Town of River Bend

Comprehensive Plan

November 2013

Acknowledgements

In June 2012 the Town of River Bend selected the Eastern Carolina Council to update its Comprehensive Plan. The Planning Board was assigned the responsibility to oversee the development of the Comprehensive Plan. Members of this committee included:

Brenda Garvey, Town Councilwoman (ex-officio)
Mike Haynes, Chair
Keith Boulware
Kathleen Fleming
George Pfeiffer
Molly Ritter
Tom Zak

The make-up of the committee changed in January 2013 when new appointments were made for the year. The 2013 Planning Board Committee members who guided the development of the Comprehensive Plan included:

Brenda Garvey, Town Councilwoman (ex-officio)
Mike Haynes, Chair
Keith Boulware
Kathleen Fleming
Kelly Forrest
Kelly Lattimer
George Pfeiffer
Molly Ritter

Town Manager Drew Havens and Assistant Zoning Administrator Chris Harmon also attended the meetings and provided input. This plan would not have been possible without the invaluable guidance of both committee members and staff. This process was facilitated by the Eastern Carolina Council of Governments.

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I. Introduction

The Comprehensive Plan is one of two key documents that the Town develops and uses to plan, finance and implement projects and tasks. These are:

A. Comprehensive Plan–plans and prioritizes over a 1 to 10 year time frame.
B. Capital Improvement Plan–estimates the costs for specific projects and finances them over a 5-year period.

The purpose of the long-term Comprehensive Plan is to outline goals and strategies to perpetuate and improve upon the livability and desirability of River Bend. The Comprehensive Plan identifies the goals and suggests some strategies to achieve those goals. It is the decision of the town council seated at the time to fund and/or implement these strategies or develop new or additional ones. Cost estimates are developed for selected projects so that they can be included in the Capital Improvement Plan (CIP) which identifies and finances projects that are to be completed within a 5-year period. The ongoing planning process is intended to recognize:

A. the need to be good stewards of the environment;
B. the inevitability and desirability of change;
C. the importance of protecting and maximizing town assets;
D. the need to address town challenges proactively and routinely; and
E. the desirability of ongoing planning time lines and accountability.

On July 9, 2012 the citizens of River Bend and its ETJ were invited to attend a public meeting to provide input into the goals and strategies. Their comments were vetted by the Planning Board members and are incorporated into this plan. Members of the Planning Board were encouraged to gather input from the residents as the plan was developed.

II. Town History

The material in this chapter includes excerpts from "History of the Town of River Bend Circa 1988" by Betty S. DeBow, J. Frank Efird, Thomas B. Montgomery, Helen Olson, Constantino T. Pietrini, Viola K. Smith, Paul Stewart, and Richard H. Wright.

The roots of what we now know as the Town of River Bend start near the turn of the 20th century. River Bend started out as a robust tobacco plantation of 1,200 acres owned by the Odd Fellows, a fraternal group of black tenant farmers collectively working and farming together raising the "golden leaf," which was the backbone of Eastern North Carolina's economy. During the recession of 1914, this hardy, proud group was forced to sell its land to the "company store" for supplies and debt. The W.S. Clark Company was a leading supplier of farm supplies and general merchandise to the farming community. During the first half of the century, the Clark Company obtained nearly 70 farms, large and small, through barter and exchange for debt.

During the 1960s with the decline of small tenant farms, large tracts with high tobacco allotments became inefficient for absentee owners. The Clark family, at this point, was beginning to age and die out, which made it timely for them to convert their low production large tracts into cash and move on into newer fields.

In 1964, Frank Efird and family moved to New Bern from Salisbury, NC. Shortly thereafter, the Efird Company was organized to build single-family homes; many for retirees who came to the area. Mr. Efird began his search for a large tract of land with water and soil conditions that could be developed into a total living planned community. The Odd Fellows farm was purchased in October 1967 for $486,000, and thus, was the beginning of a 25-year development plan for River Bend Plantation.

Gradually, and then with increasing speed, the Efird concept was successfully marketed throughout the Northeast and Midwest. Primarily, the message was delivered to groups of people nearing or at retirement age. The response was excellent, and the first family moved to River Bend Plantation in July 1969. As demand grew, new sections of the project were opened. For those desiring a lifestyle without yard and house maintenance, there were the Quarterdecks; for those wishing a single-family home and a separate lot, single-family homes were available. In addition to retirees, many working and military families settled in River Bend. As the population increased, the citizens became active in developing the community; one example of this would be the establishment of the Rhems Volunteer Fire Department which was accomplished by residents handling necessary paperwork, piloting actions through mazes of bureaucracy,

co-signing loans as collateral to underwrite seed money for the original construction, and by performing various manual labor activities during the construction.

As evidenced by the development of the Rhems Volunteer Fire Department project, River Bend has long been a politically active community. In 1977, after much discussion of the matter, some members of the River Bend Community Association met to discuss the possibility of incorporating the River Bend Plantation into a town. A great deal of time and effort went into the project and, after a straw vote, the residents decided against incorporation at the time. Early in 1980, the idea was revived. At the November 4, 1980 referendum, 522 River Bend voters – out of a total of 710 registered to vote – went to the polls. With a vote of 298 residents "for" and 224 "against," the project moved forward to incorporate.

Prior to and during the incorporation process, there were several obstacles that had to be overcome. Some of those obstacles included finding a way to take care of the roads as the State Highway Department wouldn't assume responsibility of them since they no longer met the State standards then mandated; forming and adopting Zoning Ordinances as the various sets of subdivision restrictive covenants did not address the many problems being faced, nor were they enforceable; and establishing police protection for the area so that the residents could have faster and more localized response to problems in River Bend.

Even with all of the obstacles, the City of River Bend Plantation (the name was changed in April 1981 to the Town of River Bend) incorporated in 1981. To start, the Town had no money, but through donations from the organizing committee, the Community Association, and a yard sale at the Barn, the Town was able to keep operations going until some tax income could be received.

On July 25, 1981, River Bend celebrated its incorporation with a festival and picnic in what is now the Town Park. Governor Jim Hunt and a number of State Legislators were present and a time capsule noting the event was buried near the gazebo in the park.

Since incorporating, the Town has continued to evolve and provide more facilities and services to its residents. Beginning this evolution was the acquisition of land in 1984 on which to construct the Town Hall and Park. This facility serves to this day as the administrative center of Town and as a social and recreational gathering place for a variety of groups and activities. In 1986 the Town acquired a parcel of land on Channel Run drive to serve as an additional Town park.

In 1999 the Town acquired land on Wildwood Drive and across Plantation Drive from Town Hall. This land, and buildings thereon, allowed for the moving of police and public works operations into their own facilities, and provided the Town with income from the rental of storage and office units. The Red Caboose Library, a volunteer managed operation is currently housed in one of the office units the Town acquired.

In 1986 the Town made its first commitment to help protect residents from the harmful effects of flooding by beginning cooperation with the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program. This effort continues to this day and was highlighted by the Town becoming a Community Rating System community in 2010. This designation is testimony to the Town's efforts to educate residents about flooding issues and flood insurance, and to its efforts to enforce a floodplain management ordinance. The designation also benefits holders of FEMA flood insurance in the form of a reduction in rates.

In 1996 the Town purchased, from the for-profit Carolina Water Service, the water and sewer system that served a portion of the Town. Soon after this acquisition the Town expanded the water system to serve the entire Town and provide fire hydrants in all areas. Recent efforts to consider expanding the sewer system to serve the entire Town met with significant resistance, so no such expansion will be considered for the foreseeable future.

As the Town grew, and continued to add services, it became apparent that Council responsibilities were too much for the three council positions at the time of incorporation to handle, so, in early 1982, the Council was increased to five members. In 2001 the Town again evolved as it transitioned to the Council-Manager form of government. A Town Manager was hired to oversee the day-to-day operations of the Town including supervising the staff, developing and administering the annual budget, and performing a variety of other tasks to carry out the vision of the elected leaders.

Through tireless efforts of the residents of the Town, the Town Council, the Advisory Boards, and Town staff, the Town of River Bend has evolved from a small, residential-only neighborhood to a dynamic community which offers unique business opportunities while still maintaining a "neighborhood" feeling. Because of these efforts, River Bend is a model of a small Town which operates efficiently.

III. Town Demographics

The following data provides a profile of the community as of the 2010 Census and 5-Year American Community Survey:

River Bend Census 2010 and 5-Year ACS Comparisons

Subject	River Bend	Craven Co.	NC	US
General Population & Housing Characteristics				
# Population	3,119	xxx	xxx	xxx
% age 0-14	10.1%	19.7%	19.9%	21.2%
% age 15-19	4.5%	6.2%	6.9%	7.2%
% age 20-39	16.3%	28.2%	26.9%	26.8%
% age 40-64	31.7%	30.6%	33.4%	33.2%
% age 65-74	18%	8.5%	7.4%	7%
% age 75+	19.4%	6.8%	5.5%	6.1%
Median age	56.8	36.2	37.4	37.2
% White--one race	88.2%	70.0%	68.5%	72.4%
% Black or African American--one race	8.6%	22.4%	21.5%	12.6%
% all others	3.2%	7.6%	10.0%	15.0%
% Hispanic or Latino ethnicity	2.6%	6.1%	8.4%	16.3%
# households	1,414	xxx	xxx	xxx
% living alone	29.3%	25.5%	27.0%	26.7%
% households with persons < age 18	16.8%	33.2%	33.3%	33.4%
% households with persons 65 & over	53.3%	27.5%	23.9%	24.9%
Avg. household size	2.08	2.45	2.48	2.6%
% owner occupied housing units	79.7%	65.3%	66.7%	65.1%
% renter occupied housing units	20.3%	34.7%	33.3%	34.9%
Selected Housing Characteristics				
% single family homes	59.1%	63.3%	65.1%	61.6%
% mobile homes	0.9%	15.7%	14.3%	6.7%
% homes built 1939-1959	0.0%	16.0%	17.8%	30.8%
% homes built 1960-1979	36.3%	26.2%	25%	27.3%
% homes built 1980-1999	56.1%	39.2%	37.7%	28.1%
% homes built 2000 or later	7.6%	18.6%	19.5%	13.8%
Median value of owner-occupied units	$195,900	$151,500	$149,100	$188,400
Selected Social Characteristics				
% high school graduates	21.2%	28.4%	28.2%	29.0%
% bachelor's degree	18.5%	14.2%	17.4%	17.6%
% Graduate or professional degree	8.0%	7.1%	8.7%	10.3%
% Veterans	24.1%	18.6%	10.8%	9.9%

Selected Economic Characteristics				
% in labor force	43.2%	62.0%	64.9%	65.0%
% not in labor force	56.8%	38.0%	35.1%	35.0%
Median Household Income	$48,547	$44,599	$45,570	$51,914
Per Capita Income	$26, 311	$24,591	$24,745	$27,334
Percent of families in poverty	4.0%	11.7%	11.4%	10.1%

Significant data by the numbers:

- 3,119 population 2010
- 37.3% population is age 65+
- 56.8 median age
- 29.3% live alone
- 53.3% of households have people age 65+
- 2.08 average household size
- 1,414 number of households
- 79.7% owner-occupied housing units
- 20.3% renter-occupied housing units
- 7.6% of homes were built 2000 or later
- $195,900 median value of owner-occupied homes
- 24.1% veterans
- 56.8% not in labor force
- $48,547 median household income
- 4% number of families living in poverty

IV. Town Vision and Mission

Vision:

River Bend is a dynamic and uniquely located waterfront and golfing community well prepared to benefit from the area's historical and natural resources. By protecting its assets and actively fostering a diverse multi-aged population, the River Bend community will continue to be a safe, attractive place to live and will be competitively positioned to participate in the broader area's economic and population growth.

Mission:

The Comprehensive Plan should address the following premises:

Our future success as a community will be closely allied with the condition of our physical attributes:

- Our lakes, ponds and canals
- The adjacent Trent River
- The overall visual appearance of privately-owned residential, commercial, institutional and recreational properties
- Common areas
- Roads and other infrastructure

V. Municipal Facilities and Services

(Includes: municipal facilities, municipal operations, communications)

Goal:

Ensure the present and future municipal facilities and services meet community needs and expectations.

Strategies:

1. Continue to plan for the future administrative and community-use facilities needs in accordance with the needs analysis conducted in 2010.
2. Continue to aggressively maintain current facilities, with the knowledge that substantial maintenance to the Wildwood Barn is not fiscally prudent due to its advanced age and limited utility.
3. Investigate the possibility of providing hot-spot Wi-Fi service.
4. Consider additional electronic notification systems for urgent/emergency and routine notifications that would possibly include: email notification, social networking tools, etc. Encourage residents to enroll in all applicable systems so that there is more than one way to reach them.
5. Continue to remind citizens of availability of special assistance.

6. Ensure that Town's equipment storage and workshops meet OSHA requirements and staff needs.
7. Maintain equipment, software and services needed by staff to provide optimum service to residents, to meet professional standards, and to increase their productivity.
8. Ensure that Town staff keeps required skills and credentials up-to-date.

VI. Town Appearance

Goal:

Maintain and enhance the community's appearance.

Strategy:

1. Enhance the appearance of the front entrance to the Town.
2. Enhance the appearance of the detention pond at the front entrance.
3. Make the community look festive and inviting (seasonal and holiday decorations). Keep decorations fresh-looking.
4. Ensure Town properties are well-landscaped, attractive and well-maintained.
5. Consistently enforce existing ordinances that apply to community appearance and maintenance of property.
6. Follow the Canal Maintenance Plan.
7. Continue to consistently enforce ordinances to ensure that owners of waterfront property with bulkheads and docks keep them in good condition.
8. Enforce ordinance governing the dumping of debris and trash into waterways.
9. Continue community-wide participation in NC Big-Sweep events and other clean-up events.
10. Consider implementing a Yard-of-the-Month award.

11. Provide contact information for bulk good pick up.
12. Consider providing a convenient location once a year within Town for residents to dispose of electronics and hazardous waste.
13. Encourage the transition, where feasible, to underground utility lines both for appearance and safety (during storms).
14. Preserve green space wherever possible.
15. Continue to consistently enforce the tree ordinance.
16. Continue designation as "Tree City" and work toward higher levels of recognition in this program.
17. Consider the development of an "art in public places" ordinance.
18. Continue to use "mutt mitt" stations and add new stations as deemed appropriate.

VII. Health and Wellness

(Includes: Parks, recreation, biking, walking, open space, adult enrichment, arts, culture, family & senior friendly community)

Goal:

To ensure that the citizens of the Town of River Bend and its visitors have a range of opportunities for all age groups to maintain and improve their well-being.

Strategies:

1. When feasible procure and preserve open space and habitats.
2. Encourage conservation groups to purchase land within the Town that is unbuildable or ask owner to donate the parcel to the Town or to a conservation group.
3. Continue to encourage smart growth building practices for future development.
4. Provide equipment, facilities, and events that include opportunities for families with young children.
5. Create and support organizations that promote arts, crafts, exercise, and games.
6. Develop a bike/pedestrian plan for the Town.
7. Create additional walking paths/trails/sidewalks within the Town.
8. Create additional biking lanes/paths/trails within the Town.

9. Use markers/signs to indicate distances on paths/trails.
10. Create and improve park areas within Town and add amenities (e.g., disc golf)
11. Evaluate dog park to ensure that it meets users' needs and desires.
12. Research waterway access to include a boat launch area.
13. Encourage community gardening by allowing citizens to use appropriate public land.
14. Increase the number and types of recreational opportunities (passive & active).
15. Provide additional space for library to include a computer lab.
16. Provide a large multi-purpose community gathering space (movies, computer lab, meeting space, entertainment, etc.). See Town Commons Plan.
17. Continue to provide scheduled activities for the residents, including children.
18. Provide a large picnic shelter that includes a water source, rest rooms and food prep area. See Town Commons Plan.
19. Increase number and types of community events.
20. Negotiate a "joint use" agreement with the River Bend Golf and Country Club for resident seasonal use of the pool and for use of cart trails for walking paths.
21. Ensure that all facilities and amenities are well-kept and maintained and that facilities planning accounts for the increasing needs for community-use space.
22. Continue to ensure that playgrounds meet safety standards.
23. Create and provide space for a "lending closet" for items like walkers, crutches, wheelchairs, cribs, high chairs, etc.
24. Investigate hiring a Health & Wellness coordinator and/or recruiting a volunteer to organize community events & activities, and program facilities for public use.

VIII. Transportation

(Includes: Streets, Thoroughfare Plan)

Goal:

Ensure that the citizens of River Bend and its visitors have intra-city and inter-city transportation options.

Ensure that the roads within the Town are adequately maintained.

Strategy:

1. Enforce noise pollution ordinance (vehicles with loud exhaust and/or sound systems).
2. Use traffic calming devices as appropriate (e.g., traffic circles, speed bumps, etc.).
3. Encourage taxi/limo companies to serve River Bend.
4. Educate citizens in the uses of the services provided by the Craven Area Regional Transit System (CARTS).
5. Continue to encourage Friends Helping Friends with transportation needs.
6. Encourage bicycles as a means of travel in Town.
7. Locate bike racks strategically throughout the Town.

8. Create a community-wide bike and pedestrian plan.
9. Design and implement a family/senior-friendly pedestrian safety program (works for everyone).
10. Continue to maintain roads per the Roadway Maintenance Plan.
11. Periodically update the Roadway Maintenance Plan.
12. Hold service companies accountable for damages to community roads done by their vehicles.
13. Maintain and improve safety signage and safety lines painted on roads.
14. Install street lights at key intersections, as determined.

IX. Water Quality

(Includes: Environment, Waterways, Canal Maintenance)

Goals:

Protect and improve the quality of the local waterways to support recreational uses.

Ensure that the canals are maintained and that docks and waterfront structures are kept in good repair.

Strategy:

1. Encourage residents to connect to the Town's sewer system where it is available.
2. Require any marina to have a pump-out and locked head policy.
3. Consider creating a stormwater utility to pay for the cost of the stormwater control.
4. Encourage property owners to retain and reuse stormwater onsite (rain barrels, rain gardens).
5. Use Town resources to remove debris from canals post storms.
6. Continue to implement the Canal Maintenance Plan and ensure adequate resources are budgeted.

7. Control stormwater runoff.
8. Continue to provide public education on stormwater including more education to residents about chemical runoff to river.
9. Through proactive education and enforcement of existing ordinances, encourage all residents keep drain pipes under driveways clear and keep grass clippings and debris out of swales.
10. Continue to enforce law regarding dumping of lawn debris in waterways.
11. Provide education regarding the planting of appropriate, non-invasive, plant species around or close to waterways.

X. Water

Future concerns include supplies threatened, quality threatened (possibility of salt water intrusion of wells), demand increases, additional Capacity Use Area regulations and aging infrastructure.

Goal:

Ensure that the Town of River Bend has an adequate potable water supply to meet its current and future needs at prices appropriate to operate and maintain the viability of the utility.

Strategy:

1. Continue regular maintenance of the water treatment and distribution system and update as needed.
2. Investigate the potential to provide an emergency connection between the River Bend water system and another public water system including a written inter-local agreement that provides details on the rules and compensation for the use of that connection.

3. Continue to use an updated utility rate model to set water rates so that current and future needs of the system can be met.
4. Ensure that the needs of the water system are included in the Town's Capital Improvement Plan.
5. Continue to implement the North Carolina Department of Water Quality efficiency and conservation best management practices and incorporate these, as appropriate, into the Town ordinances, policies and procedures.
6. Encourage all new large subdivisions to provide a dual system for the use of potable water and gray water.
7. Continue to inspect and replace water distribution lines as needed.
8. The Town should continue to meet with water suppliers in the region to discuss and plan for "what if" scenarios.
9. Continue educating the public regarding water conservation.

XI. Wastewater

Goals:

Ensure that the Town of River Bend has adequate sewer capability to meet its current and future needs at prices appropriate to operate and maintain the viability of the utility.

Ensure that all structures within the Town and its Extra Territorial Jurisdiction (ETJ) needing sewage treatment are connected to the Town's sewage system.

Ensure that existing septic systems within the Town are maintained.

Strategy:

1. Continue to seek viable alternatives to the disposal of the treated effluent. (Currently it is conveyed to the Trent River.)
2. Ensure that the needs of the sewer system area are included in the Town's Capital Improvement Plan.
3. Encourage connection to the sewer line in all areas of Town and ETJ where it is available.

4. Do not allow new package plants or new septic systems to be installed in areas where sewer is available.
5. Encourage the placement of water re-use systems.
6. Review and develop plans to replace aging wastewater treatment plant and collection lines.
7. Report all evidence of malfunctioning septic systems to the Craven County Health Department and/or other proper authorities.

XII. Stormwater and Pollution Control

Goal: Protect local public trust waters to ensure a clean environment.

Strategy:

1. Continue to use video camera inspection technology to ensure that the stormwater conveyance system is free of blockages and breaks in the pipes.
2. Continue to participate in the Community Rating System and continue efforts to improve/maintain the Town's rating.
3. Label storm drains reminding citizens that the water drains into the local waterways.
4. Find more ways to capture and use stormwater. Consider it an asset instead of a liability.
5. The Town should continue to be a role model when it comes to control of stormwater.
6. Continue public education on protecting the environment and preventing pollution.
7. The Town Public Works Department should continue to pick up litter in public areas as it accumulates. Periodically re-assess the placement of trash receptacles and pet waste receptacles throughout the Town and add or move as needed.

8. Consider creating a separate ordinance for stormwater.

9. Continue to encourage the state to enact a deposit on bottles.

10. Encourage developers to use pervious surfaces for walkways and driveways.

11. Provide education to residents and contractors to encourage the use of pervious materials for walkways and driveways.

XIII. Fire Protection

Goals:

Ensure the provision of adequate fire protection to the area by continuing to meet or exceed NC Department of Insurance and National Fire Protection Association guidelines with regard to personnel, equipment and response times.

Ensure that River Bend maintains the most favorable fire rating possible to keep fire insurance rates low.

Strategies:

1. Convene a committee to study the Fire/EMS response times, ratings, and pertinent issues including use of volunteers. Committee to make recommendations to Town Council.
2. Support First Responders.
3. Encourage more community-based fundraisers for Rhems Volunteer Fire Department.
4. Assist in recruiting volunteers.
5. Encourage on-going training for all fire and EMS volunteers to help them achieve higher skill levels and enhanced ratings.

6. Encourage more use of the green and white house number signs for ease in locating residences.

XIV. Emergency Medical Services

Goal:

Ensure the provision of adequate EMS coverage to the area by continuing to meet or exceed guidelines with regard to personnel, ratings, qualifications, equipment and response times.

Strategies:

1. Convene a committee to study the Fire/EMS response times, ratings, and pertinent issues including use of volunteers. Committee to make recommendations to Town Council.
2. Support First Responders.
3. Encourage budgetary support and seek grants to upgrade equipment.
4. More community based fundraisers for Rhems First Responders.
5. Assist in recruiting volunteers.
6. Consult with Carolina East Health Systems, the current ambulance service provider, and Rhems First Responders regarding the need for a paid EMS unit for the Town.
7. Encourage on-going training for all fire and EMS volunteers to help them achieve higher skill levels and enhanced ratings.

8. Encourage more use of the green and white house number signs for ease in locating residences.

XV. Public Safety

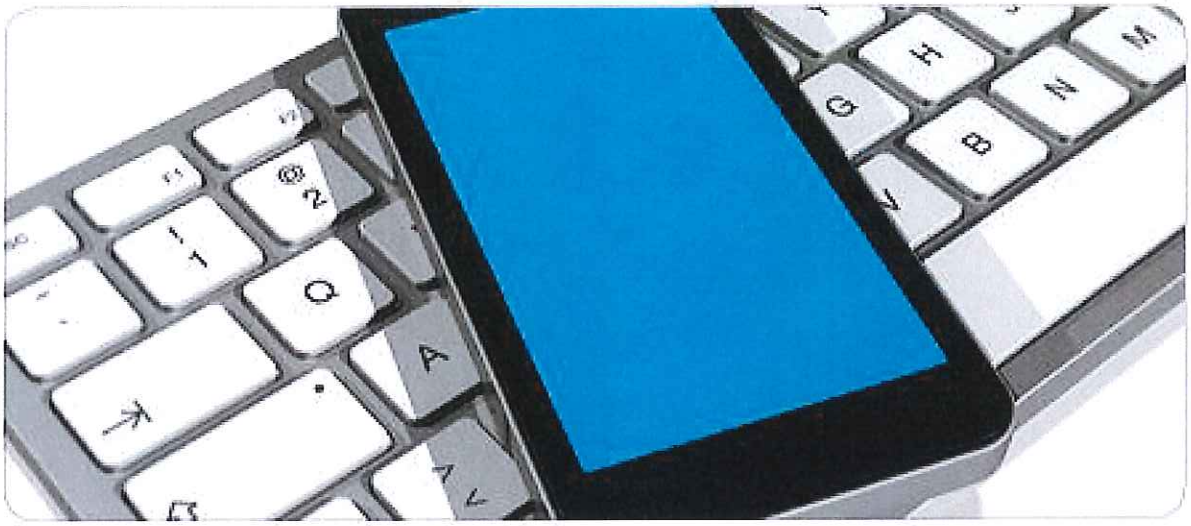
Goal:

Ensure the provision of adequate police protection to the area by continuing to meet or exceed guidelines with regard to personnel, equipment and response times.

Strategies:

1. Increase the number of police reserves.
2. Use citizen volunteers to provide assistance to uniformed staff as appropriate.
3. Use the Community Emergency Response Team (CERT) more effectively and use the personnel to the Town's best advantage.
4. Ensure police consistently enforce all ordinances.
5. Develop more active communication with the other local community police forces.
6. Encourage and support local Community Watch groups.
7. Continue efforts to actively engage in community policing techniques.

XVI. Communication



Goals:

Effectively and efficiently communicate routine, important and urgent/emergency messages regarding River Bend to the citizens.

Ensure community access to high speed internet, 4G telecommunications and cable TV.

Strategies:

1. Seek volunteers to keep the River Bend phone book updated. Enter numbers into the Town's reverse 911 system.
2. Consider placing an electronic bulletin board activity sign at Town entrance.
3. Conduct more outreach to increase number of citizens on the emergency call list.
4. Improve communication between Community Watch groups, CERT, Police, Fire and EMS units.
5. Keep activities listed on the bulletin board by Town Hall up to date.
6. Investigate interest in establishing an "Are You OK?" program.

XVII. Air Quality

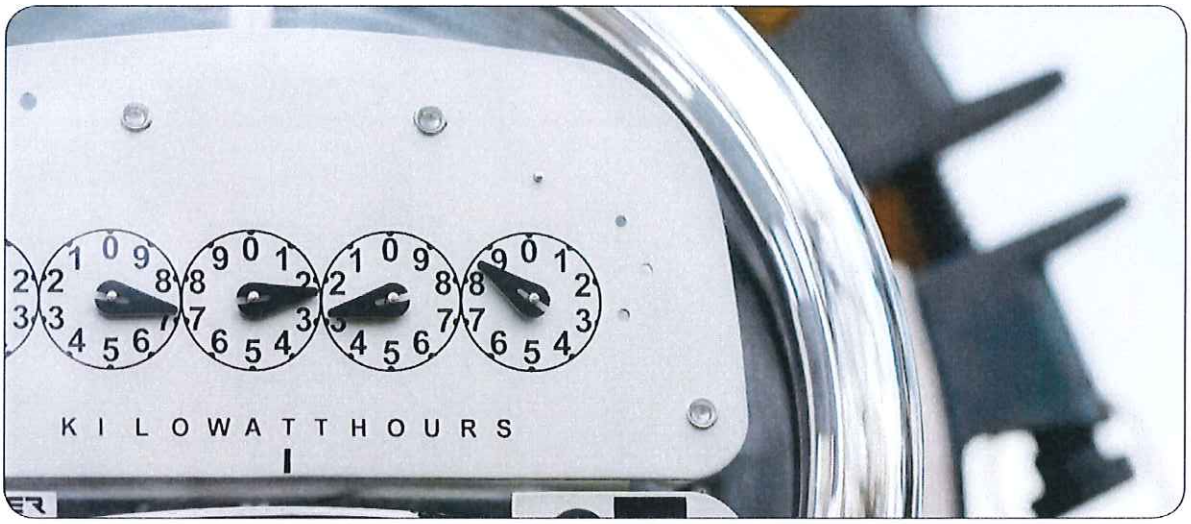
Goal:

Maintain the community's exceptional air quality.

Strategies:

1. Alert citizens, as directed by Craven County Emergency Management, when the Forest Service is doing a controlled burn.

XVIII. Energy



Goal:

Encourage the conservation of energy.

Strategies:

1. Encourage provider of natural gas to serve River Bend.
2. Use solar lights at parks and Town Hall.
3. Encourage the transition to solar and LED technology to reduce the use of power and, over time, the cost of electricity to the Town.
4. Provide energy saving tips to residents via the Town website and newsletter.
5. Town facilities to be models of energy efficiency.
6. Bury existing power lines as feasible.

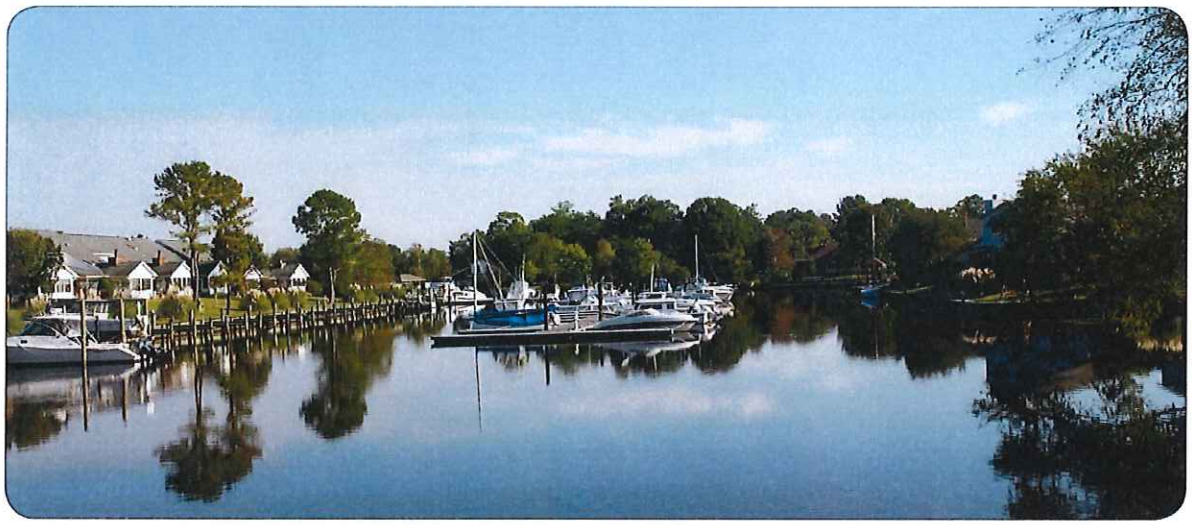
XIX. Solid Waste and Recycling

Goal:
Help reduce the solid waste stream and delay future landfill needs. Help sustain/ improve the environment.

Strategies:

1. Educate the public on recycling via the Town website and newsletter.
2. Support and publicize recycling events.
3. Provide information on the recycling containers as to what can be recycled.
4. Evaluate the need and feasibility of providing residential garbage collection as a Town service.
5. Evaluate the need and feasibility of providing periodic bulk and white goods pickup for citizens to help prevent illegal dumping of these items.
6. Post information on Town's website regarding disposal of hazardous waste.
7. Increase opportunities to safely dispose of hazardous waste.
8. Continue to consistently enforce the anti-littering ordinance.
9. Signs (using a positive message) should be placed in the community to encourage proper disposal of litter.

XX. Residential Development & Housing



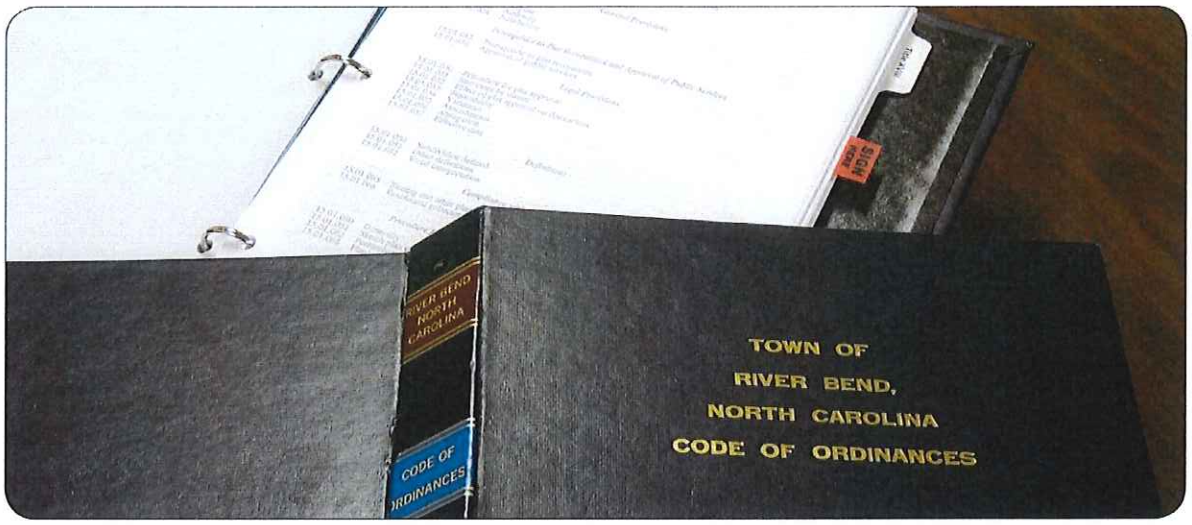
Goal:

Ensure that zoning and subdivision regulations provide for development in a fashion that is consistent with the residential character of the existing community.

Strategies:

1. Encourage developers of new subdivisions to include sidewalks on at least on one side of the street.
2. Work with the NC Land Trust to preserve unbuildable open spaces and wetlands in perpetuity.
3. Encourage developers to build using green materials and use pervious surfaces wherever possible (driveways, sidewalks, and walkways).

XXI. Land Use and Zoning



Goals:

Land uses and zoning should be compatible with adjacent uses and buffers (or transitional areas) should be used when that is not feasible.

Zoning should reflect the character of the Town.

Strategies:

1. Consider changing select parcels close to US Highway 17 to allow for multi-family uses as a special exception for consistence in land uses.
2. Address 'internet sweepstakes' uses in the zoning code.
3. Consider implementing 'adult use' restrictions in the zoning code.
4. Address inter-connectivity along US Highway 17 and Pirates Road for future development.
5. Evaluate the Highway 43 connector project, including the potential route and time frame for its potential impact on River Bend.
6. Monitor the Craven 30 project and its potential impact on River Bend.

7. Consider the possibility of business overflow from the Craven 30 development and what benefits it could have for River Bend.

8. Research light regulations so that light polluting developments will be more controlled.

9. Once the New Bern area Metropolitan Planning Organization (MPO) is formed, consider requesting a corridor study of US Highway 17 in front of River Bend and extending to the New Bern city limits.

10. Reevaluate the permitted use table as a short-term goal.

11. Develop a 'gateway' for the area off Shoreline Drive to include regulations on sign height, lighting, landscaping etc.

12. Consider commercial landscaping regulations.

13. Consider adding requirements for amenities such as walking paths, playgrounds to development regulations.

XXII. Build-Out and Development Scenarios

Note: The following build-out numbers were developed by an engineering firm in order to determine what the capacity of the system must be for future development.

Goal:

Ensure that River Bend grows in an orderly fashion and that the systems and infrastructure keep pace with development and build-out of the Town.

Build-out Scenarios:

Parcel Data	Acreage	Buildout
Developable Residential Parcels Served by Sewer		33 lots
Developable Residential Parcels Not Served by Sewer		37 lots
Property between Howell Center and River Stone	19.6 acres	80 units - 2 BR
Commercial Land	33 acres	17 parcels
Northwest Quadrant	280 +/- acres	276 lots - 3 BR

The residential lots are just those that meet current zoning requirements and are in all other ways developable for a single family home. There are other vacant lots in Town that are either too small, too wet, or otherwise restricted, that are not counted.

There is a nearly 20-acre parcel, zoned Institutional, located between the Howell Center and River Stone that would be suitable for the location of a progressive care facility or other similar use.

The land within the Town that is currently zoned commercial is held by two owners in five parcels. Given current regulations it would be possible to subdivide these five parcels into 17 separate lots of approximately 62,000 square feet each. When determining the build-out potential of commercial parcels, one must keep in mind the square footage needed for parking and the allowable square footage of impervious surface coverage.

Development Scenarios:

There is an old conceptual development plan for the Northwest Quadrant that may, or may not, still be relevant. This should be an action item for review.

The Town needs to decide the geographic direction in which it wants to grow: towards New Bern, towards Jacksonville, across Highway 17 or some combination thereof.

XXIII. Town Boundaries, ETJ and Annexation

Over time the Town will incur more and more expenses to maintain its operations and to keep its various systems in operational order and in compliance with regulations. Most towns have found that in order to be able to do this it must annex adjacent areas to help defray these costs. This ultimately benefits the citizens in these areas as well. The state laws govern annexation and are changed/challenged from time to time.

Goals:

Ensure that the Town is able to continue to control land uses adjacent to its boundaries.

Ensure the Town's expenses, especially for required services and needed systems, are defrayed over the largest economic base possible.

Strategies:

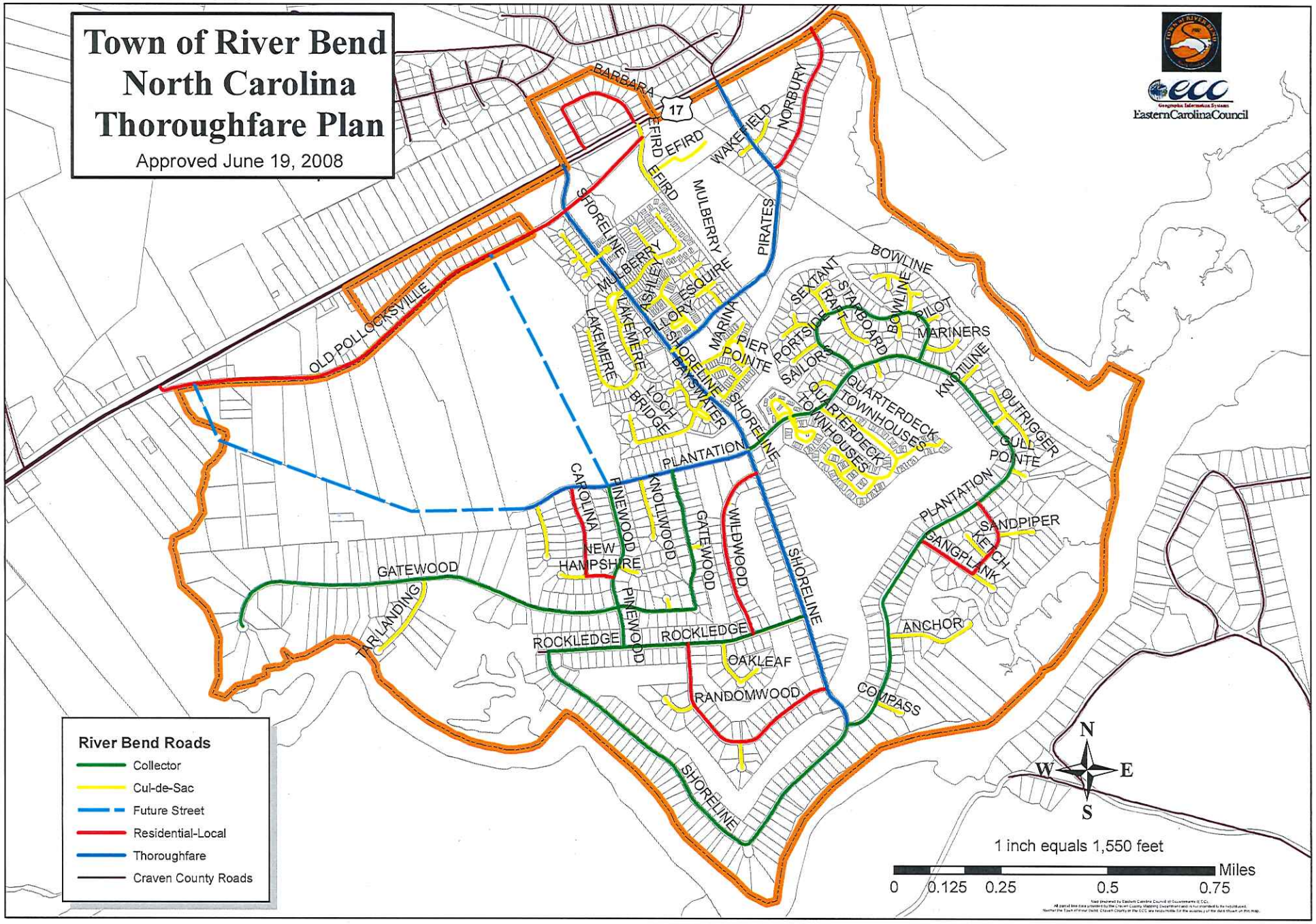
1. Seek and support state legislation that gives municipalities the most latitude over annexation.

XXV. Attachments

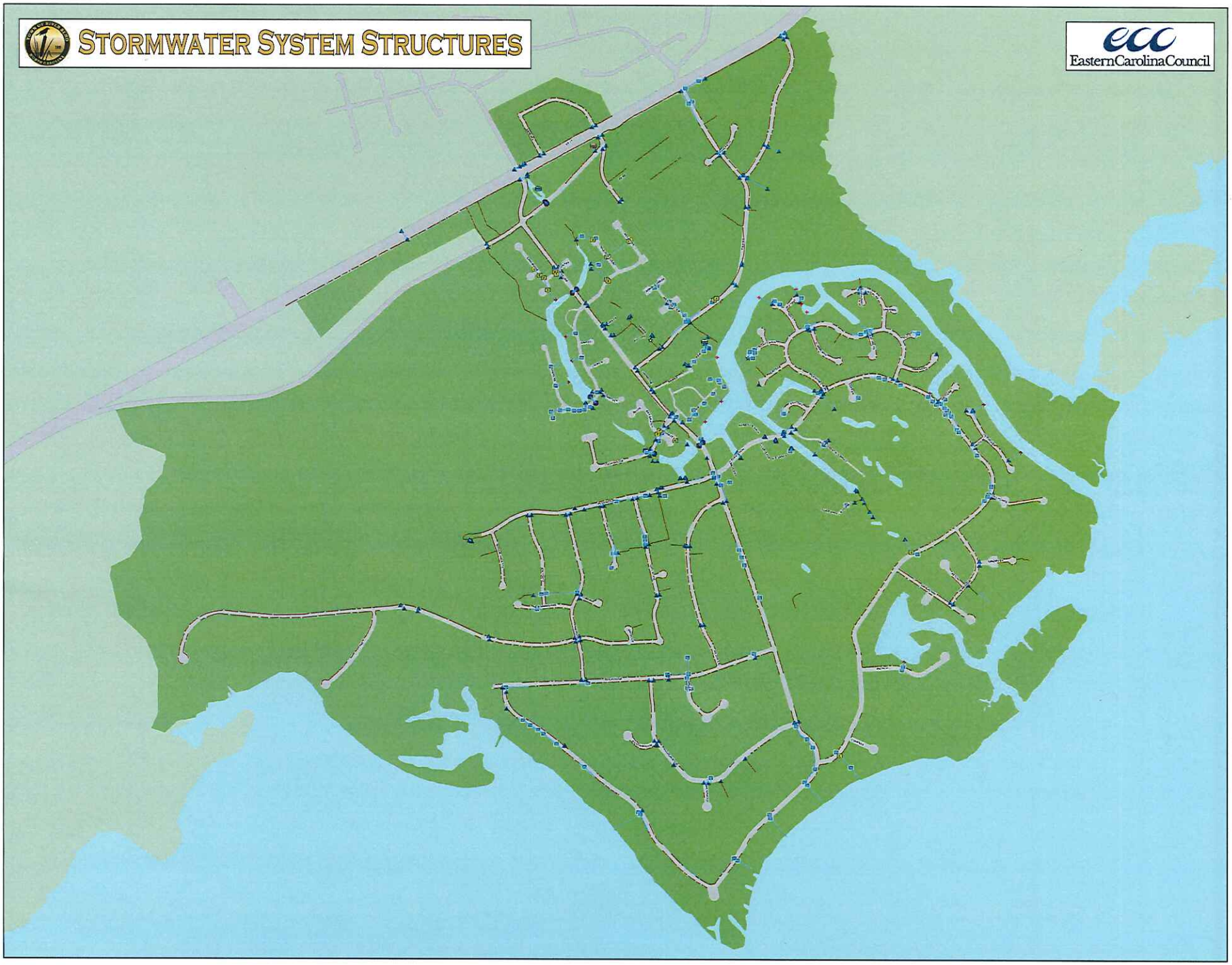
1. River Bend Thoroughfare Plan
2. Stormwater Conveyance Map
3. Canal Maintenance Plan

Town of River Bend North Carolina Thoroughfare Plan

Approved June 19, 2008



STORMWATER SYSTEM STRUCTURES



River Bend Canal Maintenance Plan

Revised September 2009

Adopted March 18, 2010

Outline

Background of the Plan

Introduction/Overview

Objective of the Plan

I. Maintenance Issues

A. Canal Depth and Width
B. Noxious Weed Growth
C. Pollution/Contamination Control
D. Obstacles to Navigation
E. Navigation Aids
F. Response/Recovery

II. Volunteer Program

III. Property Owner Responsibilities

A. Bulkhead
B. Docks
C. Spills/Runoff/Swimming Pools/Spas
D. Weeds
E. Refuse
F. Fertilizers and Pesticides
G. Swimming

Appendices

A. Inspection Procedures
B. Definitions
C. Contacts for Related Local, State, and Federal Agencies
D. Dayboards
E. Maps & Charts
F. References

Background

This Canal Maintenance Plan has been developed in response to the tasking of the Town Council, as documented in the River Bend Comprehensive Plan.

Waterways

2. Develop a formal waterways management and maintenance Plan following the dredging of the canal system. The Town Council needs to approve this plan and commit the annual financial resources necessary to keep the plan current (W).

   Responsibility: Waterways Advisory Board/Town Council
   Priority: Priority 1, Critical
   Priority Justification:

   CIP: N/A

   Date of Approval: November 15, 2000

Revised: March 20, 2002"

Introduction / Overview

This Plan is organized into four major sections, plus a set of Appendices. The major sections are: Objectives of the Plan, Maintenance Issues, Volunteer Program, and Property Owner Responsibilities.

The *Objectives* Section simply identifies the task given by the Town Council for solution by the Waterways Advisory Board. *Maintenance Issues* defines problem areas, potential problem areas, pertinent reference guidance and technical material, and the responsibilities for correction. The *Volunteer Program section* represents a possible partial solution for some of the fiscal and manpower limitations, which bear on the success of the Plan. The *Property Owner Responsibilities* section discusses the ecological and financial impact of various property owner actions, which may help or hinder management of the Waterways. The The Appendices include various legislative, enforcement, and ecological reference materials, definitions of terms used in the Plan, and technical materials for use in day-to-day management/maintenance activities.

Objective of the Plan

The comprehensive objective of this Plan is to provide the management tools for day-to-day safe and efficient maintenance of the waterways of River Bend, North Carolina; to provide a means for measuring success of that management; and to establish the basis for successful planning for future management of this valuable resource.

The following are considered essential elements of the Plan:

A. Keep the canal system safe
B. Maintain the canals to a specified depth and width as a critical part of the town storm water runoff system
C. Maintain and enhance the canals as useful recreational and aesthetic assets to the community
D. Provide the basis for seeking funding and grants to maintain the system
E. Protect the canal system from contaminants
F. Support a Public Information Program to maintain awareness of waterway issues and topics.

There follows the three major facets of the River Bend Canal Plan:

I. Maintenance

A. Canal Depth and Width

1. Specification

The specifications for the canal dredging project, completed in September 2001, call for the dredged depth to be no less than 6.5' below Mean Sea Level (MSL). The width specified for the Plantation Canal is 35', while the width of the Plantation Canal "fingers" and the Island Lake Canal, and "spur" to the extent of the previous Town maintenance dredging, is 22'.

2. Inspection Procedures

Over time, natural processes and boat wakes tend to reduce the depth and width of the canals. The mouth of the Plantation Canal and the Island Lake Canal are particularly vulnerable to silting due to storm activity and flooding conditions which bring large amounts of silt and debris downstream.

The width and depth of the River Bend waterways canals will be measured and recorded annually. In addition, measurements will be carried out immediately after storm events that are considered significant enough to cause shoaling at the waterways entrances. Measurement of waterways will be taken at 500' intervals using an electronic depth sounder. Each location will be noted using a GPS unit. All measurements will be recorded for comparison purposes.

Boaters are asked to report, at any time, shoaling problems they have experienced and/or debris that they have seen at the entrances to and along the River Bend waterways. Obstacles such as tree stumps, logs and other debris as well as overhanging trees and limbs will be identified and marked for removal. Measurement criteria are addressed in Appendix A.

3. Dredging/Spoil Removal and Disposal

When it is determined that maintenance dredging is required, the method of dredging, i.e., hydraulic versus mechanical will have to be decided. The lead time necessary to process permits, permit amendments, and requests for proposals and bids is significant. The spoil site established at the wastewater treatment plant is expected to be available.

4. Wind Tide Impacts

River Bend waterways have no lunar tides. The waterways have instead, wind tides, which are very unpredictable. The "normal" water level is approximately 1.5' above MSL. During severe storms the water level can change 5-6' in a very short period of time. Northeast winds blow water from Pamlico Sound up the Neuse and Trent Rivers, while Southwest winds do the opposite. The wind tide must be carefully monitored during any depth inspections that are carried out. The tide gauge established for the dredging project might be used to correct for wind tides.

5. Remedies

Adherence to the annual inspections of River Bend waterways will indicate needed maintenance before it becomes critical.

In addition, a calibrated and maintained water level gauge should be installed near the town hall, to permit regular monitoring of water depth, especially in times of hurricane or Nor'easter threat, when rising waters require prompt protective action.

B. Noxious Weed Growth

1. Problem

Prolific, noxious weed growth in the ponds and waterways is, apparently, a cyclical problem that in the past has been extreme in the River Bend waterways and ponds. There appears to be no adequate explanation for why one season may experience heavy weed growth and be immediately followed by another season that is virtually weed-free. The very thick mats of weeds, some floating and some rooted, have a very negative effect on the health of the water and its ability to support life.

2. Source

What is known is that nutrients flowing into the drainage ditches, streams, and creeks are a major cause of the prolific growth of plants, and weeds in our waterways. The sources of these nutrients (pollutants) include the excessive application of fertilizers from lawns and gardens and runoff from impervious surfaces.

3. Remedies

The obvious solution is to reduce the amount of nutrients that flow into our waterways. Within our area, this begins with educating the homeowners. The use of incorrect amounts of fertilizer or application at the wrong time, contributes to the problem. Residents are generally anxious to apply their fertilizer in proper amounts and at appropriate times of the year, if given the information they need. As a municipally, River Bend must continue to educate its citizens through available outlets such as the Riverbender and RBMail.

One of the most immediately available remedies is the proper use of buffers. Residents are encouraged to establish and maintain vegetation buffers, which provide filtering and protection from erosion. See Appendix H.

Citizen reports of weed problems in the waterways will be recorded by the Public Works Department. Public Works is the action Department for implementation of weed controls.

C. Pollution/Contamination Control

1. Transient Sand

Transient sand is that which is present at construction sites, road and driveway construction. The soil within River Bend is of a sandy nature. Storm runoff carries the sand to the canal system, via runoff or by the drainage system. To minimize the effect of transient sand, construction sites, including driveway construction, should utilize "sand fences".

2. Oil/HAZMAT Spills

Oil and HAZMAT spills into the waterways of River Bend are already prohibited by Federal law. All oil and certain HAZMAT spills, in accordance with Federal law must be reported to, in order, the **National Response Center (NRC) (800-424-8802) and, US Coast Guard Sector North Carolina Operations Center (252-247-4570)**. In addition, the River Bend Police Department and the Neuse River Rapid Response Team (252-514-4748) should be notified. See also Section III.I.

NOTE: In the event of a large flammable liquid or chemical spill, the Rhems Fire Department and River Bend Police Department should be notified IMMEDIATELY to address any potential life safety issues. Once this is done, then the NRC and USCG should be notified.

3. Fertilizer/pesticides

Minimizing the effects of fertilizers and pesticides on the canal environment requires a continuous education and information dissemination effort. Periodic articles addressing recommended intervals and application quantities of chemicals are encouraged. The suggested medium for the dissemination of information is:

a. River Bender
b. River Bend Email
c. Information circulars distributed to all households
d. River Bend Town Website

4. Household Environmental System Discharge

Improperly maintained or failed septic systems have the potential to contribute large amounts of waste to River Bend Waterways. Septic tanks should be examined periodically and pumped out, as necessary. The tank should be pumped if the sludge layer has built up to within 25% to 33% of the liquid capacity of the tank. Associated drain fields should also be examined for impending failure.

Air conditioning systems employing underground wells that discharge cooling water into the waterways must fully comply with the environmental requirements of all governing jurisdictions.

5. Means of Performance Measurement

In order to determine whether this portion of the plan is functioning as intended, periodic visual observations of the waterways system will be conducted.

6. Responsibilities

It is the responsibility of the town of River Bend to establish and enforce the requirements established herein.

D. Obstacles to Navigation

1. Stumps, fallen trees, overhanging trees & brush, etc.

At the time of routine inspection of the canals, any foreign objects in or overhanging the canals that may present a hazard to navigation should be noted and reported to Town authorities. These inspections should also be conducted after any major storm event. Property owners have a responsibility for trees on their property that overhang or fall into the canal system and impede safe navigation.

2. Sunken boats, equipment.

Sunken vessels are to be removed as soon as possible by the owner, per federal regulations.

3. Responsibilities.

Removal of obstructions that emanate from private property are the responsibility of the property owner. Where obstructions emanate from Town owned property, the Town is responsible for the removal.

The Waterway Advisory Board will monitor waterway conditions related to navigability, and will report to the Town Manager for corrective action.

E. Navigation Aids (Maintenance)

1. Charts

Changes to the channels and/or aids to navigation shall be reported to National Oceanic and Atmospheric Administration (NOAA) as soon possible so that the chart may be updated. Changes should also be reported the US Coast Guard.

2. Channel markers (Dayboards)

Dayboards should be inspected annually and after major storms. They should be inspected for physical damage, fading, legibility and condition of the reflective surfaces. See Appendix D. Residents are encouraged to report any issues related to these navigational aids, and to report any damage or deterioration to them. Such calls may be made to the Police Department, who will relay the notice to the Environment and Waterways Committee.

3. "No Wake" Signs ("official" only)

These signs should be located **only** at the Trent River entry to the Plantation Canal and to the Island Lake, and should receive the same inspection as the Dayboards.

4. Responsibility

The Town is responsible for the inspection and maintenance of the Dayboards under an agreement with the US Coast Guard. They are installed as private aids

to navigation. The Waterway Advisory Board will monitor the condition of the Navigation Aids.

F. Emergency Preparation/Response/Recovery

1. Water Hazards
   a. Sinking: US Coast Guard (VHF Channel 16)
   b. Drowning: Coast Guard (VHF Channel 16)
      River Bend Police Department
      Craven County Emergency Management (911)

2. Fuel/HAZMAT/Chemical Spills

   a. National Response Center (800-424-8802)
   b. US Coast Guard Sector North Carolina-Ft. Macon (252-247-4570)
   c. River Bend Police Department
      Neuse River Rapid Response Team
      Rhems Fire Department (if spill is large)

II. Volunteer Program

The Waterways Advisory Board will encourage River Bend Citizen input and assistance. It will also work with appropriate concerned organizations to assist the Town in maintaining its waterways.

III. Property Owner Responsibilities

1. Bulkheads.
   Property owners are responsible for the maintenance of bulkheads bordering their property. The use of riparian buffers for existing waterfront and in conjunction with or in place of new bulkheads is encouraged. Collapsed or leaking bulkheads must be repaired quickly to preclude erosion or pollution of the waterway. Representatives of the Town will periodically patrol the waterways, and, when appropriate, notify property owners of bulkhead failure or impending failure. Owner responsibilities for their bulkheads are defined in the River Bend Town Code, Article IX, Section 15, Subsection 15-M

Docks.
Docks must be maintained by the landowner, to the extent that they do not become safety or navigation hazards. Town representatives will periodically patrol the waterways, and, when appropriate, notify property owners of dock failure or impending failure. This topic is governed by Article IX, Section 15, Subsection 15-D

A. Building Permits.
All building projects must be formally permitted by the Town of River Bend, Craven County, and in certain cases, by the Coastal Area Management Act (CAMA). All construction projects within the town must get a *Zoning Permit* from River Bend. A Craven County *Building Permit* is also required. CAMA regulations may affect the construction of swimming pools and other structures within 50 feet of the waterways. Silt barriers will be

required for all permitted construction projects where the earth is disturbed. The waterway bottom may not be disturbed without prior specific CAMA approval. This includes, but is not limited to removal of stumps, dredging, etc.

B. Swimming Pool & Spa Discharge.
Discharge of highly-chlorinated water directly into the waterways is prohibited. Pools and spas should be allowed to sit for a period of one week, without chemical treatment (alga will begin colonizing), before discharge anywhere near the waterway or directly into it. See also paragraph I.f.

C. Water Softeners.
Water softener recharge water may not be discharged into any waterway in River Bend. It also may not be connected directly to an irrigation system.

D. Weeds, Tree Growth.
Bulkheads and other margins with the waterways must be maintained free of plant life which may (eventually) cause damage to the bulkhead.

E. Refuse and debris.
Refuse must never be allowed to reach the waterways. Property owners will be responsible for complete mitigation of the effects of refuse from their property.

F. Fertilizers, pesticides, etc.
Fertilizers, chemicals, petroleum products, and other such material must never be permitted to enter the waterway system. It is the property owner's responsibility to prevent such contamination, through prudent means of managing them and minimizing their use in the vicinity of the water. In the event of such contamination, it is the property owner's responsibility to immediately notify the appropriate agency (see 1.F.2 above) to initiate mitigation and containment.

Appendix A.
Inspection Procedures

1. Inspection Criteria

   a. Waterway depth testing should be conducted at 500' intervals, using an electronic depth sounder, while recording the location using a GPS unit.

   b. While inspecting waterways, officials should look for cracked or leaking bulkheads, and obstructions such as downed trees or sunken boats.

   c. Dayboards should be inspected at least semi-annually. Marker definitions are included in Appendix D and Appendix E. Inspection issues are:
      1) Is the marker pole close to vertical?
      2) Is the Dayboard in serviceable condition?
      3) Have ospreys or other wildlife compromised the markers?
      4) Has debris collected around the marker?
      5) Is there any evidence that the channel has shifted or silted in, making the marker inaccurate?

2. Frequency

   Waterways and Dayboard, inspections should be done annually and following each hurricane or severe storm, to assist in identifying possible problems or bulkhead failures.

3. Responsibilities

   a. For the purpose of navigable waterways, inspection shall be the responsibility of the Waterways Advisory Board.

   b. For the purpose of private lots and bulkheads, inspections are the primary responsibility of the property owner.

Appendix B.
Definitions

1. *Access to Trent River*. Plantation Canal and Island Lake. See Appendix E, Charts 1,2, and 3.

2. *Buffers*. On August 1, 2000, North Carolina took a significant step to protect coastal water quality by requiring a 30-foot buffer for new development along coastal shorelines (the 20 Counties governed by CAMA).[1] Some restrictions also exist between the 30 foot buffer, and the 50-foot line from the water. These buffers are naturally vegetated transitional zones between both differing land use and the land/water interface. Currently they are applied in both engineered and natural settings to curb the effects of non point-source pollution.[4]

3. *Channel Markers*. Official navigation aids permanently placed at the inlets to River Bend waterways, with the approval and Guidance of the US Coast Guard.

4. *Dayboards*. Same as channel markers.

5. *Debris*. Scattered fragments; remains; rubbish, especially that caused by storms or destruction.

6. *Impervious Surface*. Pavement, buildings, walks, walls, and any other structure which effectively limits or alters contact between rainwater and the absorbent soil.

7. *Island Lake*. Navigable lagoon within River Bend, and connecting with the Trent River. See Appendix G., Chart 3.

8. *Leaching*. The downward movement through the soil of a substance. One of two ways in which contaminants enter groundwater.

9. *Neuse Buffer Rule*. This rule restricts activities in two shoreline zones. For surface waters within the 20 Coastal Counties (including Craven), within the jurisdiction of the Division of Coastal Management, Zone 1 shall begin at the most landward limit of the following options, whichever is more restrictive, and extend landward a distance of 30 feet, measured horizontally, on a line perpendicular to the surface water:

   a. the normal high water level;

   b. the normal water level; or

   c. The landward limit of coastal wetlands as defined by the Division of Coastal Management.

   Zone 2 shall consist of a stable, vegetative area that is undisturbed except for activities and uses provided for in item (6) of the rule (see 15A NCAC 2B.0233, as published in 14:4 NCR 287-301). Grading and replanting in Zone 2 is allowed provided that the health of the vegetation in Zone I is not compromised. Zone 2 shall begin at the outer edge of Zone 1 and extend landward 20 feet as measured horizontally on a line perpendicular to the surface water. The combined width of Zones 1 and 2 shall be 50 feet on all sides of the surface water.

10. *Neuse River Rapid Response Team*. Group responsible for monitoring water quality conditions in the lower Neuse Watershed, below Kinston. Part of the Environmental Sciences

Branch of the North Carolina Department of Environment and Natural Resources' Division of Water Quality.

11. *Plantation Canal.* The approximately one-mile long canal connecting the River Bend Town Hall pond with the Trent River. See Appendix E., Charts 1, 2, and 5.

12. *Refuse.* That which is refused or thrown away as worthless or useless; rubbish; trash; waste matter, including yard waste.

13. *Riparian Buffers.* Transitional zones crossing the boundary between land and water. A riparian buffer may be vegetated (natural or planted), an engineered structure, or a combination. For physical description of buffer requirements, see *Neuse Buffer Rules*, above.

14. *River Bend Waterways* River Bend Waterways, as affected by this plan, include the approximately one-mile long Plantation Canal, four (un-named) navigable offshoots of the main canal, the Island Lake and its approaches from the Trent River, the boat basin ("marina"), the Town Park Lagoon, and the decorative entrance pond at Shoreline Drive and Route 17. Privately-owned ponds in the community are not specifically included in this Plan for maintenance expenditures by the Town of River Bend, but must be in compliance with other applicable regulations, as they may affect or be affected by the River Bend Waterways.

15. *Runoff.* Gravity-driven movement of fallen rainwater off the soil surface into lakes and streams.

16. *State Shoreline Buffer Rule.* In the year 2000, the State of North Carolina adopted a30' buffer rule for all new development along navigable waterways in the coastal counties (including Craven County) governed by the Coastal Area Management Act (CAMA). Development within such buffers is restricted.

17. *Transient Sand.* Often found at constructions sites and driveway projects.

18. *Tributary Canals.* The five branches of the Plantation Canal, and the entrance to the Island Lake. Only the Pirates Cove tributary is formally named.

19. *Waterway Advisory Board.* Volunteer group of River Bend citizens empowered by ordinance to advice Town leadership on issues related to surface waters in the Town of River Bend. See also Reference 11, which is the Ordinance establishing the Board.

20. *Wetlands.* A general term used to describe areas which are neither fully terrestrial nor fully aquatic. These areas range from the cypress swamps of the southern United States to shallow, unimpressive depressions which hold water at most only a few weeks out of the year

21. *Wind tide.* Changes in water level on waterways caused by the effects of winds over the extensive fetch of those waterways, wherein water is pushed up into the tributaries, or pulled from them, dependent on direction. Water level differences can vary by three to five feet under extreme or prolonged conditions.

Appendix C.
Contacts for Relevant Local, State, and Federal Agencies

1. Town of River Bend

   Town Council (Environment/Waterways), Councilman Bert Linkonis (252-633-4999)

   Zoning Administrator, (252) 638-3870

2. Craven County.
   Emergency Services Office: (252) 636-6608

3. CAMA.
   North Carolina Department of Environment and Natural Resources
   151-B Hwy 24, Hestron Plaza II
   Morehead City, NC 28557
   Phone: (252) 808-2808, FAX: (252) 247-3330

4. U.S. Coast Guard
   Sector North Carolina, Fort Macon 24 hour Operations Center **(252) 247-4570**

5. Neuse River Rapid Response Team (Division of DWQ)
   New Bern: (252) 514-4748

6. Marine Advisory (Extension) Service
   North Carolina Sea Grant Program
   Water Quality Topics/Issues:
   Barbara Doll, Specialist, (919) 515-5287 (Raleigh)
   Coastal Construction & Erosion Topics/Issues:
   Spencer Rogers, Specialist, (910) 962-2491 (Wilmington)

   Web Page: http//www.ncsu.edu/seagrant

7. **National Response Center (NRC) (800-424-8802)**

Appendix D.
Dayboard Specifications

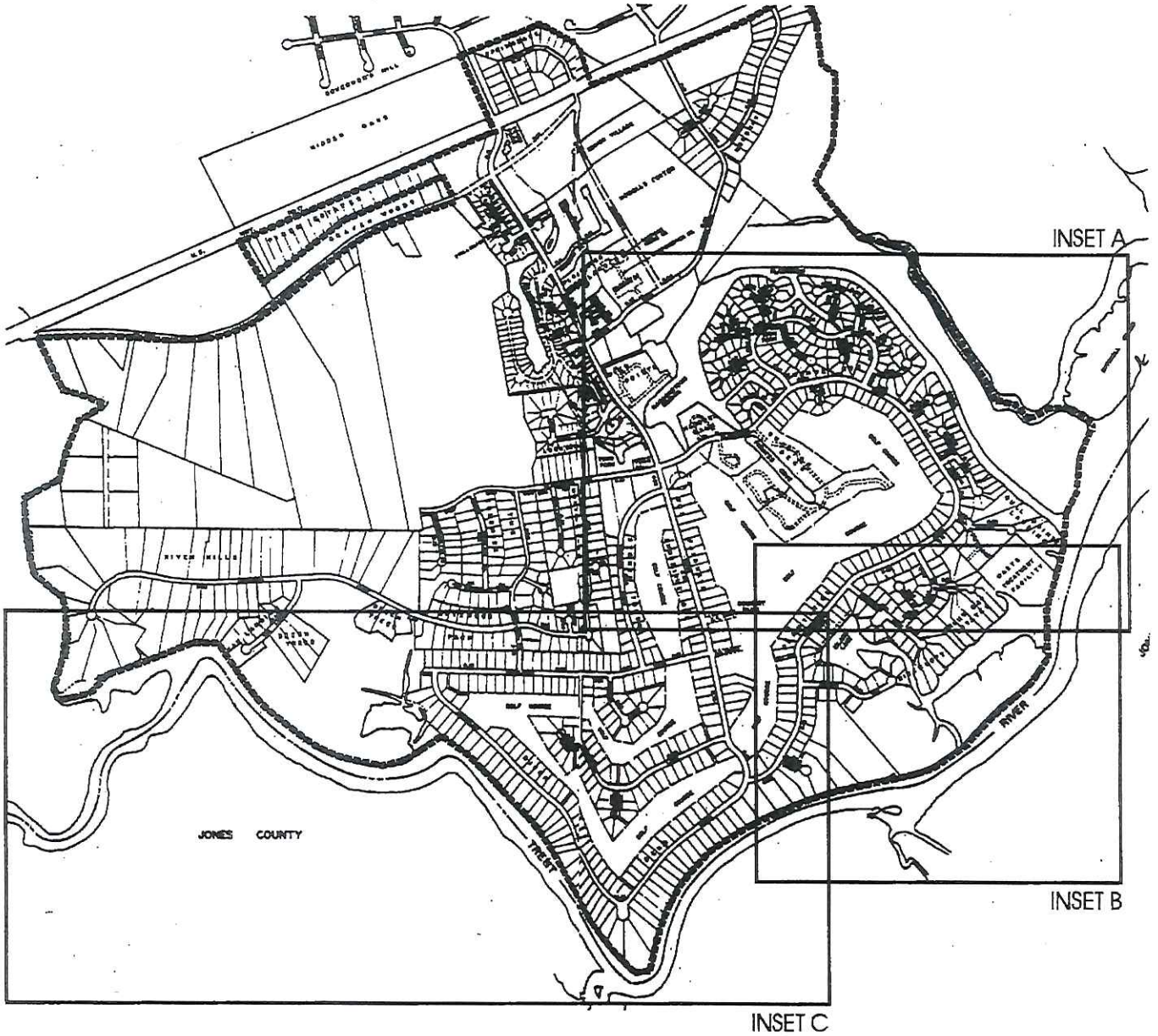
1. Poles: Fifteen poles (Eleven at the Island Lake inlet, and four at the Plantation Canal inlet). Poles are approximately 25 feet long, with ten feet above the mean water level, and eight feet embedded in the bottom. See Appendix E. for precise placement of these poles.

2. Dayboards. All markers must comply with USCG navigation aids requirements.

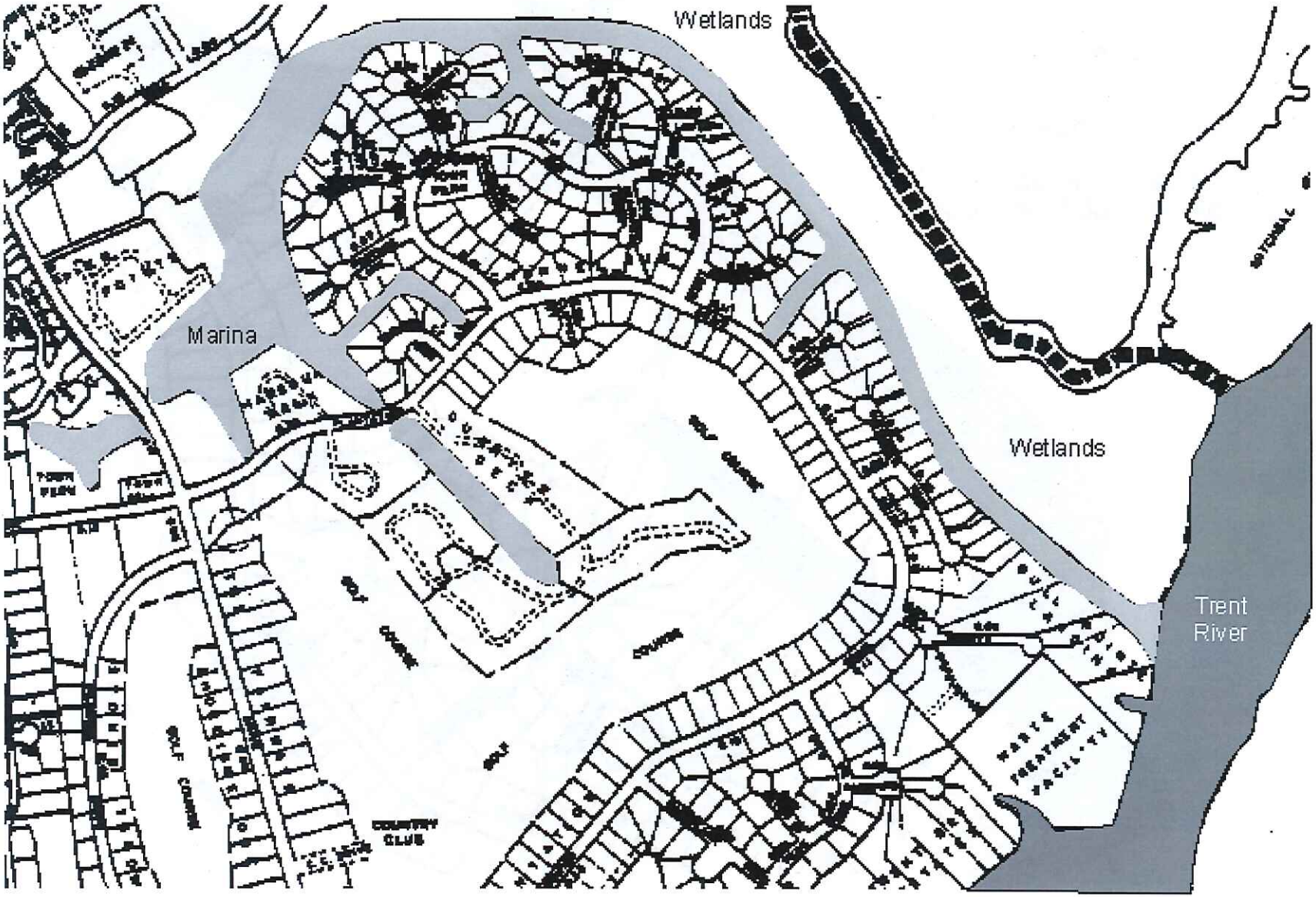
Appendix E.
Maps & Charts

The Maps illustrated in this Appendix are for general information only. Only officially approved maps and charts may be used for carrying out the work of this Plan.

1. Map of River Bend, with Insets
2. Inset A, Plantation Canal
3. Inset B, Island Lake
4. Inset C, Trent River Shoreline
5. Plantation Canal Dayboard Locations
6. Island Lake Dayboard Locations

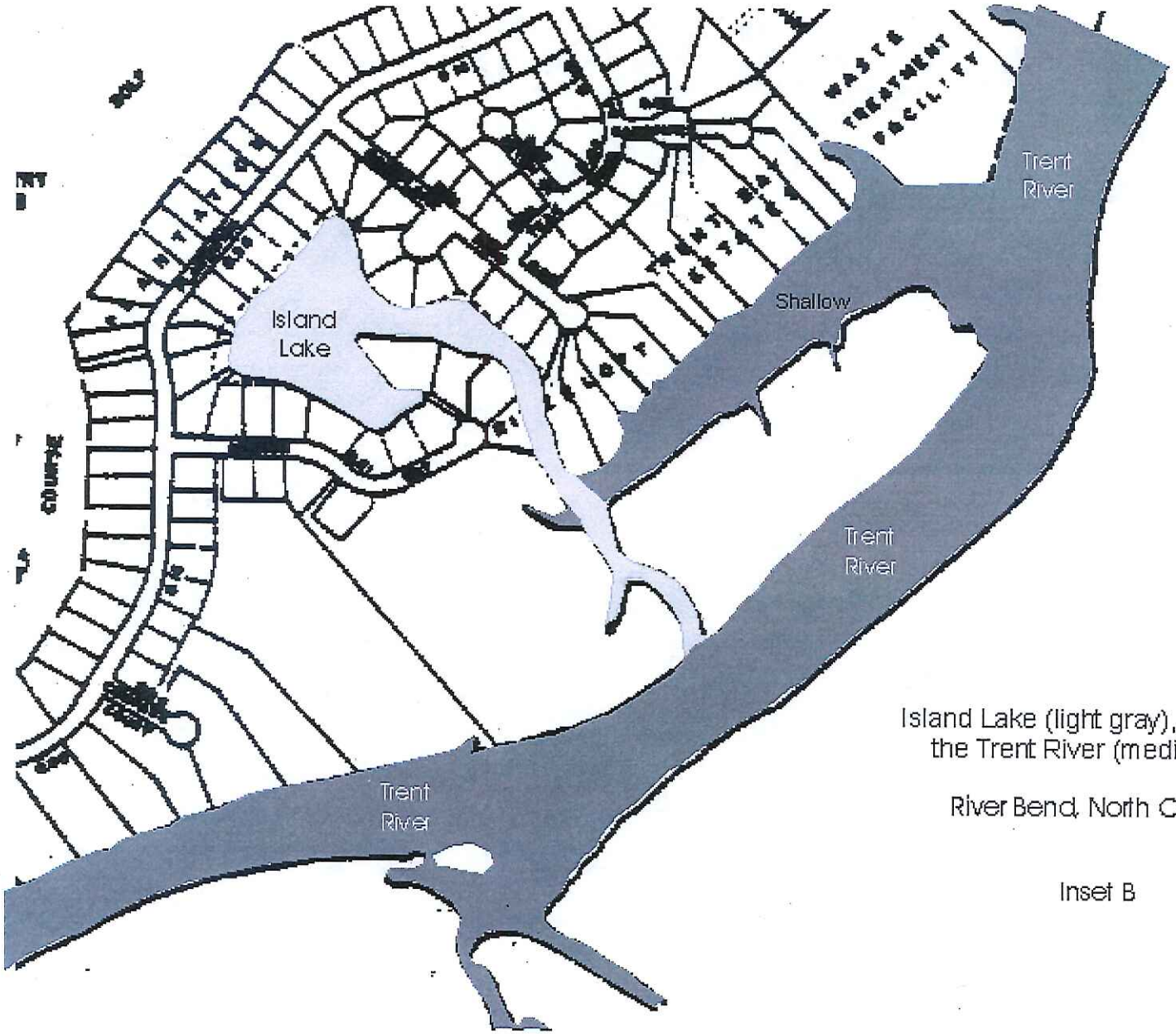


Waterways Map
River Bend, NC



Town Hall Pond, Marina area, and Plantation Canal with inlet
(all light gray) to Trent River (Medium Gray)
River Bend, North Carolina

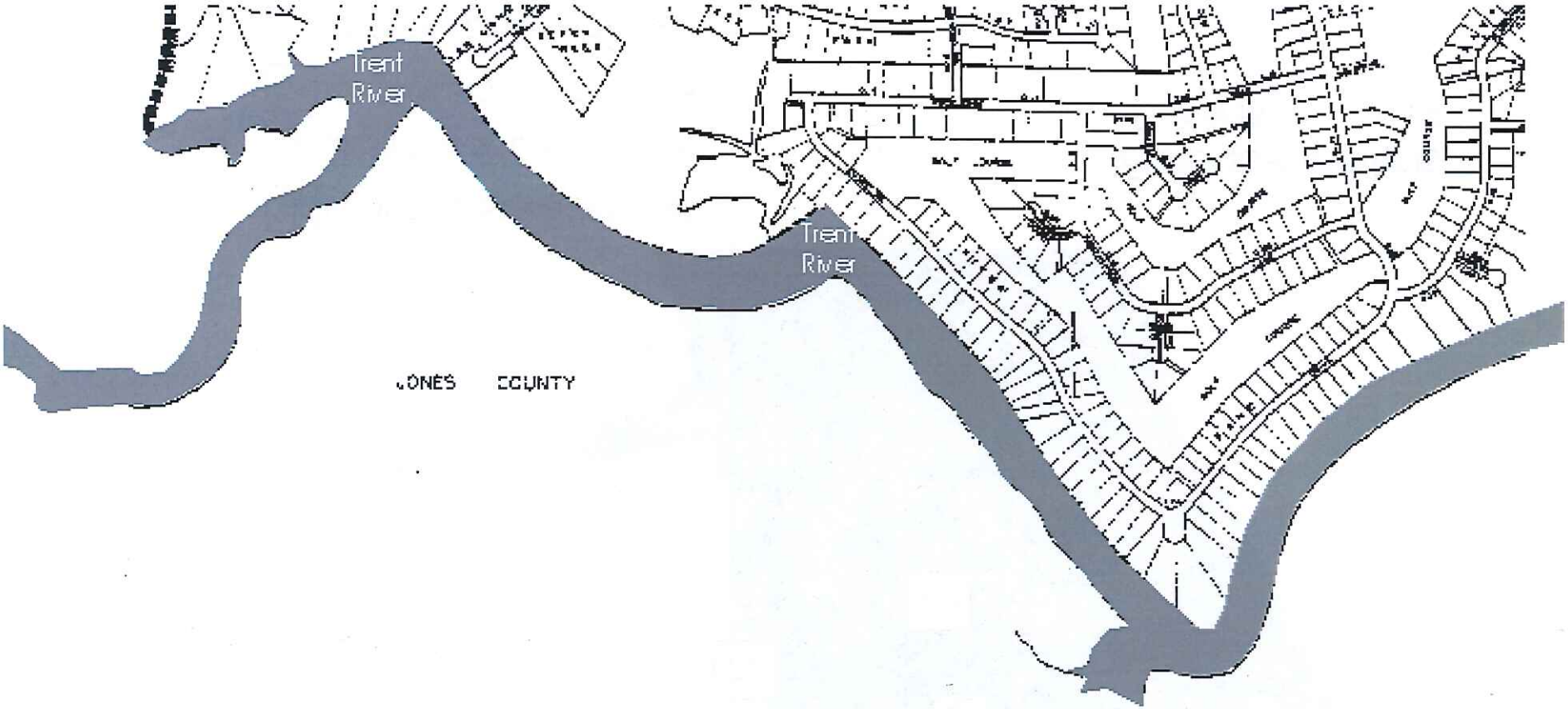
Inset A



Island Lake (light gray), with Inlet to the Trent River (medium Gray)

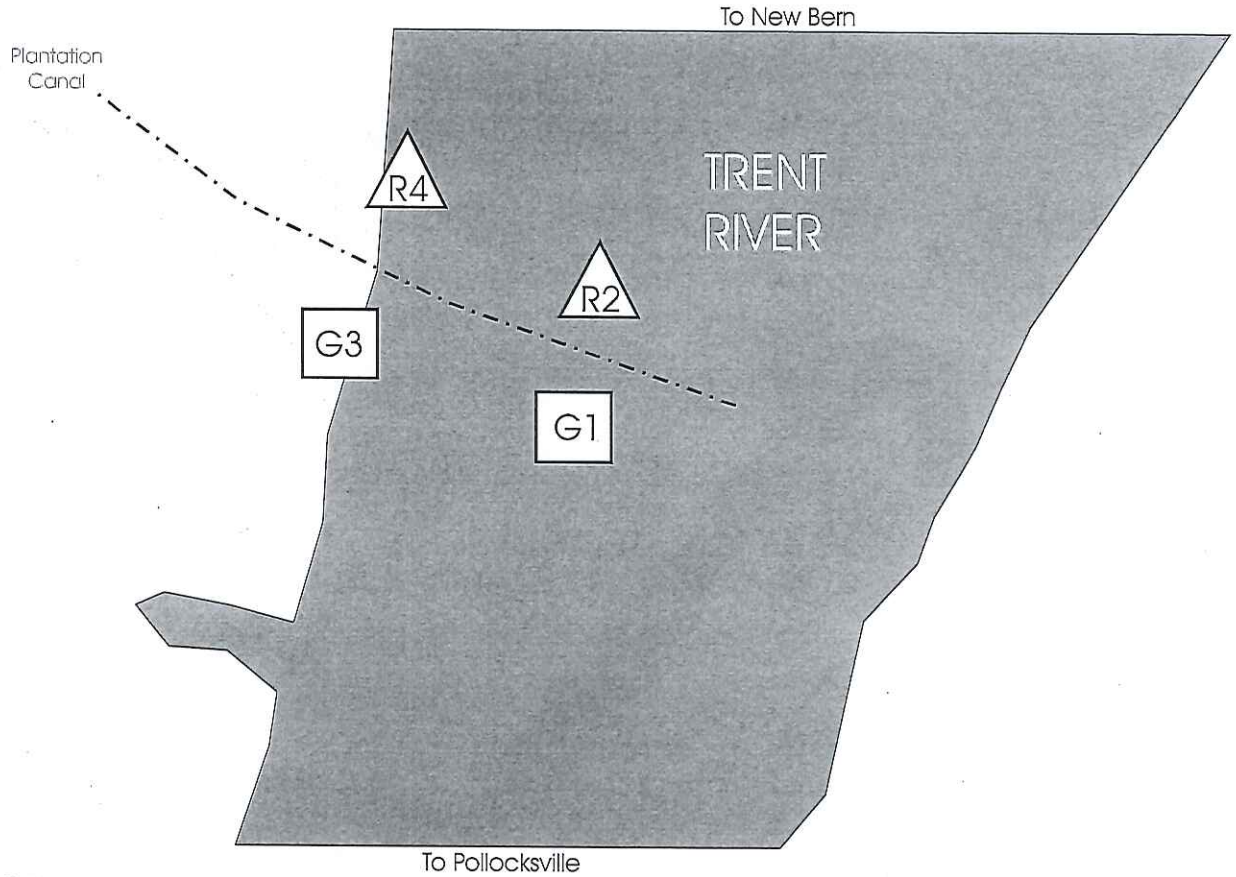
River Bend, North Carolina

Inset B



Trent River Shoreline
River Bend, NC

Inset C



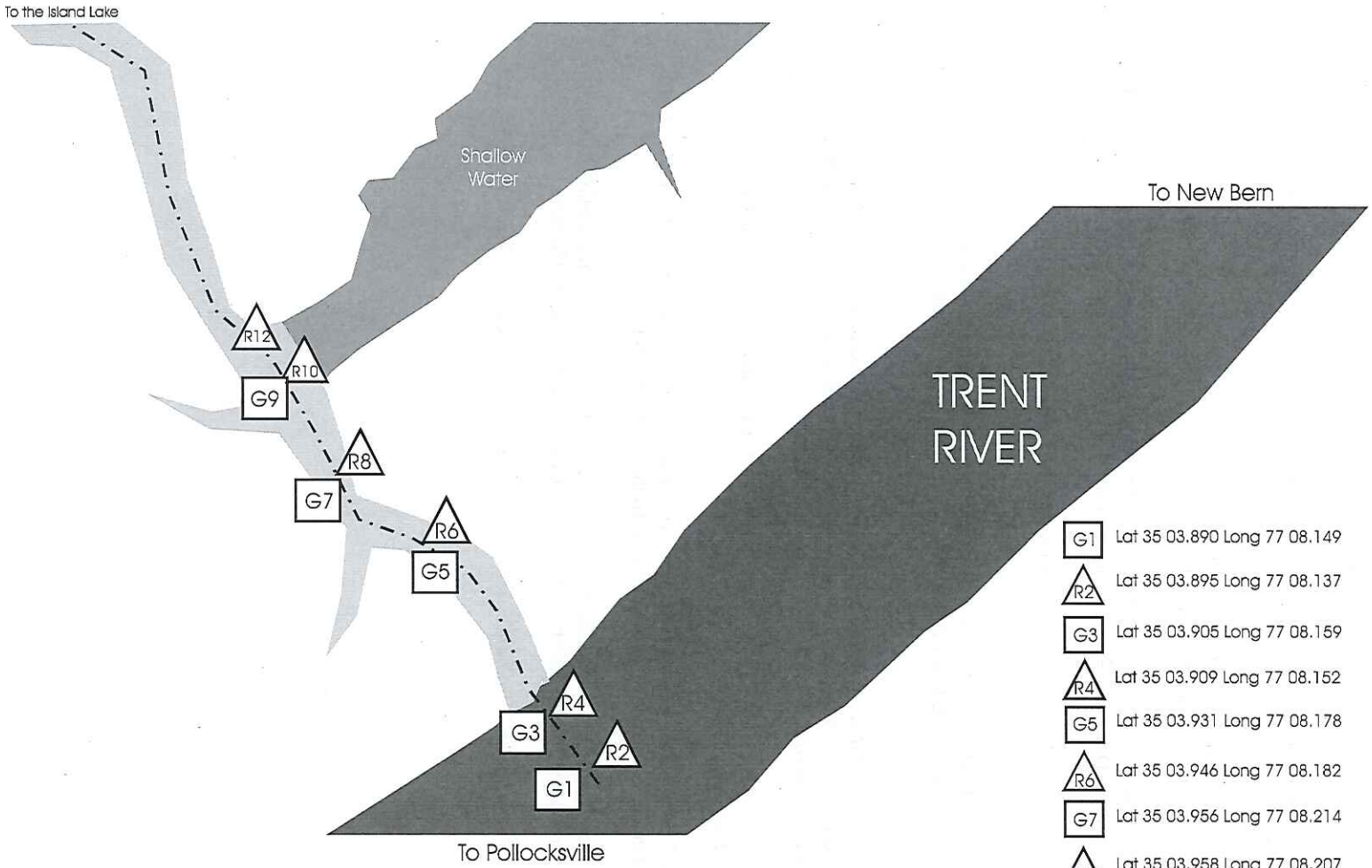
G1 Lat 35 04.305 Long 77 07.948

R2 Lat 35 04.312 Long 77 07.945

G3 Lat 35 04.310 Long 77 07.978

R4 Lat 35 04.321 Long 77 07.969

Entrance Markers, Plantation Canal



G1 Lat 35 03.890 Long 77 08.149
R2 Lat 35 03.895 Long 77 08.137
G3 Lat 35 03.905 Long 77 08.159
R4 Lat 35 03.909 Long 77 08.152
G5 Lat 35 03.931 Long 77 08.178
R6 Lat 35 03.946 Long 77 08.182
G7 Lat 35 03.956 Long 77 08.214
R8 Lat 35 03.958 Long 77 08.207
G9 Lat 35 03.891Long 77 08.234
R10 Lat 35 03.988 Long 77 08.232
R12 Lat 35 03.992 Long 77 08.249

Entrance Markers, Island Lake

Appendix F.
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