607.48
19	533600887021	KLUGE FREDERICK W	53.60
20	533603447513	CONWAY WANDA GAIL	108.05
21	534600562580	ADIRONDACK TIMBER CO INC	103.63
22	535600097080	ANDREWS ELOISE	47.97
23	535700422313	STATE OF NORTH CAROLINA	195.70
24	535701251216	SANDERS ZETA TOLSON TRUSTEE	112.34
26	533603434396	CARTER JAMES E	12.90
29	534704913178	GILLETTE JOHN & KATHLEEN M	33.04
30	532600529737	HAGA MARVIN & ELIZABETH G	291.42
31	533600369558	MORTON PIERCE PROPERTIES LLC	433.56
32	534703447526	GILLETTE JAMES M & KAY B	167.26
33	533603433720	DAVENPORT ADDIE CARTER	12.71
35	532600739174	FLATWOODS PROPERTIES LLC	51.81
36	534600386558	GUTHRIE TOMMIE J & JUANITA L	135.04
38	535700003118	GILLETTE JAMES MILTON & KAY BYNUM	34.21
39	534704907600	ANDREWS THELMA STUBBS	31.04
41	533700928020	PARKER GENELDA RIGGS	39.56
42	534600879885	HARRISON CLARA P	95.13
44	534600549279	ENGLES TIMBERLAND PROPERTIES LLC	978.27
45	534704610805	GUTHRIE TOMMIE J & JUANITA L	40.62
46	534703205837	PARKER DOUGLAS CANADY & OTHERS	41.53
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50	535700121722	GILLETTE JOHN M & KATHLEEN M	80.85
51	534704527860	PARKER DOUGLAS CANADY & OTHERS	32.10
52	532600794451	UZZELL JOSEPHINE GRETTA RIGGS ESTATE	119.71
53	532600405660	GATLIN JERRY D & JOHNNIE A	24.39
54	534703003688	GUTHRIE JUANITA L	81.25
55	534702857656	GRAHAM EMILY P & JAMES PARKER	62.75
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57	534703411103	VICK MARY B	41.45
58	534704819975	GILLETTE JOHN M & KATHLEEN M	19.14
60	534703439307	GRAY DORIS J & MAJOR HAROLD	69.07
62	534702757647	GILLETTE JAMES M & KAY B	37.68
64	532600672644	WEYERHAEUSER COMPANY	286.03
65	534600083873	DAVIS CAROLYN MICHELLE	35.51
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67	532600745374	HAGA MARVIN & ELIZABETH G	80.38
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74	532700915213	NC FOREST LANDS LLC	31.78
76	534703439307	GRAY DORIS J & MAJOR HAROLD	16.72
77	534704605419	SIMMONS EAUSA EST	43.75
78	534703411103	VICK MARY B	19.05
79	534702659448	PARKER DOUGLAS CANADY & OTHERS	34.09
80	534703205837	PARKER DOUGLAS CANADY & OTHERS	16.73
81	534600194966	PARKER DOUGLAS C & ANITA	4.82

**Legend**

- Primary Roads
- Secondary Roads
- Railway
- Approximate Study Boundary
- City Boundary
- Camp Lejeune
- County Boundary
- Matchline
- Streams
- Water Bodies



## Camp Lejeune Railroad Commercial Freight Feasibility Study - Parcel Map



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Consultants

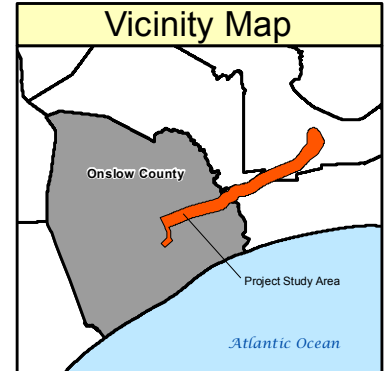
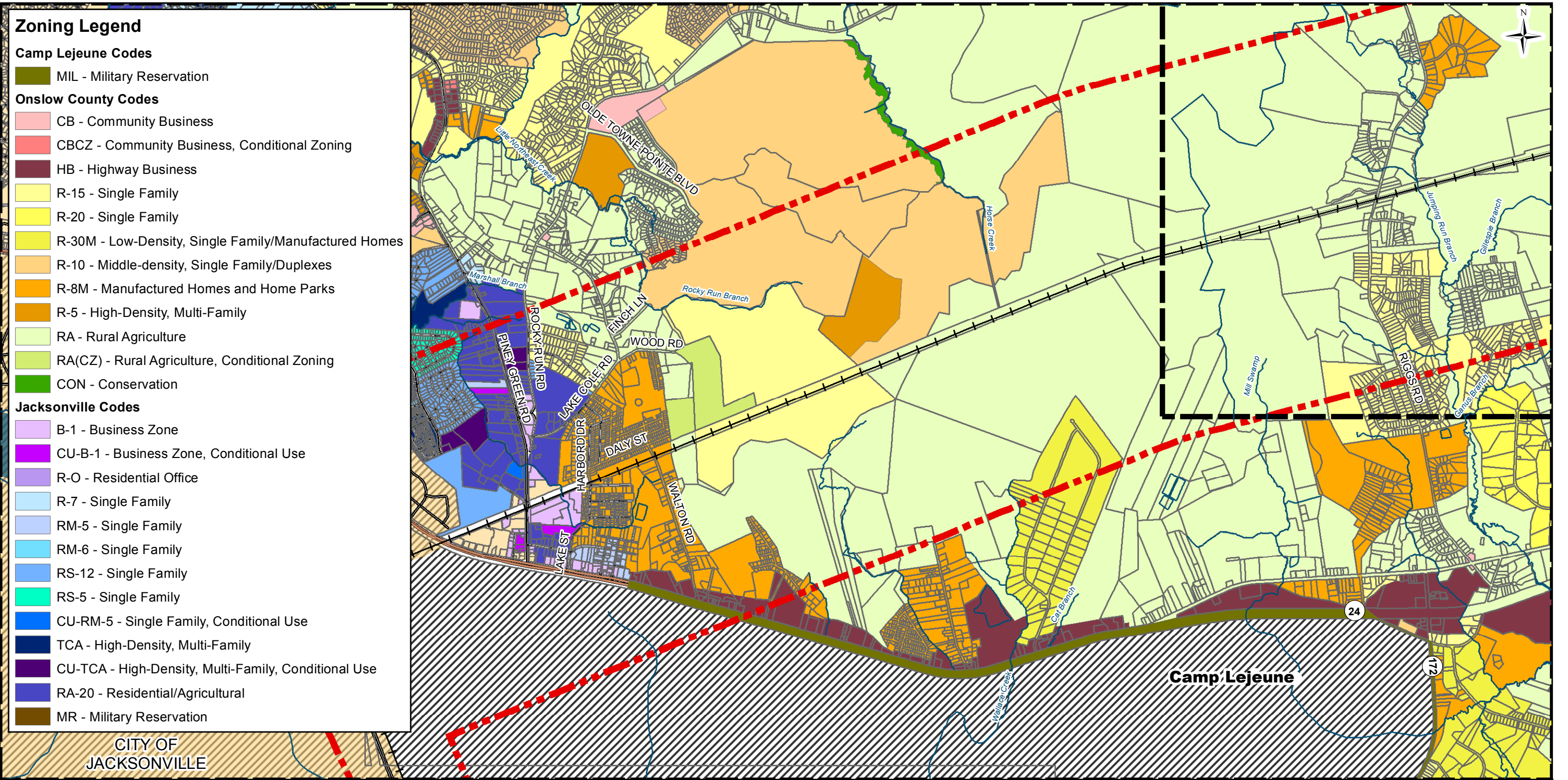
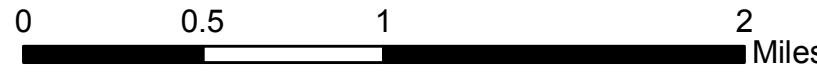


FIGURE 5B



- ### Zoning Legend
- Camp Lejeune Codes**
- MIL - Military Reservation
- Onslow County Codes**
- CB - Community Business
  - CBCZ - Community Business, Conditional Zoning
  - HB - Highway Business
  - R-15 - Single Family
  - R-20 - Single Family
  - R-30M - Low-Density, Single Family/Manufactured Homes
  - R-10 - Middle-density, Single Family/Duplexes
  - R-8M - Manufactured Homes and Home Parks
  - R-5 - High-Density, Multi-Family
  - RA - Rural Agriculture
  - RA(CZ) - Rural Agriculture, Conditional Zoning
  - CON - Conservation
- Jacksonville Codes**
- B-1 - Business Zone
  - CU-B-1 - Business Zone, Conditional Use
  - R-O - Residential Office
  - R-7 - Single Family
  - RM-5 - Single Family
  - RM-6 - Single Family
  - RS-12 - Single Family
  - RS-5 - Single Family
  - CU-RM-5 - Single Family, Conditional Use
  - TCA - High-Density, Multi-Family
  - CU-TCA - High-Density, Multi-Family, Conditional Use
  - RA-20 - Residential/Agricultural
  - MR - Military Reservation

- ### Legend
- Primary Roads
  - Secondary Roads
  - Railway
  - Approximate Study Boundary
  - City Boundary
  - Camp Lejeune
  - County Boundary
  - Matchline
  - Streams
  - Water Bodies



## Camp Lejeune Railroad Commercial Freight Feasibility Study - Zoning Map



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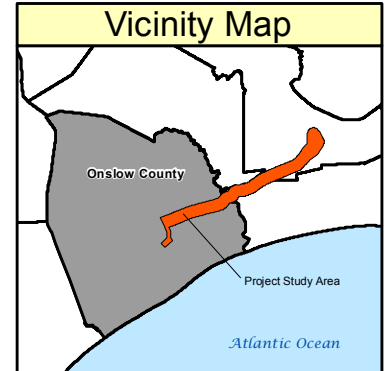
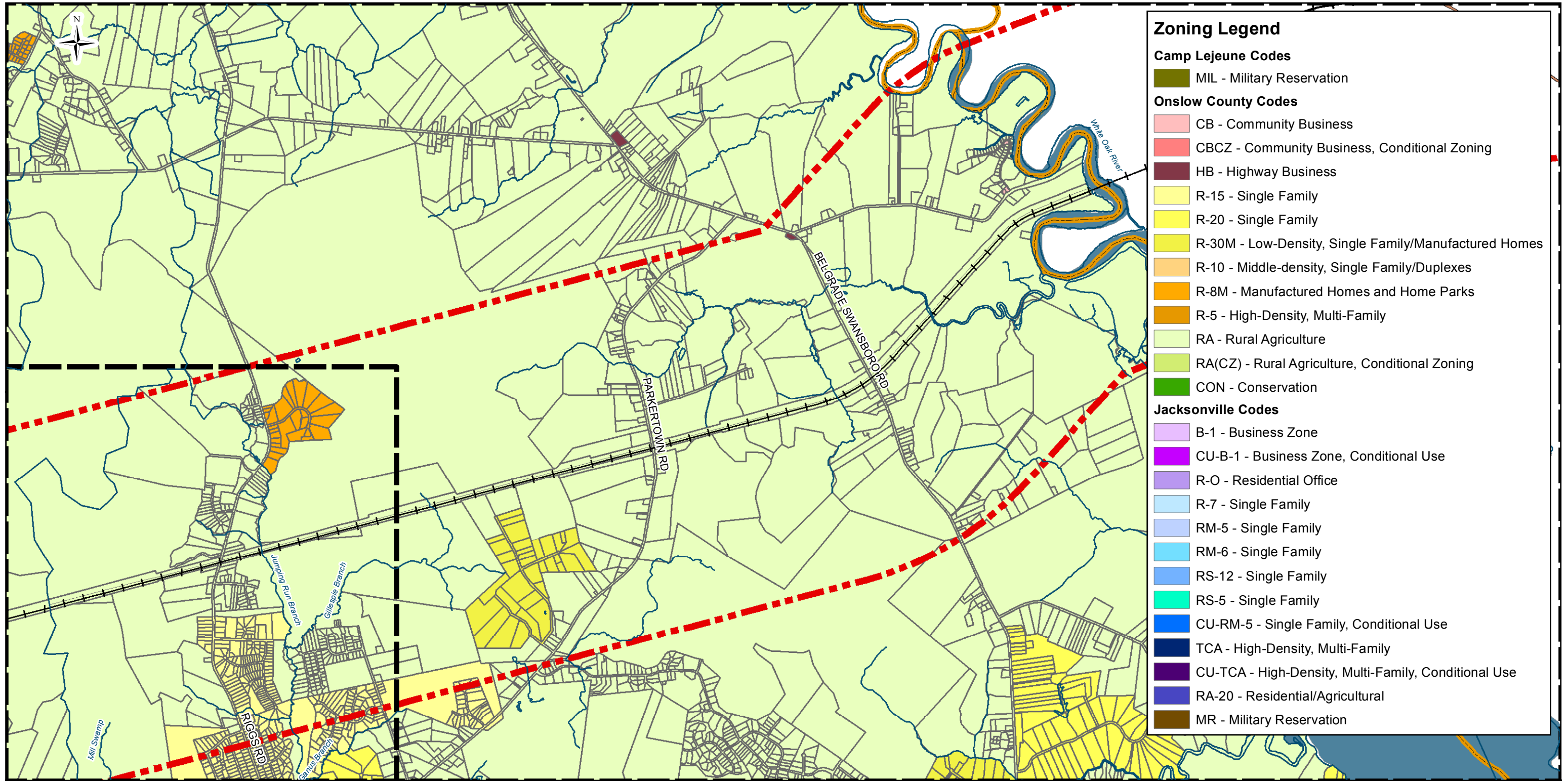


FIGURE 6A

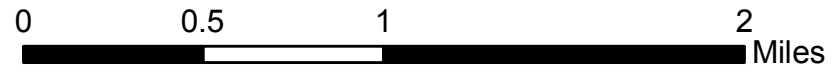


### Zoning Legend

Camp Lejeune Codes	
	MIL - Military Reservation
Onslow County Codes	
	CB - Community Business
	CBCZ - Community Business, Conditional Zoning
	HB - Highway Business
	R-15 - Single Family
	R-20 - Single Family
	R-30M - Low-Density, Single Family/Manufactured Homes
	R-10 - Middle-density, Single Family/Duplexes
	R-8M - Manufactured Homes and Home Parks
	R-5 - High-Density, Multi-Family
	RA - Rural Agriculture
	RA(CZ) - Rural Agriculture, Conditional Zoning
	CON - Conservation
Jacksonville Codes	
	B-1 - Business Zone
	CU-B-1 - Business Zone, Conditional Use
	R-O - Residential Office
	R-7 - Single Family
	RM-5 - Single Family
	RM-6 - Single Family
	RS-12 - Single Family
	RS-5 - Single Family
	CU-RM-5 - Single Family, Conditional Use
	TCA - High-Density, Multi-Family
	CU-TCA - High-Density, Multi-Family, Conditional Use
	RA-20 - Residential/Agricultural
	MR - Military Reservation

### Legend

	Primary Roads		Streams
	Secondary Roads		Water Bodies
	Railway		
	Approximate Study Boundary		
	City Boundary		
	Camp Lejeune		
	County Boundary		
	Matchline		



## Camp Lejeune Railroad Commercial Freight Feasibility Study - Zoning Map



DAVID P. SIMPSON  
Consultants

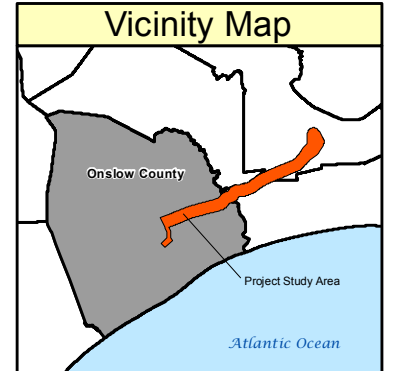


FIGURE 6B



# Camp Lejeune Railroad Commercial Freight Feasibility Study - McCotter Approved Conditional Zoning (RA-CZ) Map

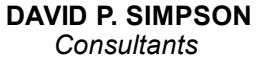
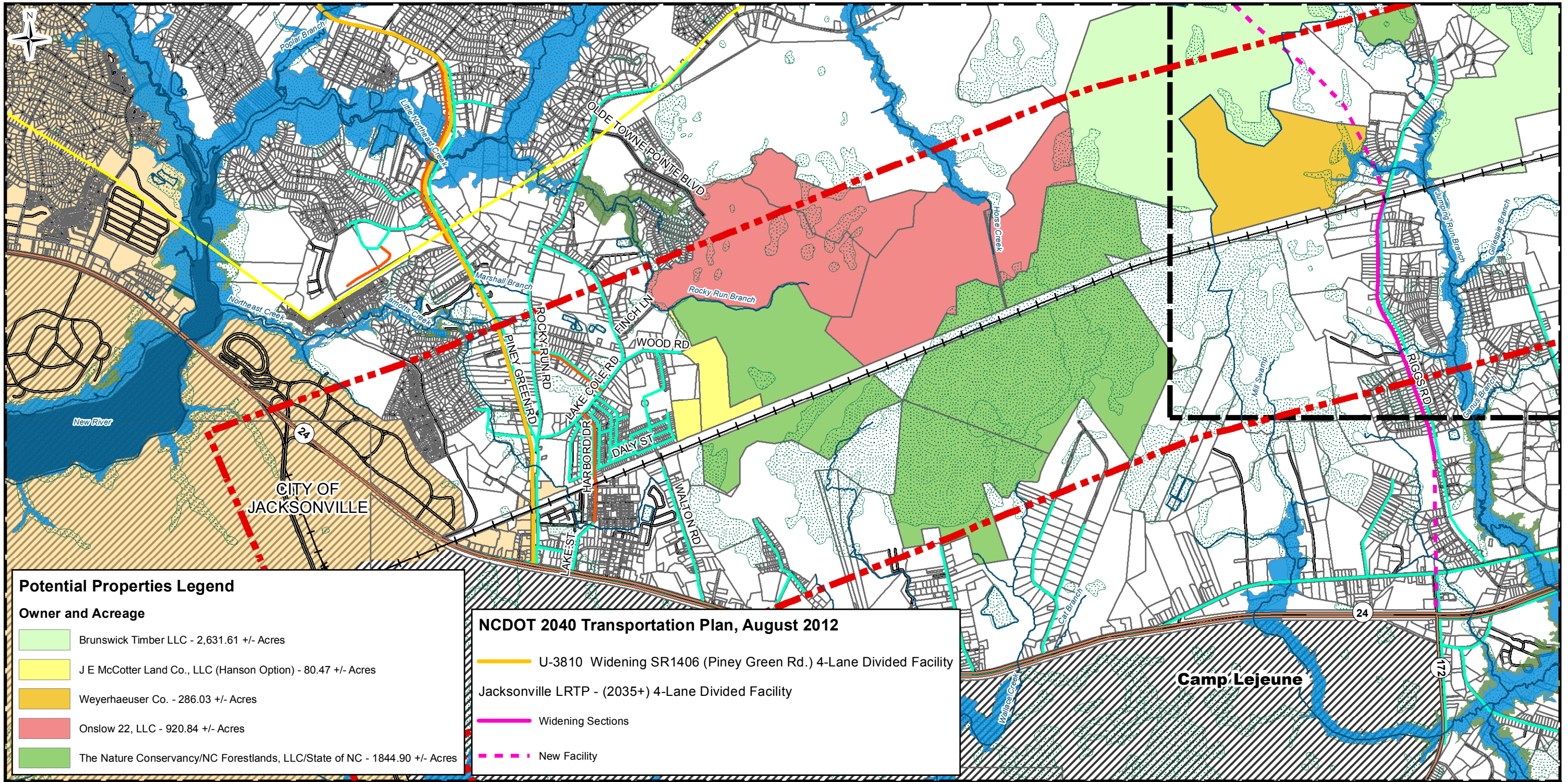


FIGURE 7



**Potential Properties Legend**

**Owner and Acreage**

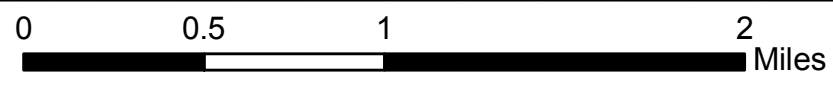
- Brunswick Timber LLC - 2,631.61 +/- Acres
- J E McCotter Land Co., LLC (Hanson Option) - 80.47 +/- Acres
- Weyerhaeuser Co. - 286.03 +/- Acres
- Onslow 22, LLC - 920.84 +/- Acres
- The Nature Conservancy/NC Forestlands, LLC/State of NC - 1844.90 +/- Acres

**NCDOT 2040 Transportation Plan, August 2012**

- U-3810 Widening SR1406 (Piney Green Rd.) 4-Lane Divided Facility
- Jacksonville L RTP - (2035+) 4-Lane Divided Facility
- Widening Sections
- New Facility

**Legend**

<span style="display: inline-block; width: 15px; border-bottom: 2px solid brown; margin-right: 5px;"></span> Primary Roads	<span style="display: inline-block; width: 15px; border-bottom: 2px solid blue; margin-right: 5px;"></span> Streams	<b>Utilities</b>
<span style="display: inline-block; width: 15px; border-bottom: 2px solid black; margin-right: 5px;"></span> Secondary Roads	<span style="display: inline-block; width: 15px; height: 15px; background-color: #4f81bd; border: 1px solid black; margin-right: 5px;"></span> Water Bodies	<span style="display: inline-block; width: 15px; height: 15px; background-color: yellow; border: 1px solid black; margin-right: 5px;"></span> OHP
<span style="display: inline-block; width: 15px; border-bottom: 2px dashed black; margin-right: 5px;"></span> Railway	<span style="display: inline-block; width: 15px; height: 15px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, #ccc 2px, #ccc 4px); border: 1px solid black; margin-right: 5px;"></span> FWS Wetlands	<span style="display: inline-block; width: 15px; height: 15px; background-color: cyan; border: 1px solid black; margin-right: 5px;"></span> Water Mains
<span style="display: inline-block; width: 15px; border: 2px dashed red; margin-right: 5px;"></span> Approximate Study Boundary	<b>Flood Zones</b>	<span style="display: inline-block; width: 15px; height: 15px; background-color: orange; border: 1px solid black; margin-right: 5px;"></span> Sewer Mains
<span style="display: inline-block; width: 15px; height: 15px; background-color: #fff2cc; border: 1px solid black; margin-right: 5px;"></span> City Boundary	<span style="display: inline-block; width: 15px; height: 15px; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, #ccc 2px, #ccc 4px); border: 1px solid black; margin-right: 5px;"></span> Floodway	
<span style="display: inline-block; width: 15px; height: 15px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, #ccc 2px, #ccc 4px); border: 1px solid black; margin-right: 5px;"></span> Camp Lejeune	<span style="display: inline-block; width: 15px; height: 15px; background-color: #4f81bd; border: 1px solid black; margin-right: 5px;"></span> 100 Yr Floodplain	
<span style="display: inline-block; width: 15px; height: 15px; border: 2px solid black; margin-right: 5px;"></span> County Boundary	<span style="display: inline-block; width: 15px; height: 15px; background-color: #70ad47; border: 1px solid black; margin-right: 5px;"></span> 500 Yr Floodplain	
<span style="display: inline-block; width: 15px; height: 15px; border-left: 2px solid black; border-right: 2px solid black; margin-right: 5px;"></span> Matchline		

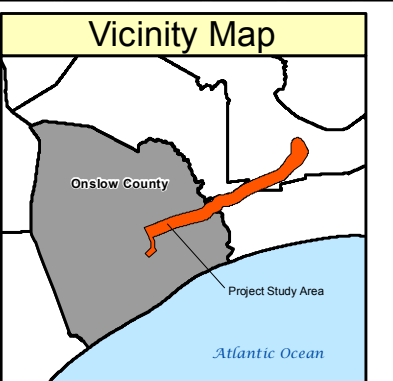


# Camp Lejeune Railroad Commercial Freight Feasibility Study - Potential Properties for Economic Development

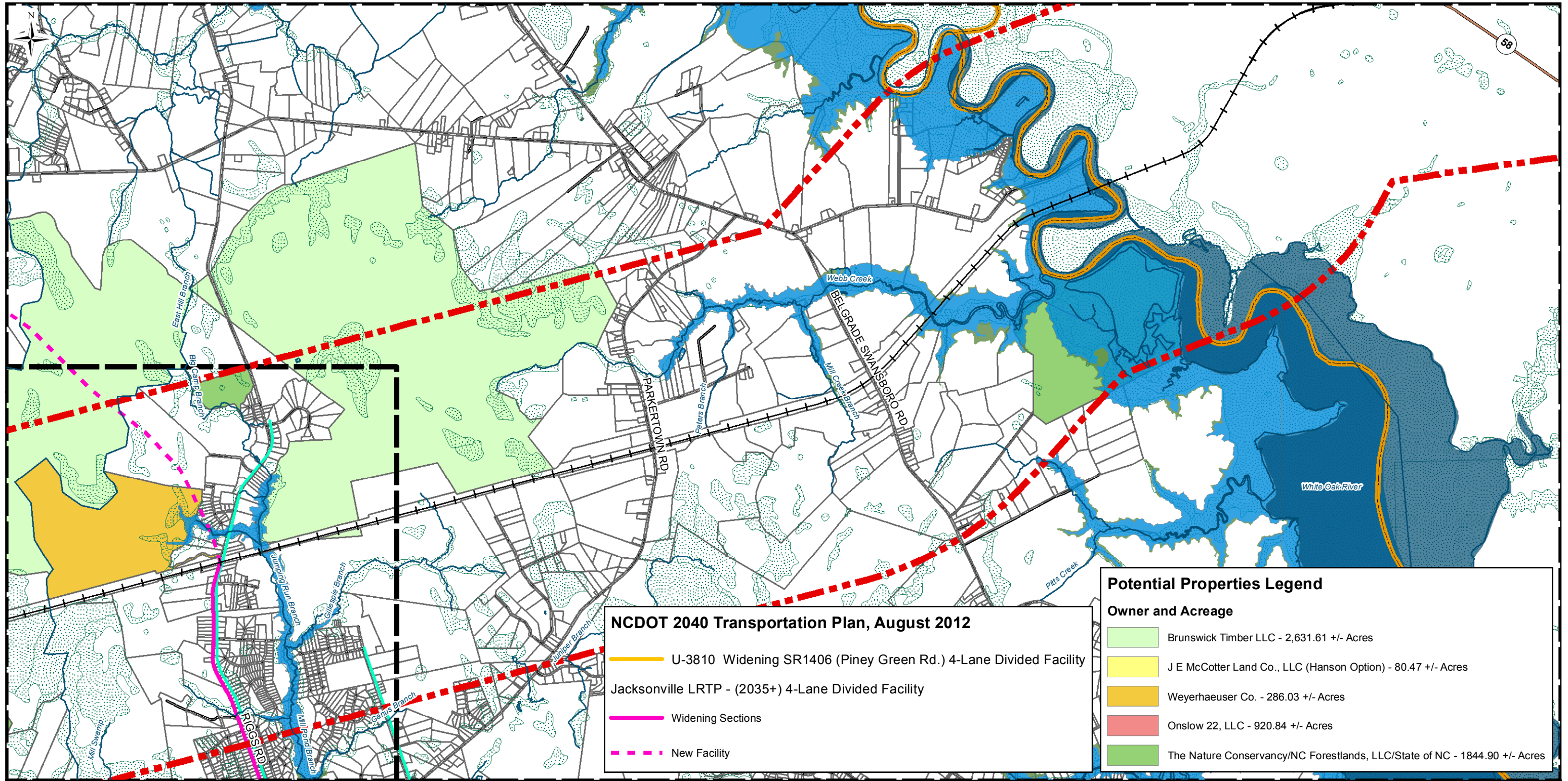


**DAVID P. SIMPSON**  
Consultants

FIGURE 8A







**NCDOT 2040 Transportation Plan, August 2012**

- U-3810 Widening SR1406 (Piney Green Rd.) 4-Lane Divided Facility
- Jacksonville LRTP - (2035+) 4-Lane Divided Facility
- - - Widening Sections
- - - New Facility

**Potential Properties Legend**

**Owner and Acreage**

<span style="color: lightgreen;">■</span>	Brunswick Timber LLC - 2,631.61 +/- Acres
<span style="color: yellow;">■</span>	J E McCotter Land Co., LLC (Hanson Option) - 80.47 +/- Acres
<span style="color: orange;">■</span>	Weyerhaeuser Co. - 286.03 +/- Acres
<span style="color: red;">■</span>	Onslow 22, LLC - 920.84 +/- Acres
<span style="color: green;">■</span>	The Nature Conservancy/NC Forestlands, LLC/State of NC - 1844.90 +/- Acres

**Legend**

<span style="color: brown;">—</span>	Primary Roads	<span style="color: blue;">—</span>	Streams	<span style="color: yellow;">—</span>	Utilities
<span style="color: grey;">—</span>	Secondary Roads	<span style="color: blue;">■</span>	Water Bodies	<span style="color: yellow;">—</span>	OHP
<span style="color: black;">+</span>	Railway	<span style="color: green;">■</span>	FWS Wetlands	<span style="color: cyan;">—</span>	Water Mains
<span style="color: red;">- - -</span>	Approximate Study Boundary	<span style="color: blue;">■</span>	<b>Flood Zones</b>	<span style="color: orange;">—</span>	Sewer Mains
<span style="color: orange;">■</span>	City Boundary	<span style="color: blue;">■</span>	Floodway		
<span style="color: black;">▨</span>	Camp Lejeune	<span style="color: blue;">■</span>	100 Yr Floodplain		
<span style="color: orange;">■</span>	County Boundary	<span style="color: green;">■</span>	500 Yr Floodplain		
<span style="color: black;">L</span>	Matchline				

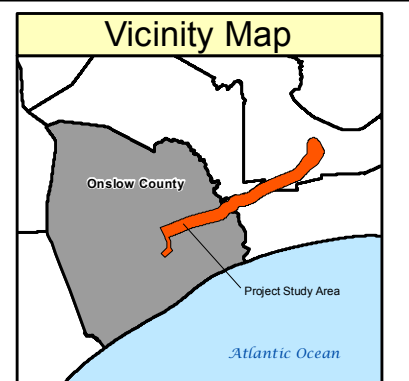
# Camp Lejeune Railroad Commercial Freight Feasibility Study

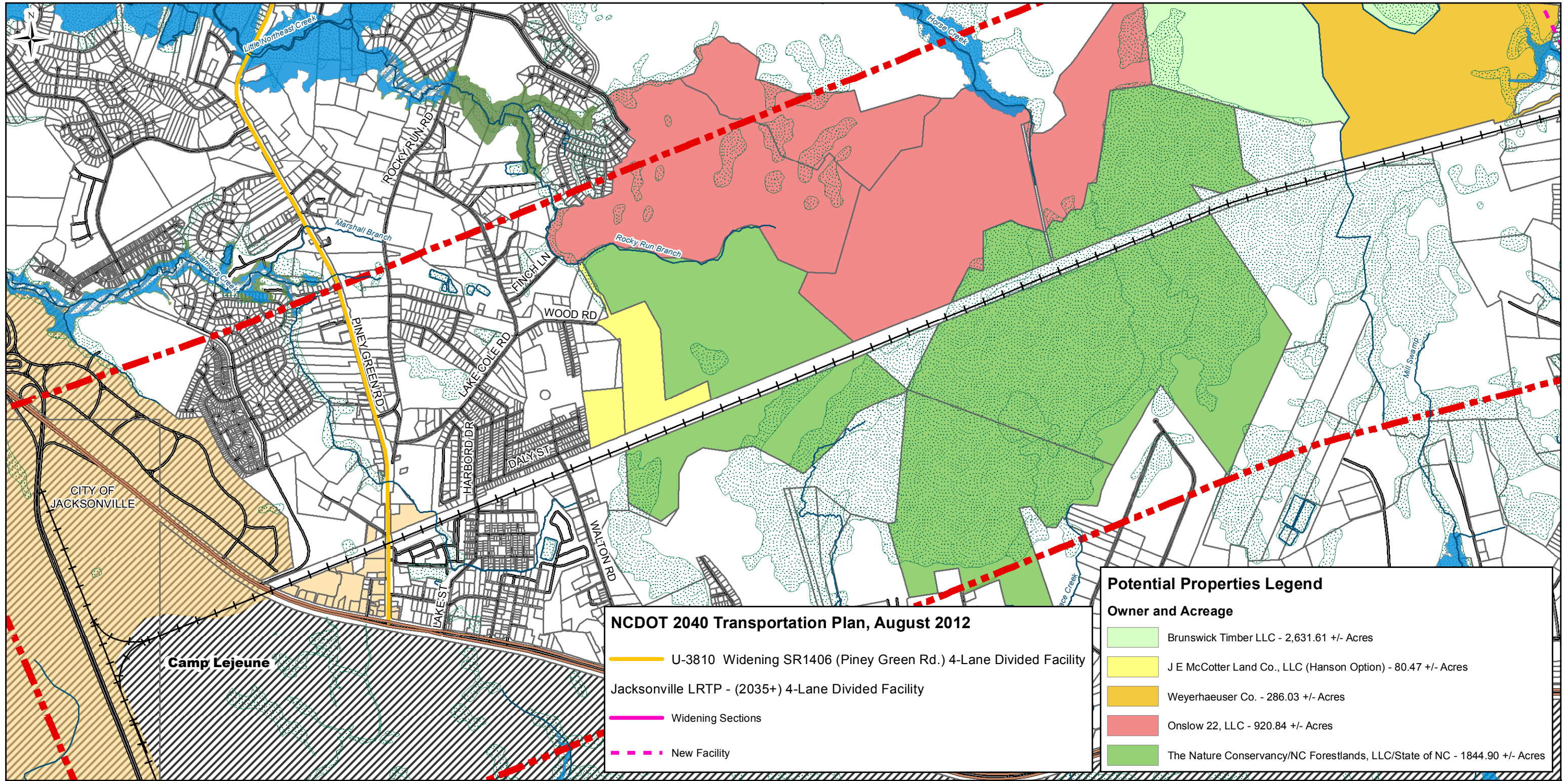
## Potential Properties for Economic Development



**DAVID P. SIMPSON**  
Consultants

FIGURE 8B





**NCDOT 2040 Transportation Plan, August 2012**

- U-3810 Widening SR1406 (Piney Green Rd.) 4-Lane Divided Facility
- Jacksonville LRTP - (2035+) 4-Lane Divided Facility
- Widening Sections
- - - New Facility

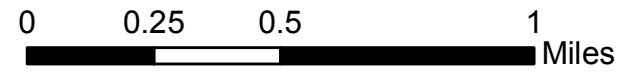
**Potential Properties Legend**

**Owner and Acreage**

- Brunswick Timber LLC - 2,631.61 +/- Acres
- J E McCotter Land Co., LLC (Hanson Option) - 80.47 +/- Acres
- Weyerhaeuser Co. - 286.03 +/- Acres
- Onslow 22, LLC - 920.84 +/- Acres
- The Nature Conservancy/NC Forestlands, LLC/State of NC - 1844.90 +/- Acres

**Legend**

- Primary Roads
- Secondary Roads
- + Railway
- - - Approximate Study Boundary
- City Boundary
- / / / Camp Lejeune
- County Boundary
- Streams
- Water Bodies
- - - FWS Wetlands
- Flood Zones**
- / / / Floodway
- 100 Yr Floodplain
- 500 Yr Floodplain



# Camp Lejeune Railroad Commercial Freight Feasibility Study

## Potential Properties for Economic Development



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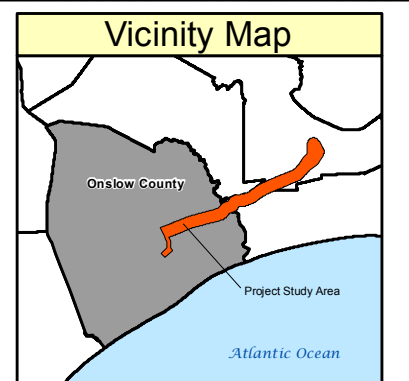
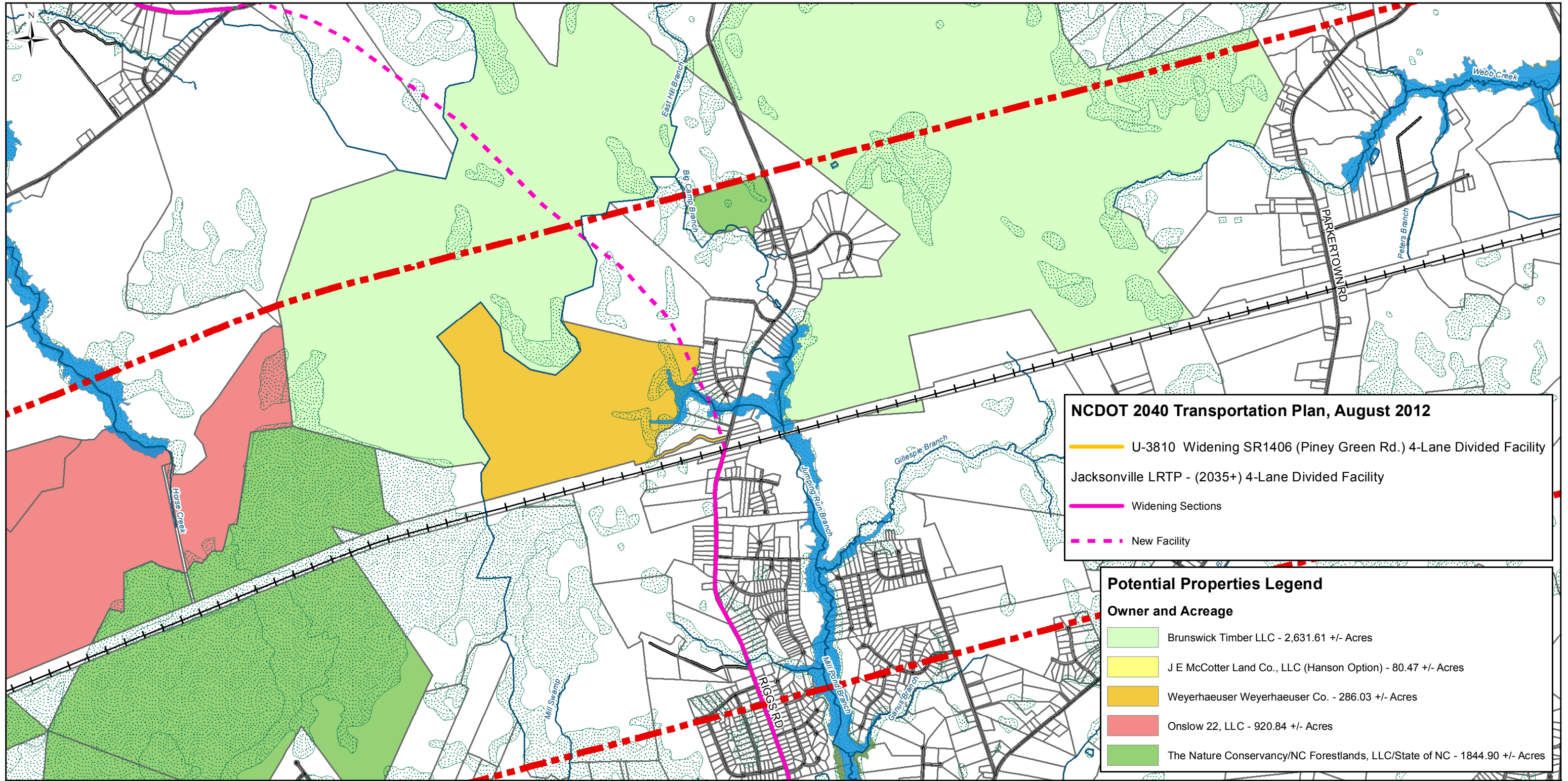


FIGURE 8C



**NCDOT 2040 Transportation Plan, August 2012**

- U-3810 Widening SR1406 (Piney Green Rd.) 4-Lane Divided Facility
- Jacksonville LRTP - (2035+) 4-Lane Divided Facility
- Widening Sections
- - - New Facility

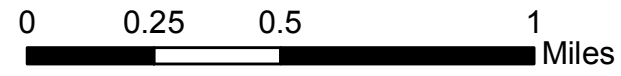
**Potential Properties Legend**

**Owner and Acreage**

- Brunswick Timber LLC - 2,631.61 +/- Acres
- J E McCotter Land Co., LLC (Hanson Option) - 80.47 +/- Acres
- Weyerhaeuser Weyerhaeuser Co. - 286.03 +/- Acres
- Onslow 22, LLC - 920.84 +/- Acres
- The Nature Conservancy/NC Forestlands, LLC/State of NC - 1844.90 +/- Acres

**Legend**

- Primary Roads
- Secondary Roads
- + Railway
- Approximate Study Boundary
- City Boundary
- Camp Lejeune
- County Boundary
- Streams
- Water Bodies
- FWS Wetlands
- Flood Zones**
- Floodway
- 100 Yr Floodplain
- 500 Yr Floodplain



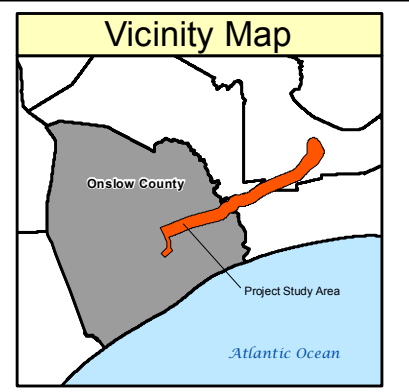
# Camp Lejeune Railroad Commercial Freight Feasibility Study

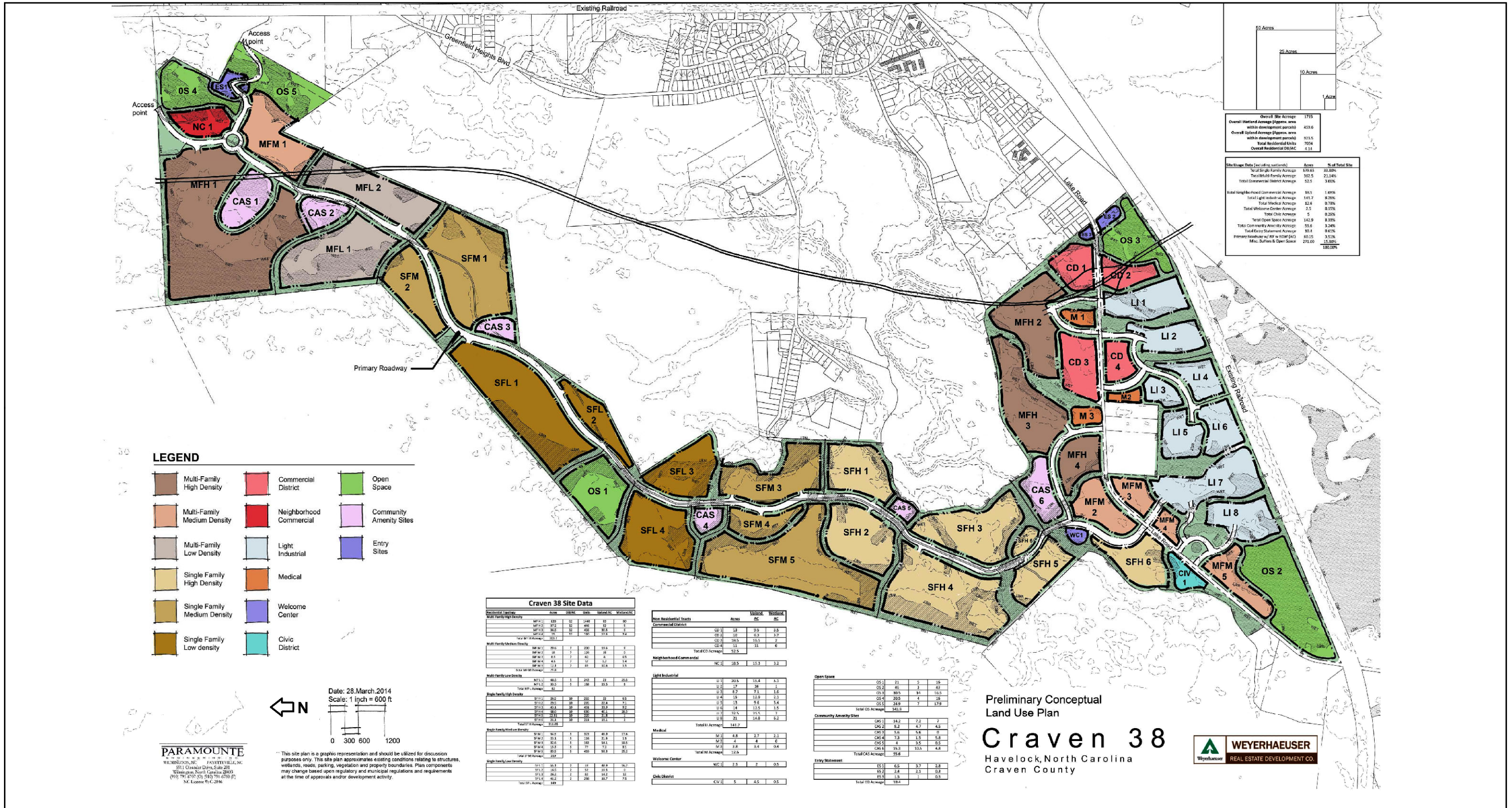
## Potential Properties for Economic Development



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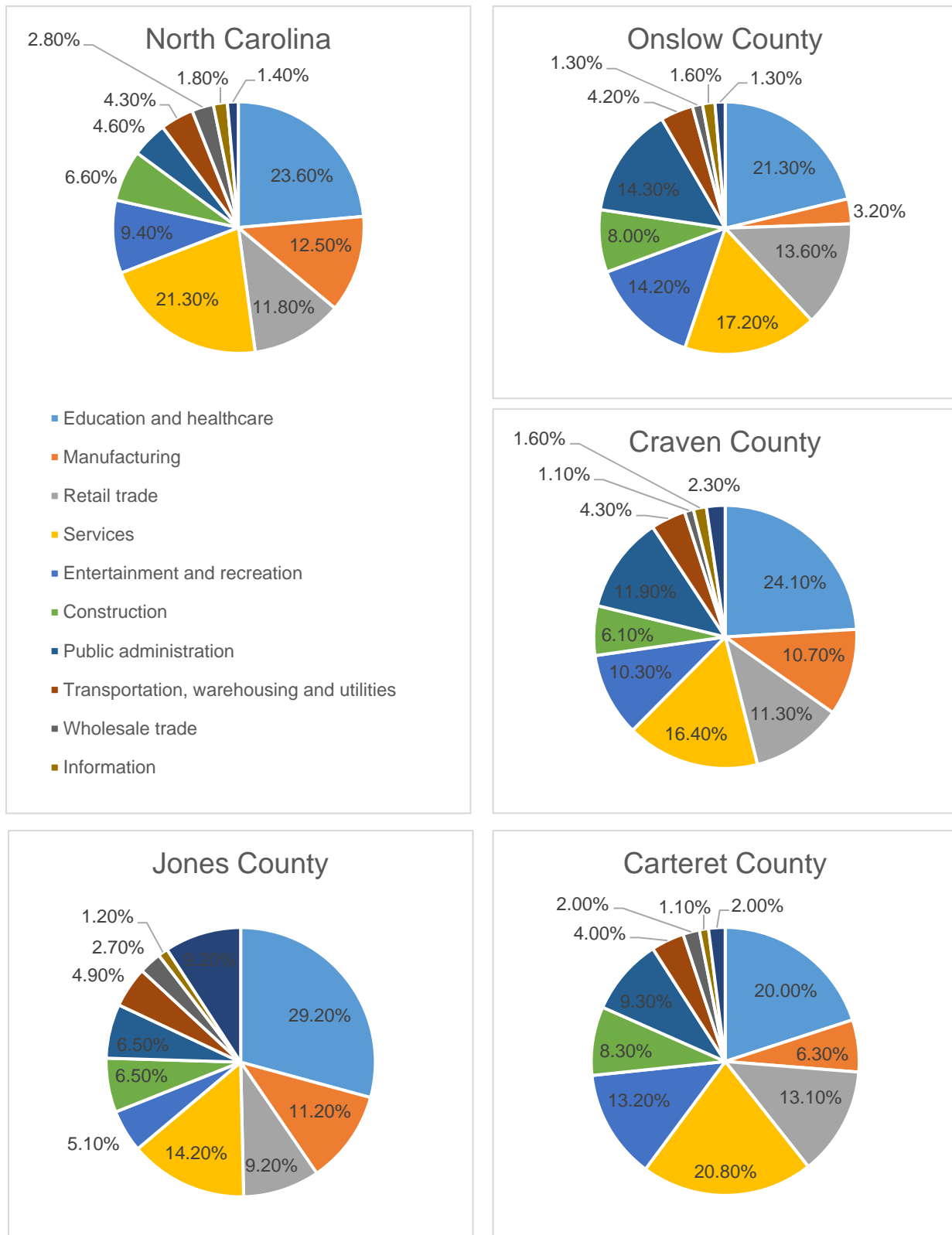
FIGURE 8D



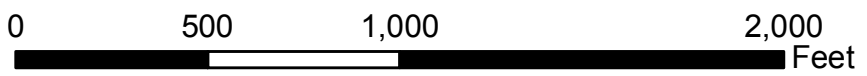
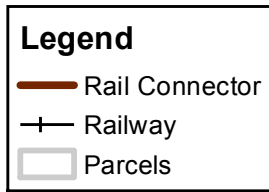
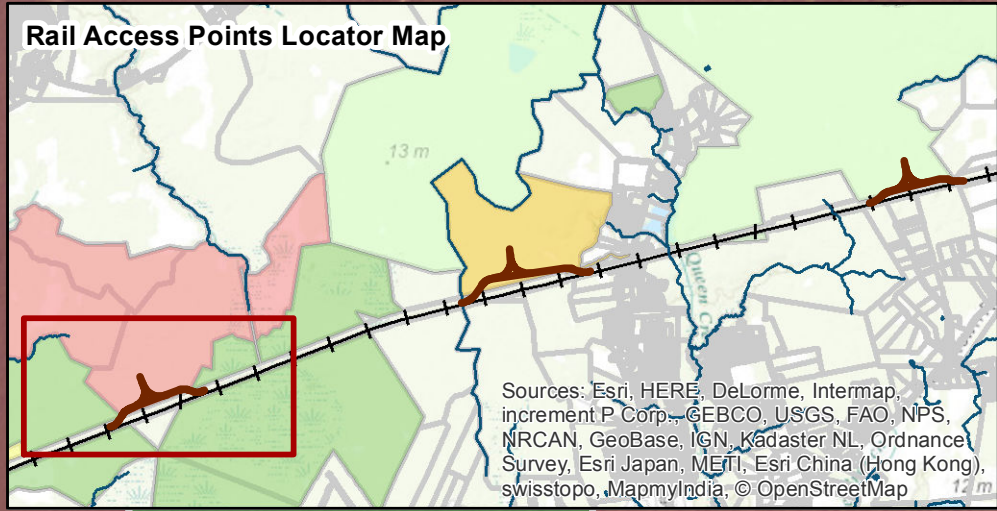
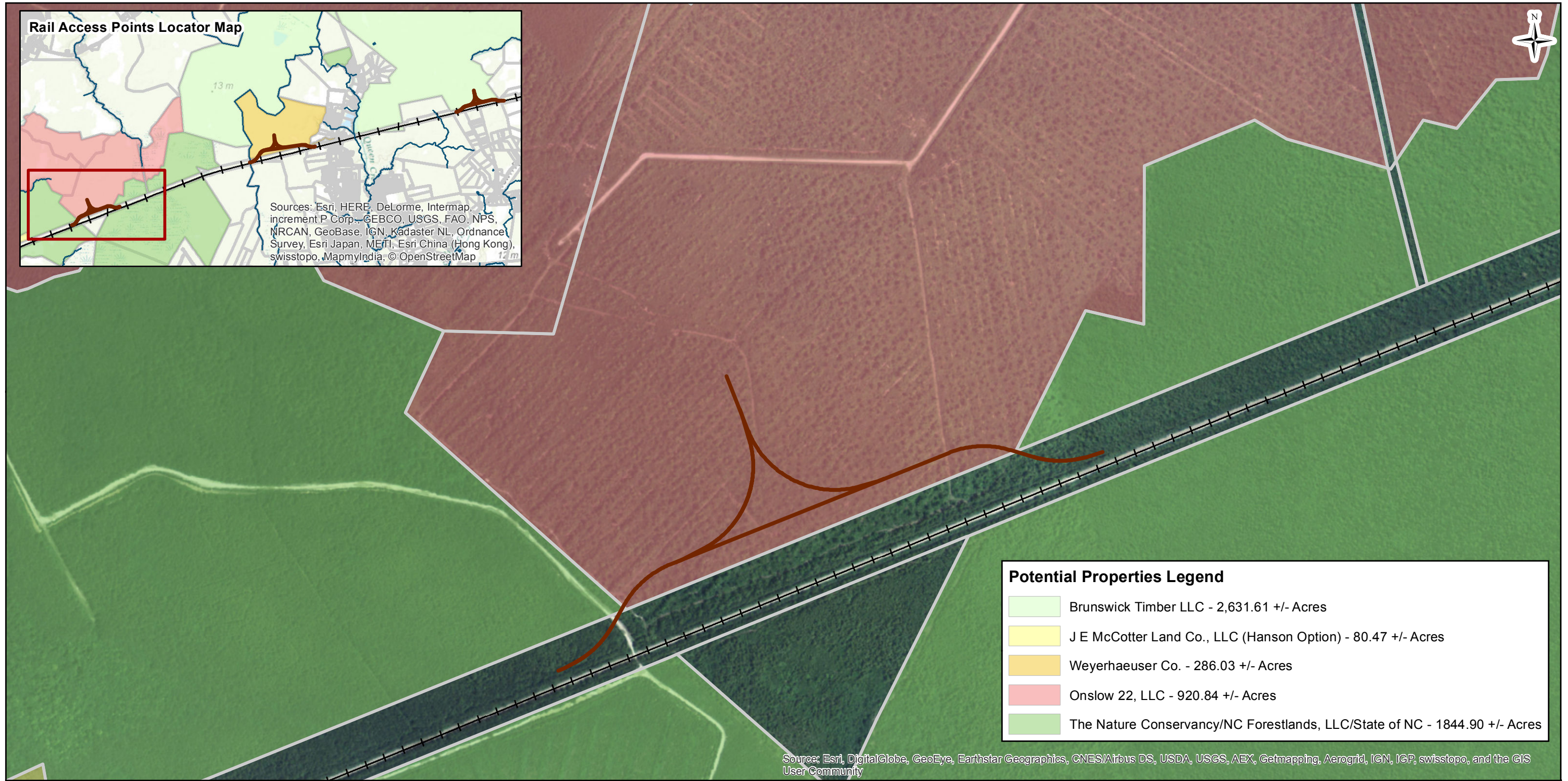


# Camp Lejeune Railroad Commercial Freight Feasibility Study - Weyerhaeuser - Craven County Preliminary Conceptual Land Use Plan

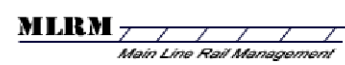
**Figure 10. Industry Share of Civilian Employment (2014)**



Source: U.S. Bureau of Labor Statistics, American Communities Survey 2014



**Camp Lejeune Railroad Commercial Freight Feasibility Study - Rail Access Points Onslow 22, LLC**



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Consultants

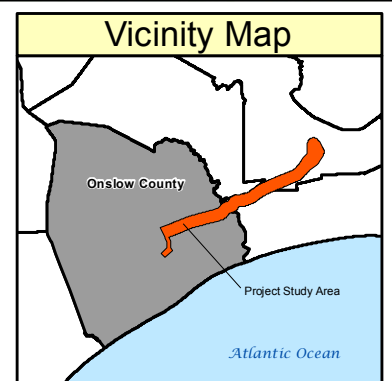
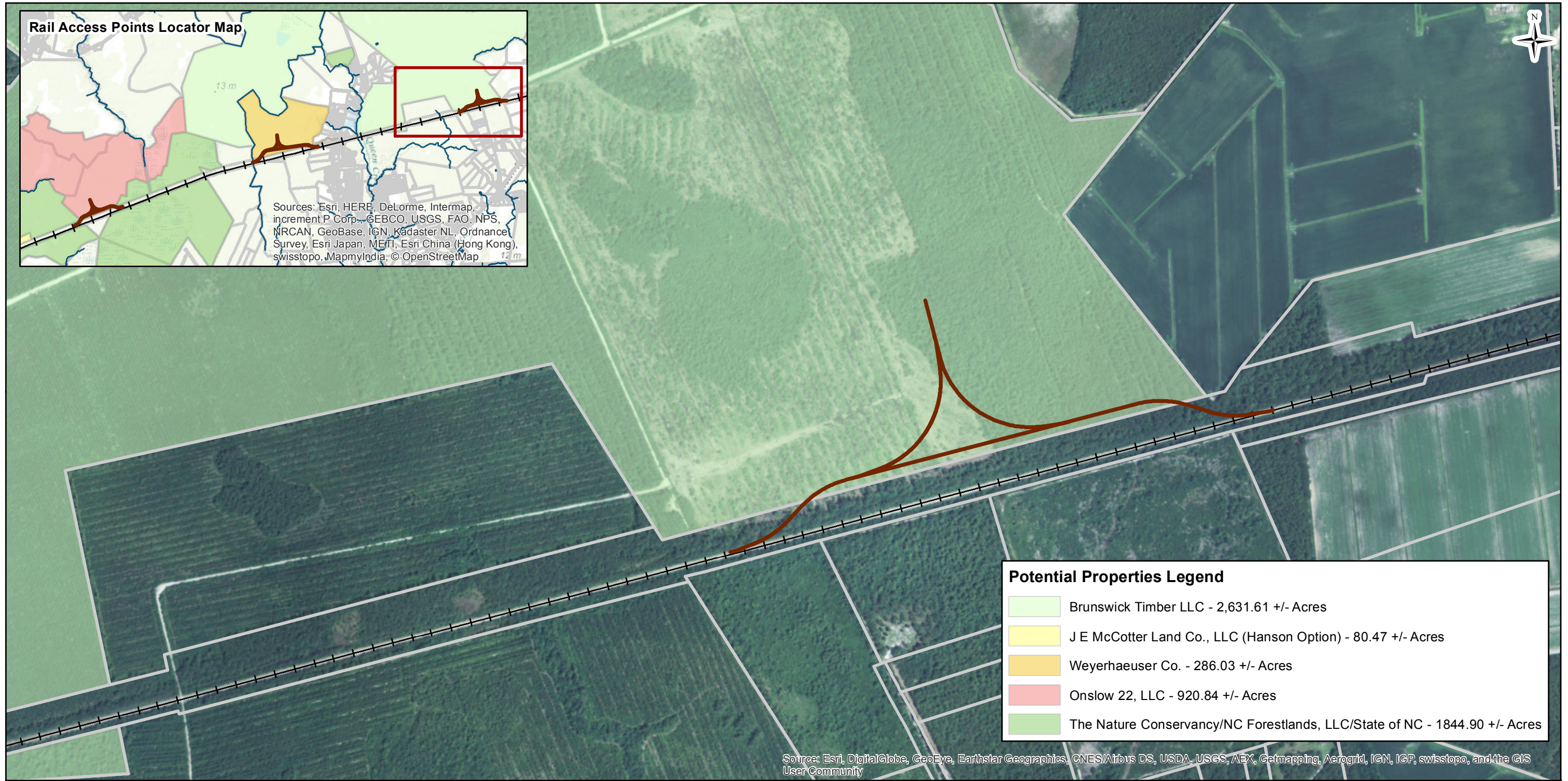
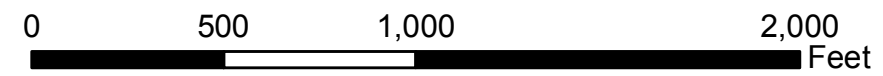


FIGURE 11

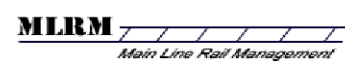
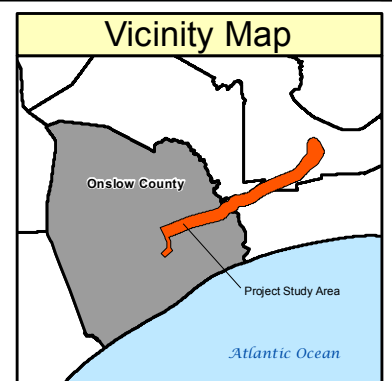


**Legend**

- Rail Connector
- Railway
- Parcels

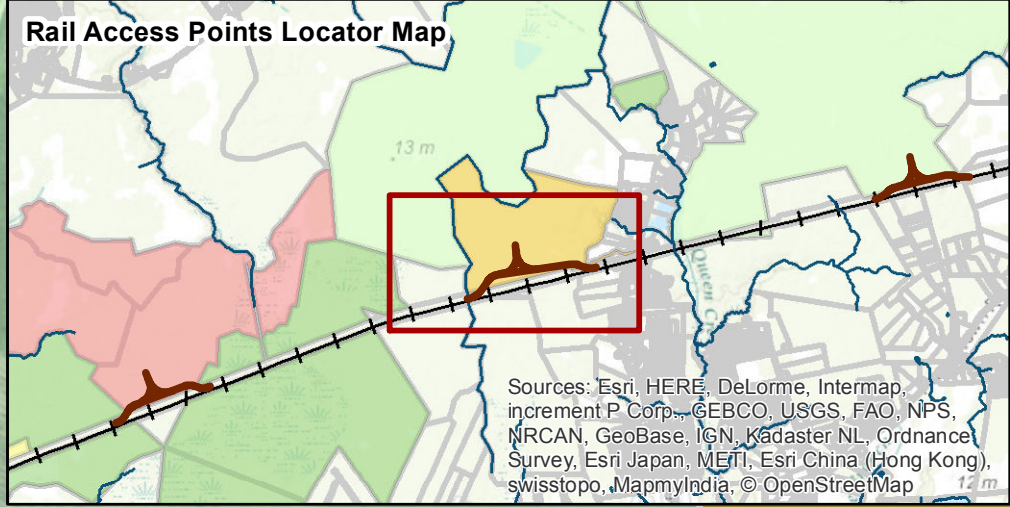
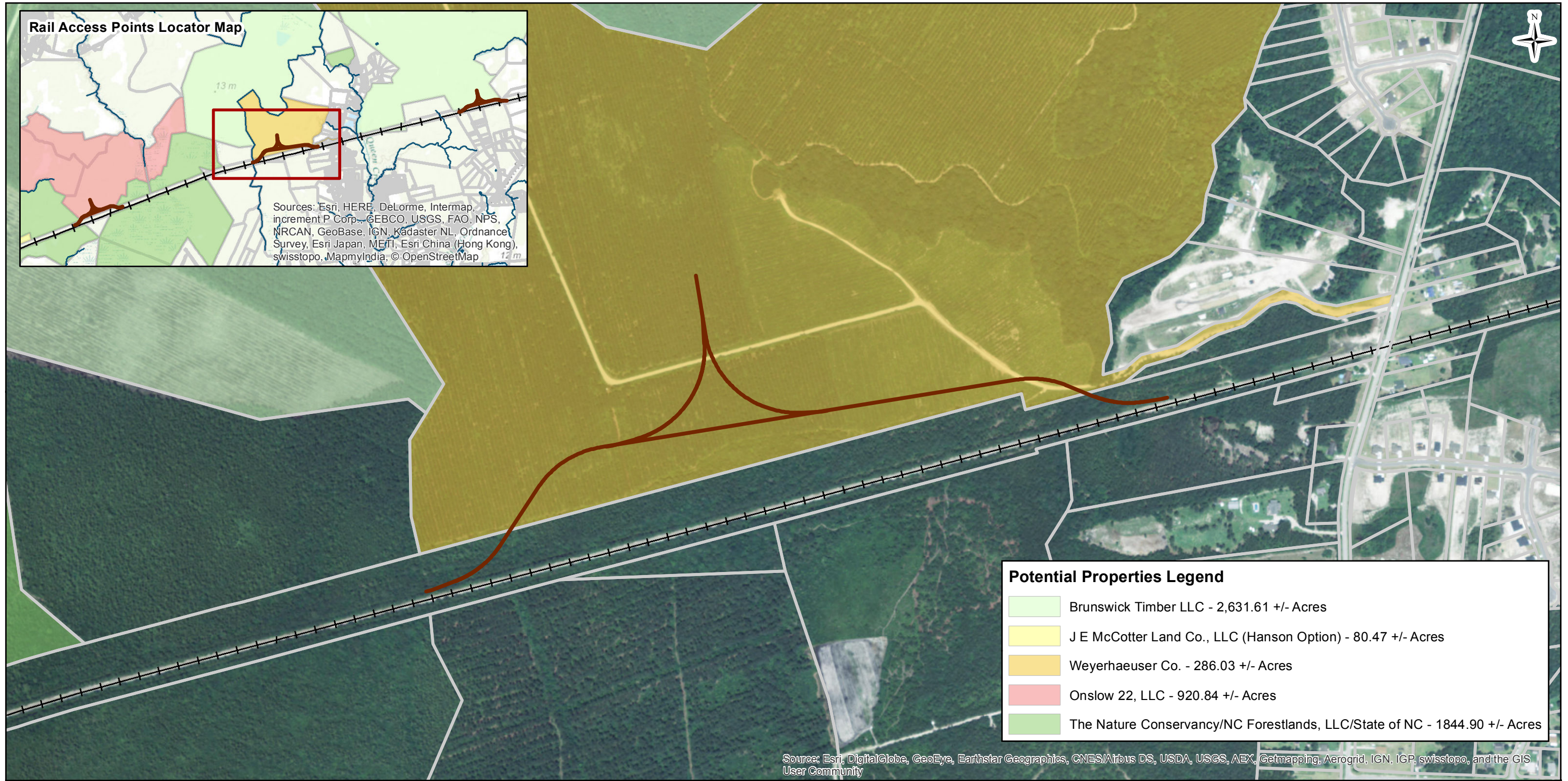


**Camp Lejeune Railroad Commercial Freight Feasibility Study - Rail Access  
Brunswick Timber LLC**



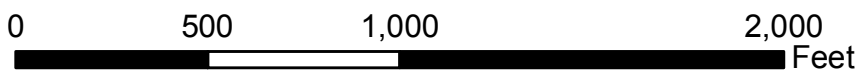
**DAVID P. SIMPSON**  
Consultants

FIGURE 12



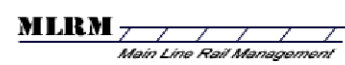
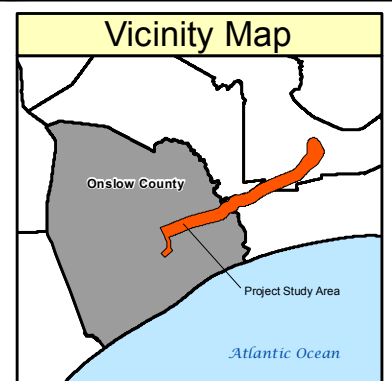
Potential Properties Legend	
<span style="display:inline-block; width:15px; height:15px; background-color:#d9ead3;"></span>	Brunswick Timber LLC - 2,631.61 +/- Acres
<span style="display:inline-block; width:15px; height:15px; background-color:#fff2cc;"></span>	J E McCotter Land Co., LLC (Hanson Option) - 80.47 +/- Acres
<span style="display:inline-block; width:15px; height:15px; background-color:#fce4d6;"></span>	Weyerhaeuser Co. - 286.03 +/- Acres
<span style="display:inline-block; width:15px; height:15px; background-color:#f4cccc;"></span>	Onslow 22, LLC - 920.84 +/- Acres
<span style="display:inline-block; width:15px; height:15px; background-color:#d9ead3;"></span>	The Nature Conservancy/NC Forestlands, LLC/State of NC - 1844.90 +/- Acres

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Legend	
<span style="display:inline-block; width:15px; height:15px; background-color:#800000;"></span>	Rail Connector
<span style="display:inline-block; width:15px; height:15px; border-bottom: 1px dashed black; margin-bottom: 2px;"></span>	Railway
<span style="display:inline-block; width:15px; height:15px; border: 1px solid black;"></span>	Parcels

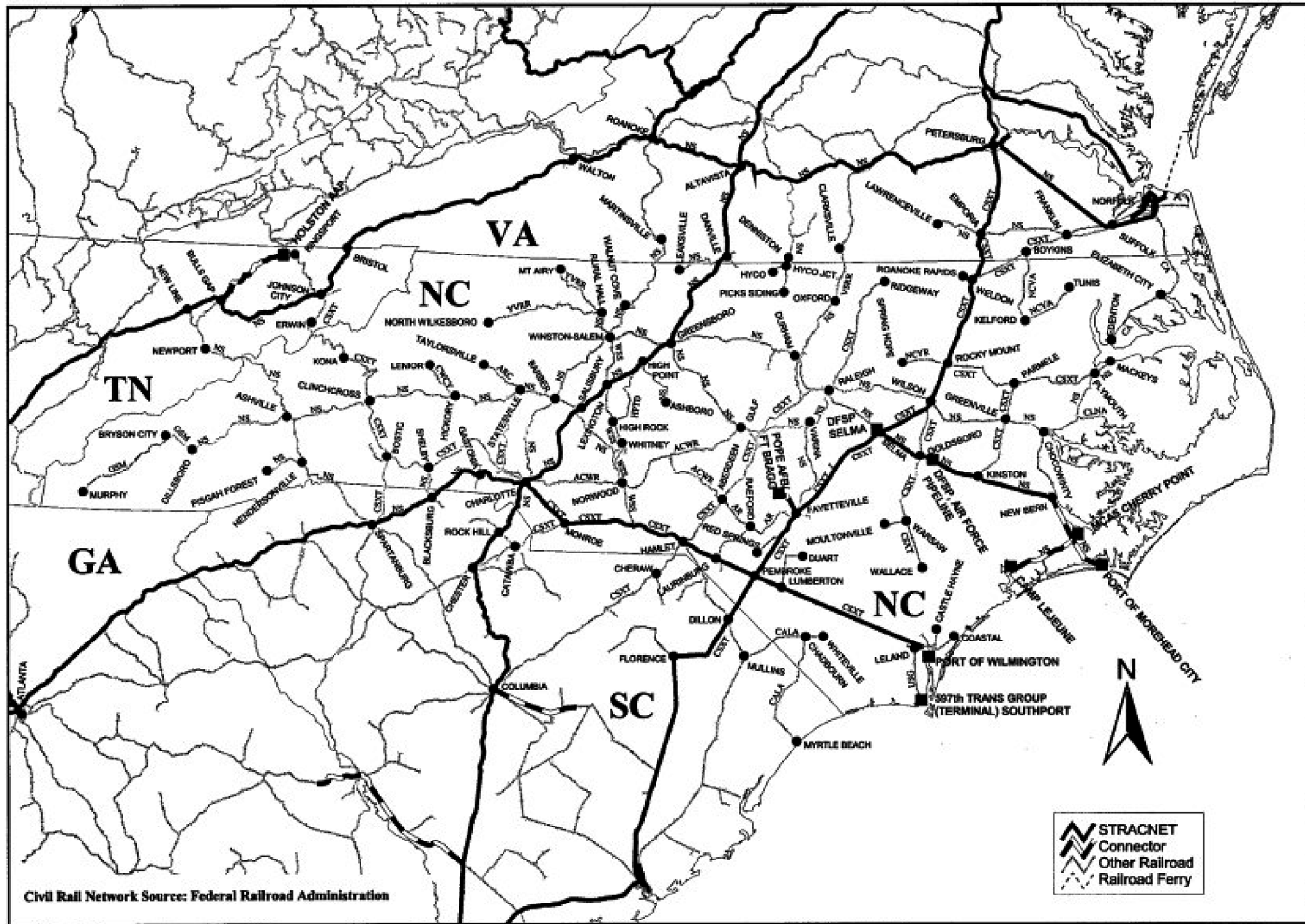
## Camp Lejeune Railroad Commercial Freight Feasibility Study - Rail Access Weyerhaeuser Co.



**DAVID P. SIMPSON**  
Consultants

FIGURE 13





Camp Lejeune Railroad Commercial Freight Feasibility Study - Rail Access- STRACNET Facilities in North Carolina