

# Southern Environmental Group, Inc.

5315 South College Road, Suite E · Wilmington, North Carolina 28412

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www.segi.us



## Attachment 1

# 704 & 706 South Second Street Avoidance and Minimization

### *Prepared for:*

Mr. Jason Wade  
206 Greenville Ave.  
Carolina Beach, NC 28428

### *Prepared by:*

Southern Environmental Group, Inc.  
5315 South College Road, Suite E  
Wilmington, NC 28412  
910.452.2711

### *Date:*

26 April 2021

**Table of Contents**

<b>Section</b>	<b>Title</b>	<b>Page</b>
<b>I.</b>	<b>Alternative Analysis</b>	<b>3</b>
<b>A.</b>	Off-Site Alternatives	<b>3</b>
<b>B.</b>	On-Site Alternatives	<b>4</b>
<b>II.</b>	<b>Appendices</b>	<b>5</b>
<b>A.</b>	Option A – Preferred Plan	<b>6</b>
<b>B.</b>	Option B Site Plan	<b>7</b>
<b>C.</b>	Option C Site Plan	<b>8</b>

## I. Alternative Analysis:

Alternatives that are practicable are those that are available and capable of being undertaken, after considering cost, logistics and existing technology.

Comprehensive off-site and on-site alternatives analysis has been conducted, as part of the Individual Permit process. Section 404(b)(1) guidelines were relied upon, to perform the analysis. When evaluating off-site alternatives, considerations, such as the presence, quantity and quality or functional value of wetlands and/or other waters of the U.S.; the presence of any federally-listed Threatened and/or Endangered Species (TE) or their Critical Habitat (CH); state listed Threatened and/or Endangered Species (STE), or other natural or regionally important resource factors that may be significantly impacted, were not explored, as this area is densely developed and, to SEGi's knowledge, there are no known T&E, STE or CH, within this area of Carolina Beach.

### A. Off-site Alternatives

Current New Hanover County Zoning Maps, historical aerial photography, topographic and soils maps, and available current land use records, were used, to best determine if any of the alternative sites met some or all of the following criteria:

1. Be located within the incorporated area of Carolina Beach;
2. Provides sufficient buildable area for two, residential duplexes (i.e., from 0.20-0.40 acre);
3. Available sewer and water connection;
4. Zoned residential;
5. Close to schools;
6. Close to shopping centers;
7. Close to beach access; and
8. Available for acquisition.

The figure below illustrates the nine sites, that were evaluated, as part of the Off-site Alternative Analysis. Only sites 5 – 9 met the size criterion.

**Figure 1. Alternative Site Map**



The table, on the following page, summarizes Sites 5-9, for practicability.

**Table 4. Alternative Site Practicability Analysis**

Practicability Category	Criterion	Preferred Alternative	Alternative 5	Alternative 6	Alternative 7	Alternative 8	Alternative 9
<b>Availability</b>	Available for Acquisition	The tract has been purchased by the Applicant.	Yes	Yes	Yes	Yes	Yes
<b>Logistics</b>	Parcel Size (0.2 - 0.4 AC)	The two lots offer adequate buildable area	Yes	Yes	Yes	Yes	Yes
	Appropriate Zoning	The property is zoned residential and located within the incorporated limits of Carolina Beach.	Yes	Yes	Yes	Yes	Yes
	Availability of Utilities	Through the Town of Carolina Beach	Yes	Yes	Yes	Yes	Yes
	Adequate Access	Access off Lake Drive	Yes	No – Failed Screen	No – Failed Screen	No – Failed Screen	Yes
<b>Technology</b>	Topography and Other Site Conditions for Development	Wetlands are present	Wetlands are present	Wetlands are present	Wetlands are present	Wetlands are present	There are no wetlands present, but the site is oddly shaped and would not provide enough buildable space
<b>Cost</b>	Reasonable Acquisition Cost	The tract was purchased at a fair market value	Unknown	Unknown	Unknown	Unknown	Unknown

**Alternative Sites 5-8:** This site meets all of the Applicant’s criteria but, in order to access these sites, either Birmingham Ave. or Sumter Ave. would need to be installed per NC DOT standards, which would require far more impacts to wetlands than the Preferred Alternative. Therefore, these sites were rejected.

**Alternative Site 9:** This site also appears to meet most of the Applicant’s criterion, but it is oddly shaped and due to building setbacks, the lot would not provide sufficient buildable area, for two residential duplex structures. Therefore, this site was rejected.

**Proposed Site –** The proposed site meets all of the Applicant’s criterion, for development of two residential duplex structures, with gravel access drive, and would require less impacts than lots 5-8, which are the only sites that meet the buildable area criterion. Additionally, the Applicant already owns the property and has invested a significant amount of time and money vet it. Therefore, this is the only alternative that was accepted.

## **B. On-Site Alternatives Analysis**

The following alternatives were explored:

**Alternative 1 – Utilization of other uplands within the tract to avoid impacts:** There are no available uplands to utilize. Therefore, this alternative was rejected.

**Alternative 2 – Minimizing the impact area:**

The following strategies, to minimize wetland impacts, were considered during the design phase:

- Tactical access road alignment;
- Minimize access road length and width;
- Shared driveway; and
- Seek a variance to encroach into the Town’s building setbacks.

With these strategies in mind, the following alternative site plans were explored:

**Option A (Preferred Plan) – (See Appendix A):** The project area, in the Preferred Plan, consists of a 115’ x

20' section South Second Street, where it intersects with Lake Drive, and 2 – 125' x 50' lots, that are situated on the western side of South Second Street. The project area, which is limited to the wetland impact area, contains approximately 0.36-acre of wetlands. The Preferred Plan incorporates tactical access road placement, by positioning the road as close to ditch, as possible. This minimized impacts to wetlands by 0.01 acre (see Appendix C). Additionally, the Applicant shortened the length and width of the road. By limiting the length of the access road, the Applicant avoided having to install the access road to NCDOT standards, thereby minimizing impacts to wetlands by 0.04-acre (see Appendix B) and reducing the travel lane width minimized impacts by 0.02 acre (see Appendix C). The Preferred Plan achieves the Applicant's objective and is the least environmentally damaging, practicable alternative.

**Option B** – (see Appendix B): This plan consists of an access road that would need to meet NC DOT standards, and would require expanding the project area, thereby impacting approximately 0.04 acre more wetlands than the Preferred Plan. Therefore, this option was rejected.

**Option C** – (See Appendix C): This plan consists of utilizing a 20' travel lane, for the access road, and centering the road between the eastern ROW line and ditch. This option also requires expanding the project area and impacting approximately 0.03 acre more wetlands than the Preferred Plan. Therefore, this option was rejected.

**Option D** – (See Appendix D): The Applicant explored incorporating retaining walls into the project. Walls were not used on the north, south and west sides of the project, to allow for an adequate maintenance corridor. Walls were incorporated around the access drive, driveways, and along the lot line, on the east side of the lots. In total, 420 linear feet of retaining walls could be used.

The cost of installing retaining walls is approximately \$24.00 per square foot. This cost does not include labor. The cost of using retaining walls, as illustrated in Appendix D, would cost approximately \$20,160, based on approximately 840 square feet of wall, and would reduce wetland impacts by 355 square feet (0.008 acre), which is insignificant compared to the cost of installing the walls. Therefore, this option was rejected.

**Alternative 3** – While some municipalities have ordinances allowing buildings to encroach into the setbacks, for the purpose of avoiding “natural areas”, Carolina Beach does not. In the last 16 years, SEGi has attempted to obtain variances, from the Town of Carolina Beach and for this purpose, two times and were rejected each time, based on the fact that the problem is “not unique to the property”, which is a criterion for variance approval. Therefore, this option was rejected.

**Alternative 3 – Avoiding all impacts to wetlands:** The Applicant investigated other potential means for developing the property without impacting wetlands and has been unable to find a practicable alternative that would achieve his stated goal. Therefore, this alternative was rejected.

**Alternative 4 – Impact all wetlands:** While this alternative would allow the Applicant to achieve his stated goal, it would be more damaging to the environment. Therefore, this alternative was rejected.

**Alternative 5 – No Build:** Under the no build alternative, residential dwellings would not be built and the current need for additional housing would not be met. Therefore, this alternative was rejected.

## **Appendix A**

### **Option A - Preferred Plan**



A Structural Guy

www.AStructuralGuy.com

(919) 451-0974

206B GREENVILLE AVE, CAROLINA BEACH NC 28428

NEW DESIGNS    INSPECTIONS    RENOVATIONS

COURIE ELI III ETAL  
R09010-022-005-000

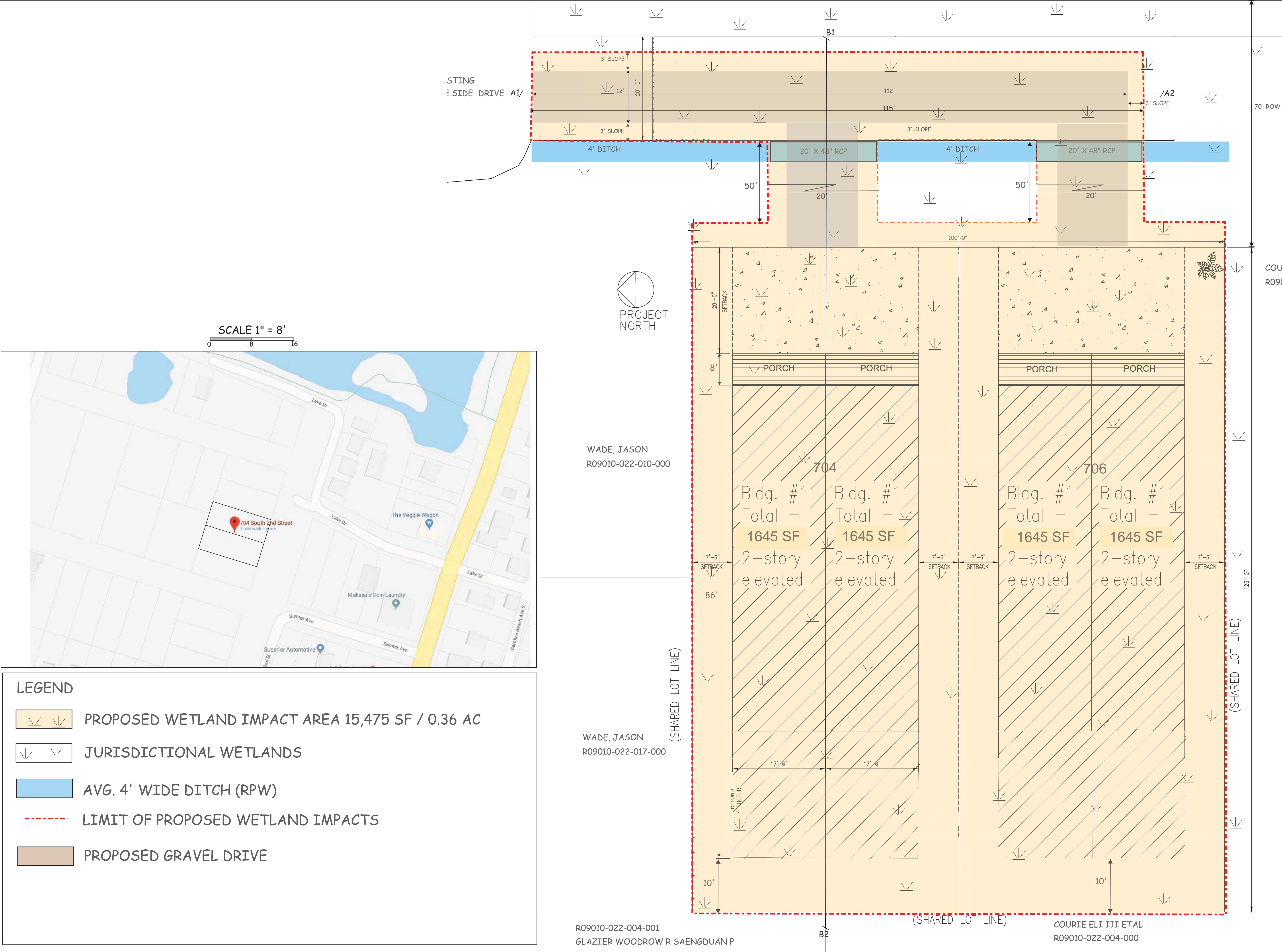
Release Dates

4-26-21

SITE PLAN AND  
WETLANDS IMPACT  
PERMIT INFO

2-BLDG WADE DEVELOPMENT  
704 S. 2ND STREET  
CAROLINA BEACH BEACH, NC 28428

01



LEGEND

PROPOSED WETLAND IMPACT AREA 15,475 SF / 0.36 AC

JURISDICTIONAL WETLANDS

AVG. 4' WIDE DITCH (RPW)

LIMIT OF PROPOSED WETLAND IMPACTS

PROPOSED GRAVEL DRIVE

WADE, JASON  
R09010-022-010-000

WADE, JASON  
R09010-022-017-000

R09010-022-004-001  
GLAZIER WOODROW R SAENGDUAN P

COURIE ELI III ETAL  
R09010-022-004-000

**Appendix B**  
**Option B Site Plan**



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206B GREENVILLE AVE, CAROLINA BEACH NC 28428

NEW DESIGNS    INSPECTIONS    RENOVATIONS

COURIE ELI III ETAL  
R09010-022-005-000

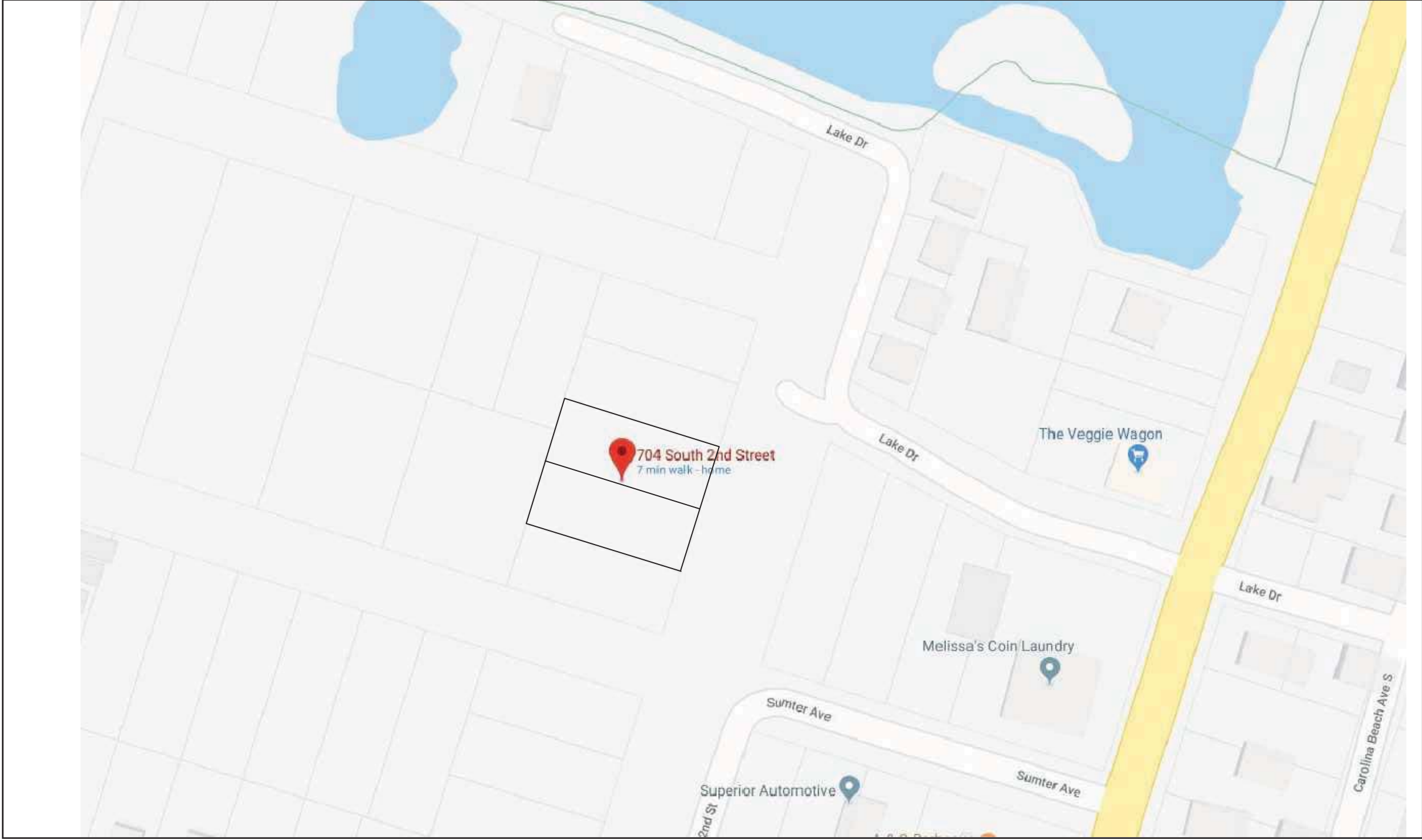
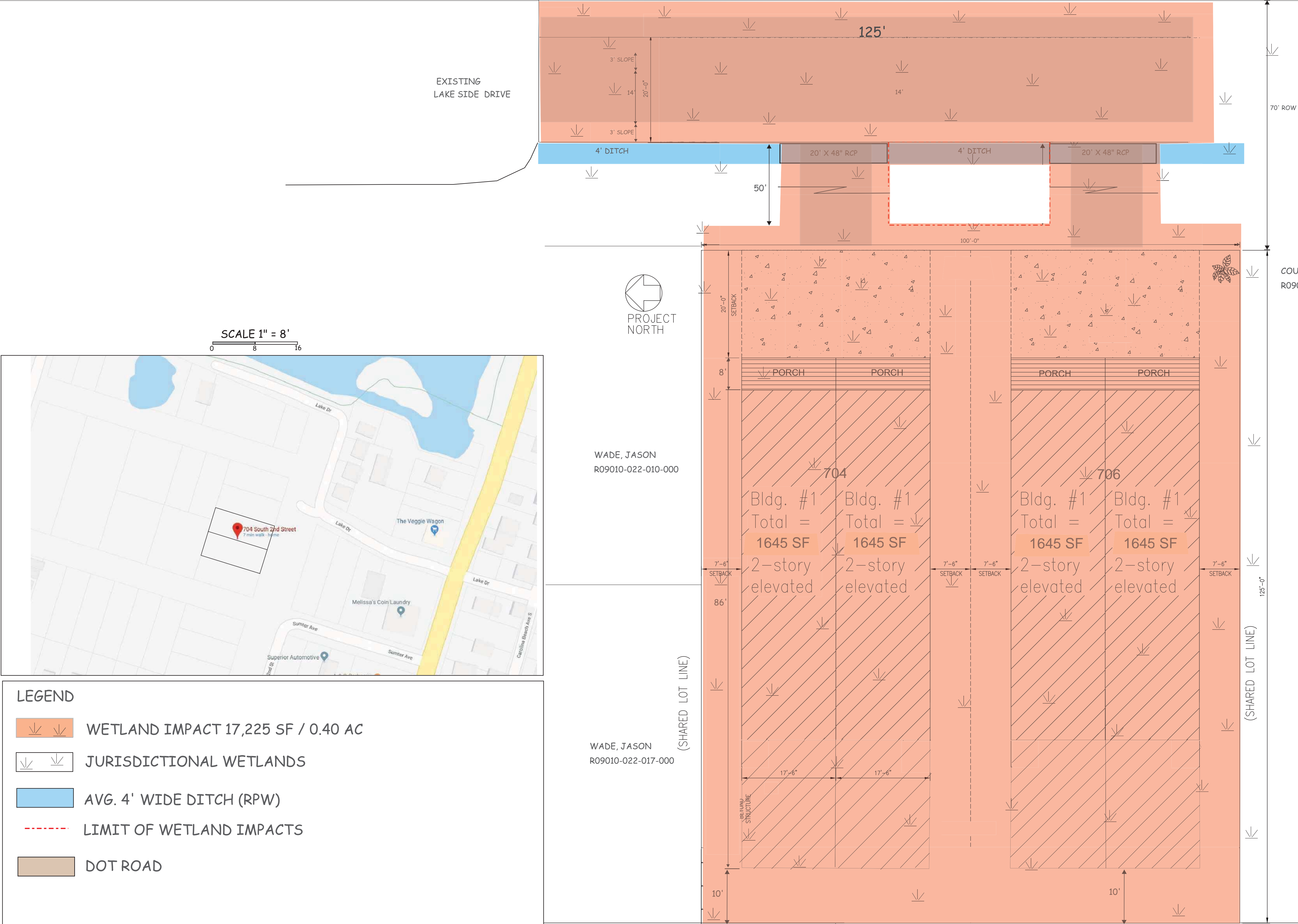
Release Dates

5/29/2019	0. Issued for Technical Review
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NCDOT ROAD  
DESIGN

2-BLDG WADE DEVELOPMENT  
704 S. 2ND STREET  
CAROLINA BEACH BEACH, NC 28428

APPENDIX B  
OPTION B



**Appendix C**  
**Option C Site Plan**





**Appendix D**  
**Option D Site Plan**



A Structural Guy

[www.AStructuralGuy.com](http://www.AStructuralGuy.com)  
(919) 451-0974  
206B GREENVILLE AVE, CAROLINA BEACH NC 28428  
NEW DESIGNS    INSPECTIONS    RENOVATIONS

COURIE ELI III ETAL  
R09010-022-005-000

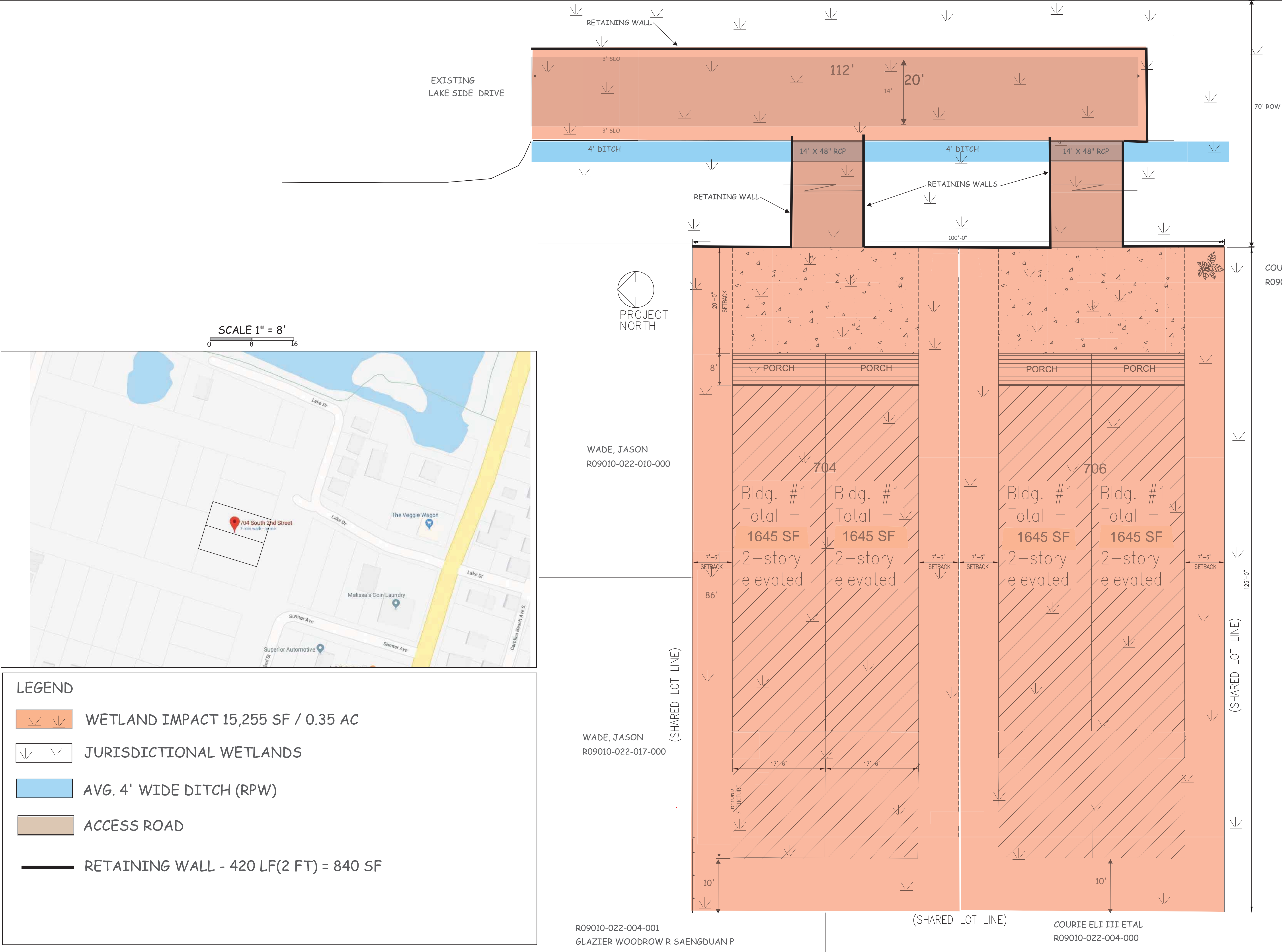
Release Dates

5/29/2019	0. Issued for Technical Review
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RETAINING  
WALLS

2-BLDG WADE DEVELOPMENT  
704 S. 2ND STREET  
CAROLINA BEACH BEACH, NC 28428

APPENDIX D  
OPTION D



PARID: R09010-022-006-000

WADE JASON TAMARA

N/A

## Parcel

Alt ID	313014.42.2887.000
Address	
Unit	
City	CAROLINA BEACH
Zip Code	-
Neighborhood	A5O31
Class	RES-Residential
Land Use Code	958-Unused Land
Living Units	1
Acres	
Zoning	R-1-WB RESIDENTIAL SF

## Legal

Legal Description	LOT 3 BLK 51 CAROLINA BEACH REV
Tax District	CB

## Owners (On January 1st)

Owner	WADE JASON TAMARA
City	CAROLINA BEACH
State	NC
Country	
Zip	28428

THE DATA IS FROM 2020



# 704 S. 2nd St.



4/14/2020, 8:57:31 AM

1:500

0 0 0.01 0.02 mi  
0 0.01 0.01 0.02 km



Addresses



Parcel Boundaries



Roads

Dimensions ROW



Municipal Boundaries

Dimensions Property

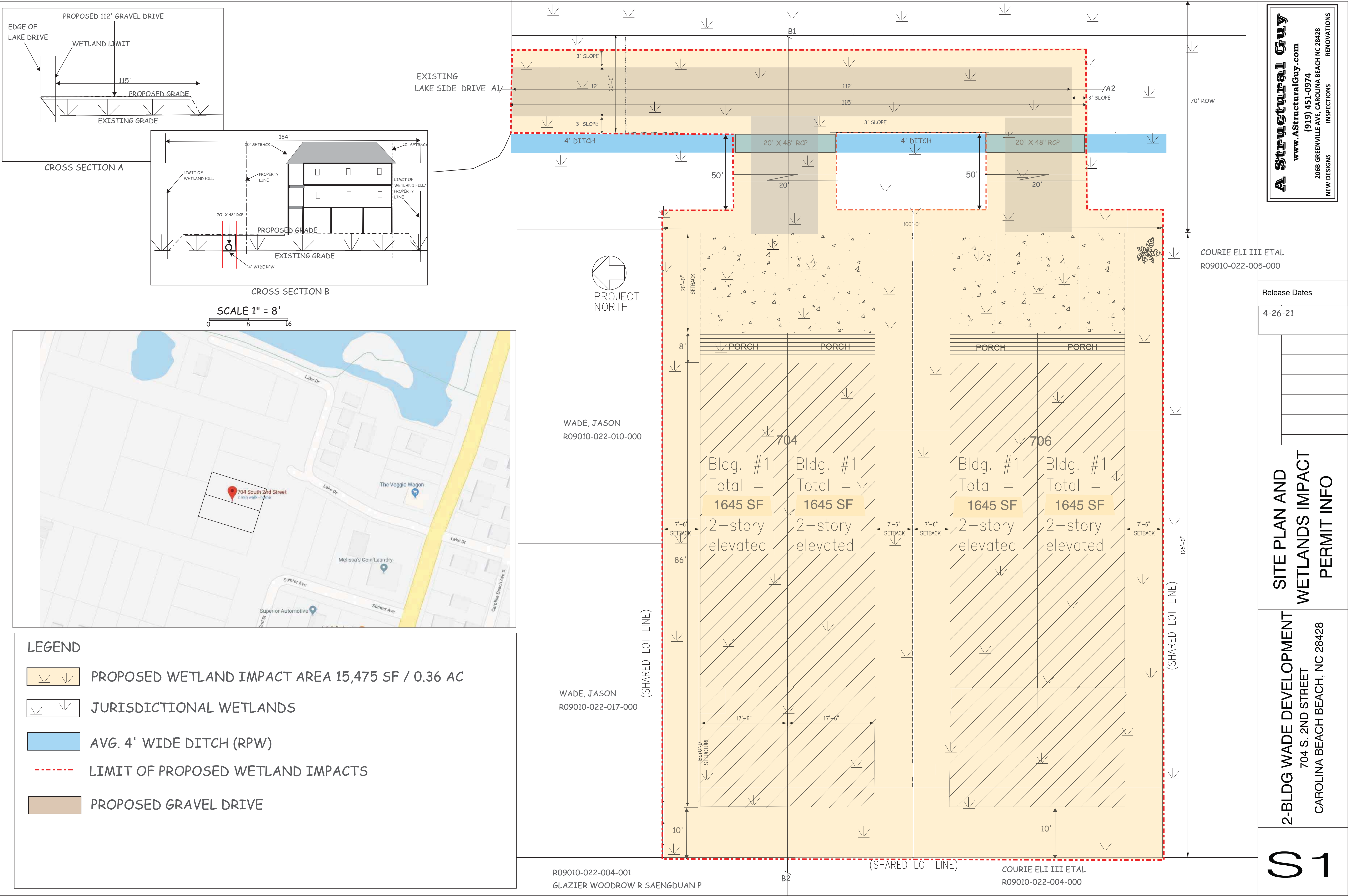


Real Property Owners

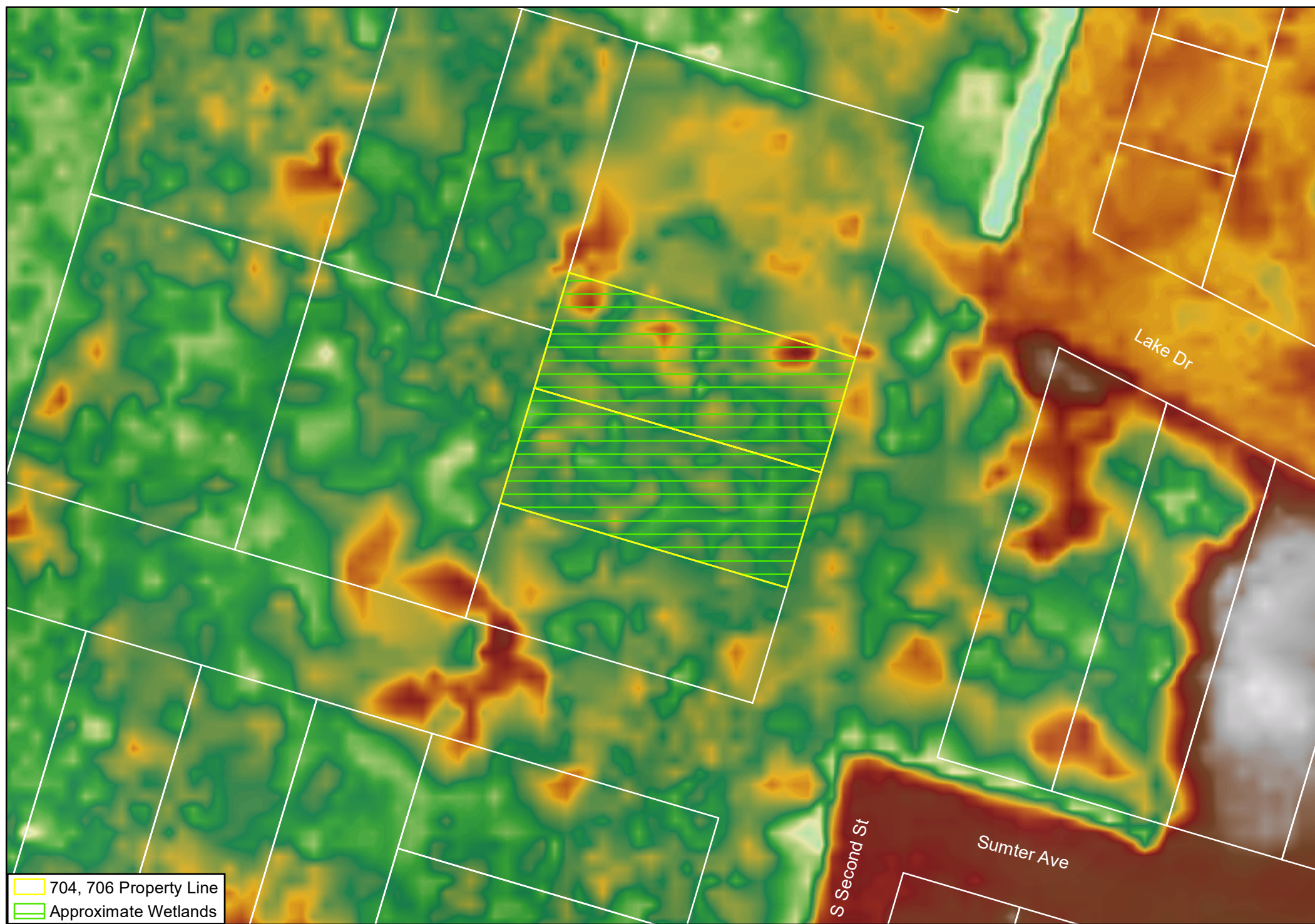
New Hanover County, NC

NHC GIS Services  
New Hanover County, NC

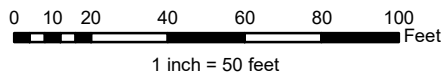








704, 706 Property Line  
Approximate Wetlands

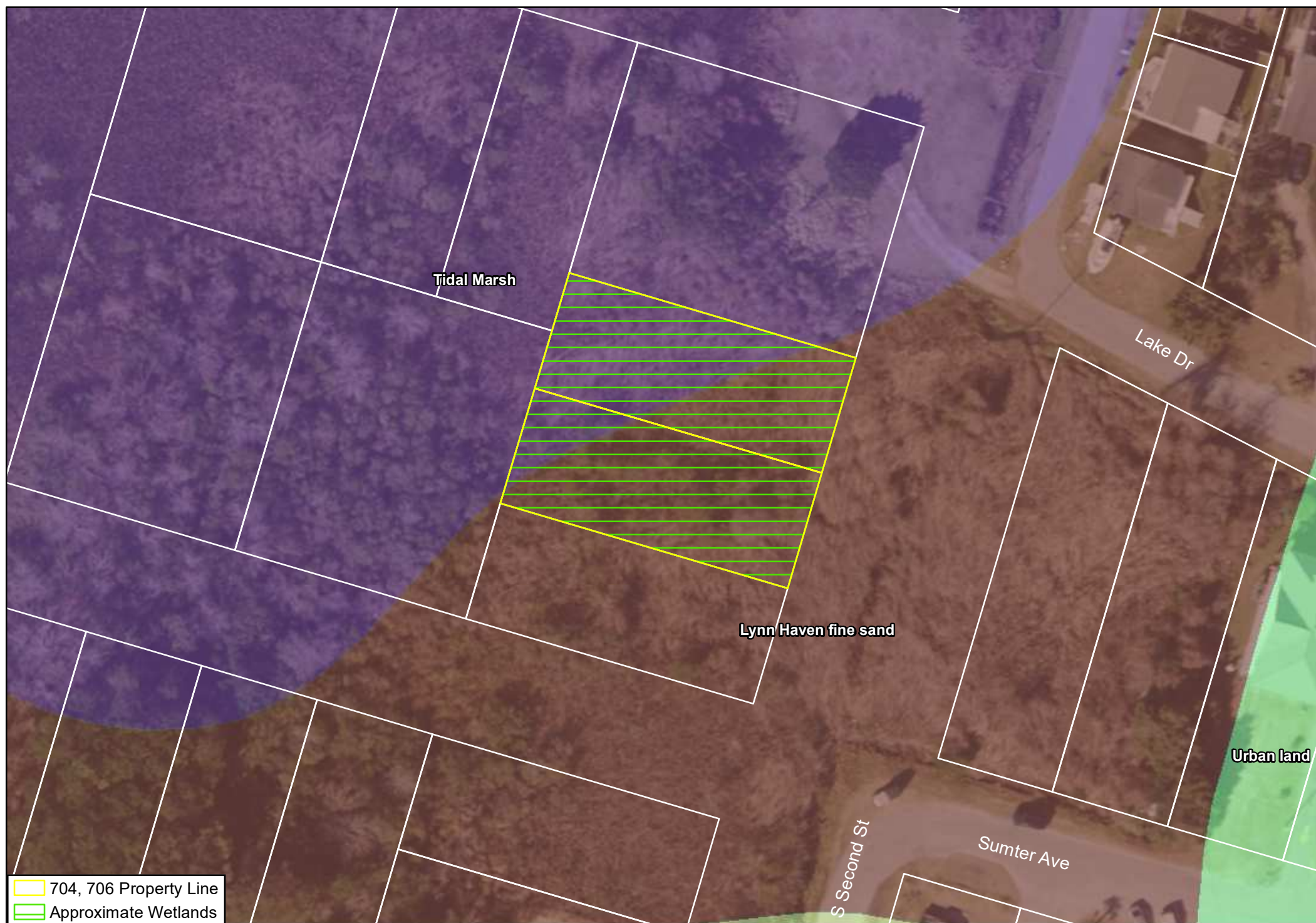


Map Source: 2014 QL2 LiDAR DEM

**LiDAR Map**  
**704, 706 S. 2nd. St.**  
**Carolina Beach, New Hanover Co., NC**  
**4/14/2020 019-005.01**







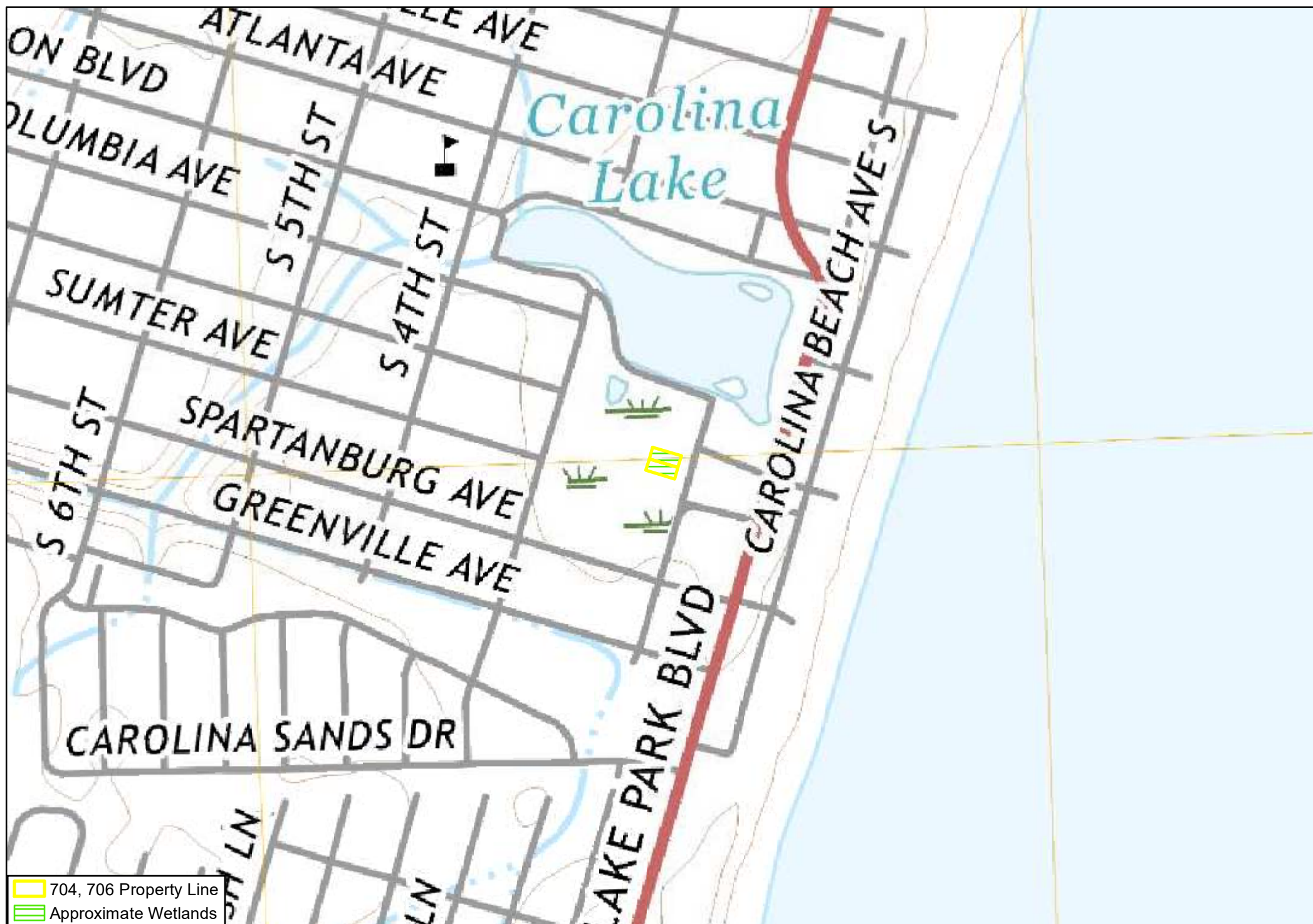
0 10 20 40 60 80 100 Feet

1 inch = 50 feet

Map Source: 2016 NC Statewide Orthoimagery,  
Soil Survey of New Hanover Co.

**Soils Map**  
**704, 706 S. 2nd. St.**  
**Carolina Beach, New Hanover Co., NC**  
**4/14/2020 019-005.01**





704, 706 Property Line  
Approximate Wetlands

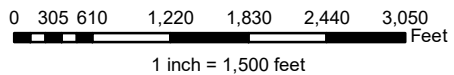
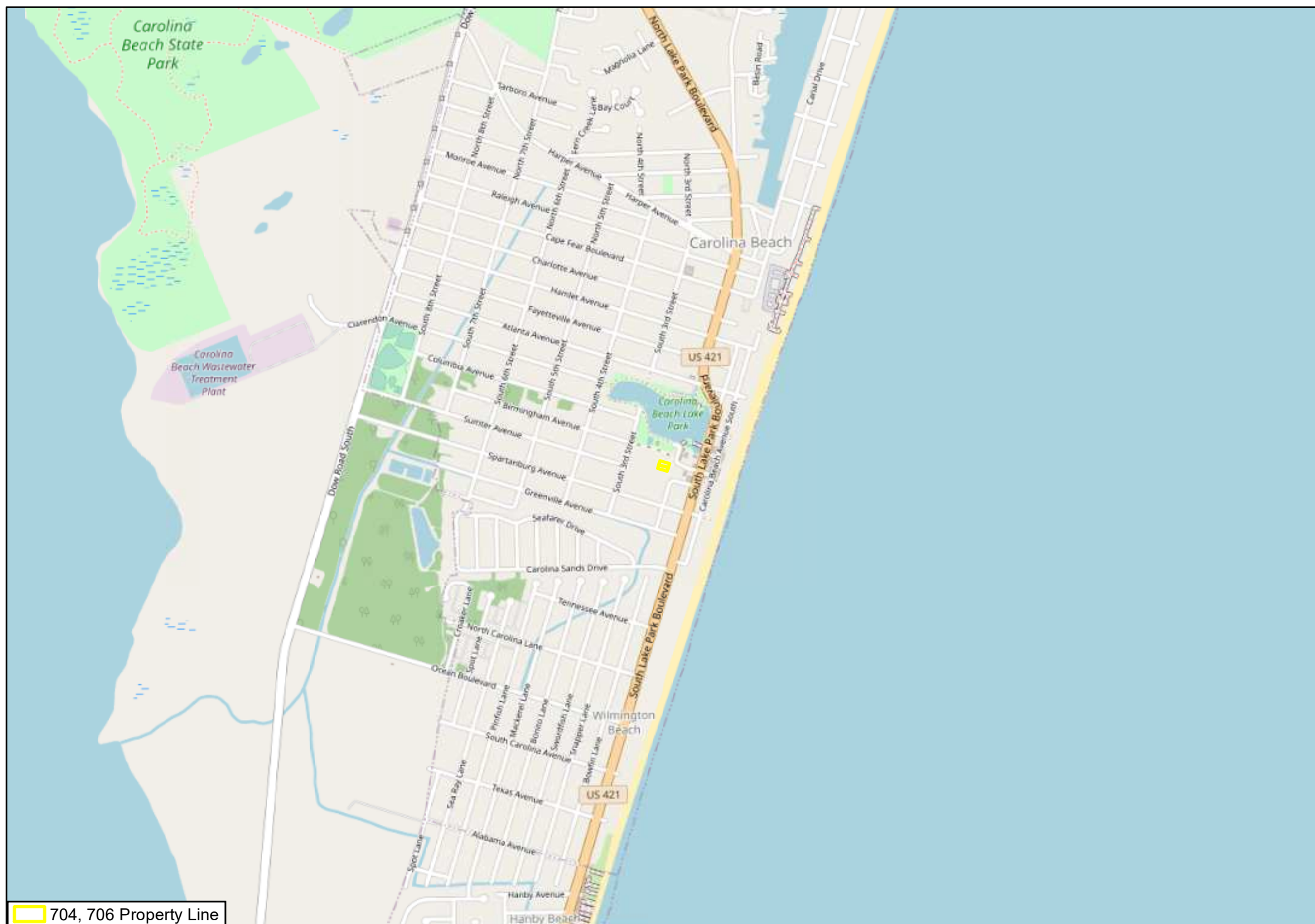
0 100 200 400 600 800 1,000 Feet  
1 inch = 500 feet

Map Source: USGS TopoView Service,  
2019 Carolina Beach panel, 7.5' quad, 1:24k scale

USGS Topo Map  
704, 706 S. 2nd. St.  
Carolina Beach, New Hanover Co., NC  
4/14/2020 019-005.01







**Vicinity Map**  
**704, 706 S. 2nd. St.**  
**Carolina Beach, New Hanover Co., NC**  
**4/14/2020 019-005.01**





PARID: R09010-022-015-000

WADE JASON TAMARA

N/A

## Parcel

Alt ID	313014.42.2874.000
Address	
Unit	
City	CAROLINA BEACH
Zip Code	-
Neighborhood	A5O31
Class	RES-Residential
Land Use Code	958-Unused Land
Living Units	1
Acres	
Zoning	R-1-WB RESIDENTIAL SF

## Legal

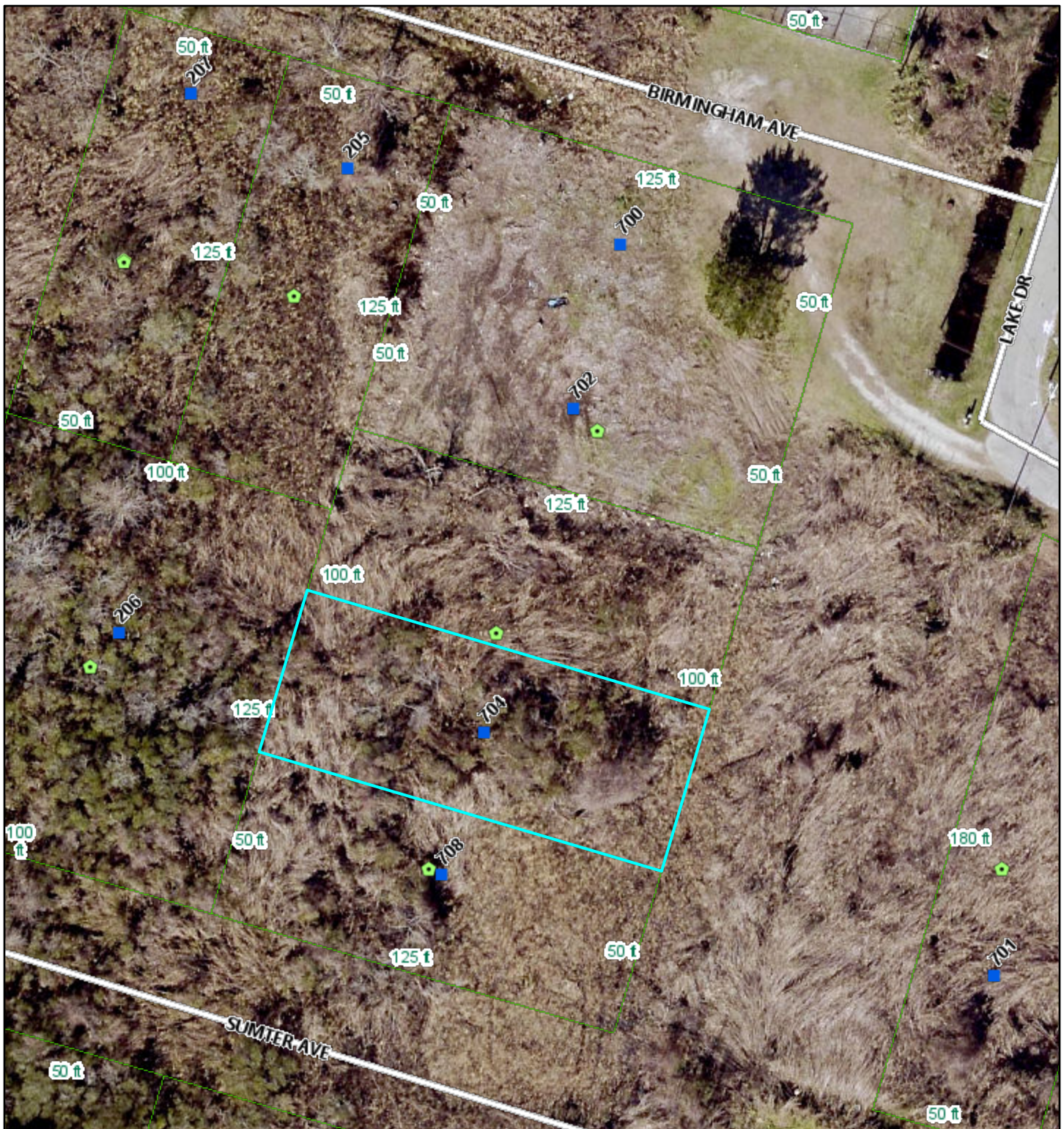
Legal Description	LOT 4 BLK 51 CAROLINA BEACH
Tax District	CB

## Owners (On January 1st)

Owner	WADE JASON TAMARA
City	CAROLINA BEACH
State	NC
Country	
Zip	28428

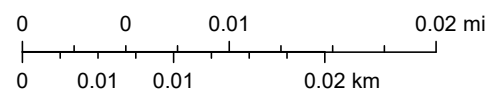
THE DATA IS FROM 2020

# 706 S. 2nd St.



4/14/2020, 9:03:47 AM

1:500



Addresses



Parcel Boundaries



Roads

Dimensions ROW



Municipal Boundaries

Dimensions Property



Real Property Owners

New Hanover County, NC

NHC GIS Services  
New Hanover County, NC



**LOWER CAPE FEAR UMBRELLA MITIGATION BANK  
STATEMENT OF CREDIT AVAILABILITY**

**April 29, 2021**

**TO: Mr. Jason Wade  
605 Greenville Ave  
Carolina Beach, NC 28428**

**FROM: Lower Cape Fear Umbrella Mitigation Bank  
c/o Land Management Group  
3805 Wrightsville Avenue, Suite 15  
Wilmington, NC 28403**

**Project: 706 South Second Street, Carolina Beach (New Hanover County, NC)**

Dear Mr. Wade:

Pursuant to the recent credit request submitted on your behalf, the Lower Cape Fear Umbrella Mitigation Bank (LCFUMB) is providing confirmation of acceptance to supply mitigation credits for proposed riparian wetland impacts associated with 706 South Second Street, Carolina Beach (New Hanover County, NC). This acceptance is conditional upon receipt of payment as outlined below. Please refer to the table below depicting the type and quantity of credits requested and reserved for your project.

Mitigation Type	Credits Reserved	Fee Per Unit	Fee
Stream	0.0	\$558.81	\$0.00
Non-Riparian Wetland	0.0	\$61,264.36	\$0.00
Riparian (Riverine) Wetland	0.4	\$61,264.36	\$24,505.74
<b>Total Fee</b>			<b>\$24,505.74</b>

Based upon receipt of your email transmitted on April 28, 2021, LCFUMB will reserve 0.4 riparian wetland credits for a period of up to 90 days from the date of this letter. Note that requests to reserve credits beyond 90 days will require a deposit. Please contact us if you need a reservation to extend beyond the 90-day period.

**Upon request for receipt of credit transfer, LCFUMB will issue an invoice in the amount of \$24,505.74.** Upon receipt of payment, LCFUMB will provide an executed Transfer of Credit Certificate. Note that all payments must be made with certified funds. It is the applicant's responsibility to ensure that the credit types and amounts requested are consistent with the compensatory mitigation requirements of the permit(s) issued. LCFUMB and/or its agents are not responsible for determining the applicant's mitigation requirements. If you have any questions or need additional information, please contact me by phone at (910) 452-0001 or by email at [cpreziosi@lmggroup.net](mailto:cpreziosi@lmggroup.net).

Sincerely,

Land Management Group (agent for LCFUMB)



Christian Preziosi  
Principal Consultant