

CHAPTER 5

CITY OF NORTH PORT COMPREHENSIVE PLAN

CONSERVATION & COASTAL ZONE MANAGEMENT

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CONSERVATION AND COASTAL ZONE MANAGEMENT ELEMENT

CONSERVATION SECTION

INTRODUCTION

Located in south Sarasota County, North Port became a City in 1959. Its developer and founder, General Development Corporation, platted some 80,000 residential lots within the City's original 80+ square miles. With annexations, the City now encompasses about 104 square miles, making it one of the largest cities in Florida by land area.

For its first three-plus decades, the City grew slowly with the gradual influx of retirees from the north. In the early 1990's, the City entered a period of rapid growth fueled by low housing costs. Median age has shifted from the high 60's to the low 40's.

The Florida Bureau of Economic and Business Research 2008 estimate of the City's population was 56,316 residents. North Port is currently experiencing a commercial building boom. Yet local officials estimate that as of late 2007, North Port was still only 15 to 20 percent developed.

Despite development pressure unprecedented in Sarasota County, North Port and its elected officials have consistently supported measures to conserve the City's natural resources. A few examples include:

- Conversion of the former General Development Corporation-owned Myakka Estates development project into the 8,593-acre Myakka State Forest in 1995. The City regards the Forest as an irreplaceable resource that must be preserved for generations to come.
- The continuing assembly of land to create the 700-plus-acre Myakkahatchee Creek Greenway, a protective conservation buffer for the Class I waters of the Myakkahatchee Creek.
- Identification of substantial conservation corridor acreage in the City's northeastern quadrant, as well as a large corridor on the Thomas Ranch.
- Development of the Thomas Ranch is guided by the City's "Village" Land Use designation and code, which requires extensive analysis of environmental conditions before any development may occur.
- Ordinance No. 07-47, the latest update of the City's Tree Protection Regulations.
- On September 24th, 2007, the City of North Port signed the 'State-Local Agreement for Administering the Myakka Wild and Scenic River Protection Zone Between the Florida Department of Environmental Protection, Florida Department of Community Affairs, and the City of North Port.'

2005 EVALUATION AND APPRAISAL REPORT

The Evaluation and Appraisal Report (EAR) identified 13 major issues facing the City of North Port, three of them pertaining to conservation of resources:

1. Water Resources – The Citizen Advisory Committees (CACs) assembled for the EAR process expressed concern about the City’s ability to identify sources of potable water to satisfy the needs generated by growth. Updated in 2005, the City’s Water and Sewer Master Plan identifies a variety of existing sources and calls for examining other sources of raw water, such as the City’s waterway system and borrow pit lakes. The Comprehensive Plan should contain measures to ensure adequate coordination and planning in order to provide potable water through identification of alternative resources, including regional solutions, the EAR declared.

2. Clear Cutting of Trees – Most CAC members expressed the opinion that the ordinance as it existed in 2005 was not strong enough, especially as it relates to non-residential development. CAC members recommended far more severe fines for violations and wanted to ensure that the City’s tree fund (fines and mitigation payments paid by developers) is accessible for City projects. They further recommended that the tree fund be administered separately from the City’s general fund. These concerns have been addressed in City Ordinance No. 07-47; the City’s recently revised Tree Protection Ordinance.

3. Continuation of the Myakkahatchee Creek Initiative – Continued acquisition of land to protect the Myakkahatchee Creek as a potable water and recreational resource was strongly supported by the CACs. They also agreed that this initiative will help reduce the damage caused by flood events. As of late 2007, the Myakkahatchee Creek Greenway, the name recently chosen by the City to represent this initiative, comprises approximately 670 acres. Upon successful completion of the project, the City expects that over 740 acres of critical floodplain will have been preserved. Implementation of the project received a big boost in November 2007, when the Governing Board of the Department of Community Affairs’ *Florida Forever* program awarded the City a matching grant of \$2.8 million for the acquisition of more property within the Greenway.

CITY’S PERFORMANCE ON CONSERVATION / COASTAL MANAGEMENT ISSUES

Protected species

The 2005 EAR noted that the City has continued to work with state and federal wildlife agencies to ensure that protected wildlife species issues are addressed. A bald eagle protection zone was established on one of the City DRI properties, and the City has worked with the agencies to ensure that builders and developers are securing the proper permits when endangered species, such as gopher tortoises, are encountered on sites.

A prime example occurred in 2005, when issues arose concerning documented and potential scrub jay habitat in the City. The City and the U.S. Fish and Wildlife Service worked together to develop an updated scrub jay database that helps government protect the species and gives land owners and land buyers the information they need in order to make sound decisions.

The City and the USFWS jointly developed a much more current and reliable scrub jay database for North Port. The USFWS provided the City with the specific locations of known scrub jay colonies and all impacted lots within 850 feet of each colony. Based upon this new information, North Port Planning staff created a new map to show the specific areas affected in North Port, as well as a list of affected lots by parcel ID numbers. The USFWS also produced a packet explaining procedures that a land owner must follow when his property is affected by scrub jays.

The EAR also identifies several options the City might pursue in order to address the scrub jay issue in an even more comprehensive way:

- Work with Sarasota County as the County prepares its Scrub Jay Habitat Conservation Plan (HCP).
- Have the County establish mitigation areas in North Port where scrub habitat is known to exist, such as the properties along portions of the Myakkahatchee Creek. This would accomplish the goal of preserving known scrub habitat that could be utilized by jays and would aid in accomplishing the City goal of protecting the Myakkahatchee Creek corridor.
- If the City chooses not to work with the County to include North Port areas in the County HCP, North Port may have to either develop its own HCP, *or*
- Let the USFWS handle scrub jay issues on a case by case basis, at greater expense to the affected property/homeowner.

The EAR concluded that the updated Comprehensive Plan should have policy language addressing the scrub jay issue and program.

Myakka Wild and Scenic River

The EAR reported that the City continues to adhere to the Myakka River Wild and Scenic Rule, Chapter 62D-15, F.A.C., which was adopted in 1991 to protect the State designated Myakka Wild and Scenic River. The 1997 iteration of the Comprehensive Plan includes policy language to strengthen the City's commitment to abide by the Rule, especially as it relates to the future development of the Thomas Ranch and the proposed River Road Office Park facilities. In 2007, the City entered into the "State-Local Agreement for Administering the Myakka River Wild and Scenic River Protection Zone." As a result of the 'Myakka River Wild and Scenic Designation and Preservation Act,' (Section 258.501 F.S.) and the Agreement, the City will be adopting an ordinance for regulating activities in the Protection Zone. The City will be amending its land development regulations and other appropriate ordinances so that the regulations that affect the Protection Zone conform to, or are more stringent than, the Act, the Plan, and the Agreement.

Conservation practices on annexed lands

Since the 1997 Comprehensive Plan was approved, North Port has annexed over 30 square miles of property. The largest of these, the Thomas Ranch and the former Kelce Ranch, are each over 5,000 acres in area. The EAR notes that both contain habitat "worthy of protection."

The southern portion of the Thomas Ranch has a large wetland system. The City designated this system as "Recreation/Open Space" rather than "Conservation" on the Future Land Use map to

allow limited passive recreational and educational opportunities in portions of the system while essentially accomplishing the overall intent of preserving the habitat.

The City did much the same thing when it applied a “Recreation/Open Space” designation to a wetland system on the Kelce Ranch, while limiting density on nearby land uses by applying the large-lot “Agricultural Estates” designation. “The system on the Kelce property,” said the EAR, “probably represents one of the better native habitats in this portion of the County, and the City should be very careful in examining any development proposals in the far eastern section of the property.” It should be noted that a proposed DRI may significantly affect portions of this system, if approved.

Tree protection

The need for revising the City’s Tree Protection Regulations owes much to North Port’s pattern of development. General Development Corporation (GDC), the private corporation that developed the City, platted approximately 95% of the City into quarter-acre, single-family lots measuring roughly 80 by 125 feet. Development of most of these lots has required that positive drainage be maintained and septic systems and wells installed.

The filling of lots in order to meet these requirements tends to damage the root system of trees, making it difficult to preserve them. Due to these constraints, the City has found it difficult, though not impossible, to balance the need to protect trees with the right of owners to enjoy their property.

The City of North Port remains committed to the goal of maintaining through preservation and planting 80% of its tree canopy, as originally stated in the 1997 Comprehensive Plan. The goal is being implemented through conservation-minded management of City parks and rights-of-way, street landscaping, as well as the presence of the Myakka River State Forest, which is located almost entirely within City borders.

Since 1997, the City has amended its tree code in an attempt to make it stronger. Building Department staff has been added to conduct and verify tree surveys on residential sites, while Planning & Zoning Department staff makes determinations on non-residential sites.

The Tree Protection Ordinance, in its amended pre-2007 form, also included fines for violations. Developers who do not or cannot save trees on building sites are also required to pay fees into a reforestation trust fund (“Tree Fund”). The EAR recommended that the City must do more to ensure that these funds are reserved for tree protection/reforestation only.

In 2007, the City again amended the tree protection code by means of City Ordinance No. 07-47. Answering the EAR’s concern regarding the Tree Fund, the Ordinance now specifies that the Fund will be used for (1) purchasing property to preserve trees; (2) educating the public on tree preservation; (3) maintaining tree health and safety on public land; and (4) purchasing conservation easements.

Following are a few of the changes made to Chapter 45, Tree Protection Regulations, following the City Commission’s passage of City Ordinance No. 07-47:

- Tree Removal Permits can only be issued after approval of a Development Order.
- For single-family residential lots, the tree canopy coverage per lot requirement has been established at 35% due to the constraints inherent to standard 80 x 125-foot lots (Objective 3

in this element has been revised to indicate the 35% figure, hence there is a range in that objective that appears quite large as the City's ultimate goal remains at 80%, but that cannot occur on a single-family platted lot).

- Tree Protection Standards have been increased to require barricades at the drip line, regular inspections during development and a revised fine schedule with increased penalties for non-compliance.

Historic/archaeological preservation

During the period of time evaluated in the EAR report, the City developed and adopted an Archaeological Preservation Ordinance that is consistent with Sarasota County regulations.

The City also continued to support ongoing scientific and preservation activities at the Little Salt Springs archaeological site. The County has purchased and preserved two dozen ancient burial sights on property near Little Salt Springs. One of the sites near Little Salt Springs was preserved through the City's action after a citizen reported that it was being prepared for development. City staff immediately "red-flagged" the site and halted further construction activities. Since then, the site has been acquired and preserved.

Warm Mineral Springs, listed on the National Register of Historic Places in 1977, is located within a privately-owned parcel annexed by the City in 2002. One of the earliest tourist attractions in southwest Florida, Warm Mineral Springs has for decades attracted those who believe its waters have restorative powers. For several years, Florida State University funded underwater exploration of the sinkhole that formed the Springs, and in the process recovered ancient human remains and the fossilized bones of extinct species like the giant ground sloth and a species of saber-toothed cat.

The Future Land Use Element has several policies devoted to preservation of not only the archaeological values of Warm Mineral Springs, but also nearby manatee habitat. Following are three examples:

Policy 2.7.1 provides for the protection of the Springs while also permitting a limited mixture of residential, office, professional, institutional and commercial uses.

Policy 2.7.9 requires potential developers of multi-family residential units, commercial or office buildings to contact Florida Department of Environmental Protection manatee experts to determine best management practices for development and any mitigation necessary to protect manatees on property abutting the creek that flows from Warm Mineral Springs to the Myakka River.

As protection from incompatible development, **Policy 2.7.2** creates a 1.41-acre conservation buffer around the Springs and the creek concurrently with approval of development applications. Except for a few limited maintenance and access facilities, no new development will be permitted within this buffer area.

The City has also continued to work with property owners in an area called the "Atwater Site" in the 1997 Plan. It is hoped that this property can be acquired and preserved during the term of this current update of the Comprehensive Plan.

Coastal zone management

With the awarding of a \$2.8 million Florida Communities Trust grant in 2007, the Myakkahatchee Creek Greenway project will again be a major initiative for the City. Expansion of the Creek corridor through the acquisition of the second tier of lots along each side of the Creek will reduce densities in the FEMA “A” zone, which in turn will reduce the number of structures that could be damaged in a flood event. Since no homes will be built upon these properties, the function of the floodway will be enhanced. The EAR anticipates that FEMA’s Flood Insurance Rate Maps (FIRM) will be updated for the entire City. The current FIRM for North Port only covered a small portion of the City and was published in 1981.

The EAR notes that the City has “fought hard” for improvements to the Toledo Blade Boulevard Hurricane Evacuation Route. While it is still a two-lane roadway, construction to widen Toledo Blade to four lanes began in 2007, thanks in large part to construction agreements negotiated by the City with developers and Charlotte County.

Hurricane evacuation

Since the adoption of the 1997 iteration of North Port’s Comprehensive Plan, Sarasota County and Charlotte County worked together to design improvements to the River Road corridor that would result in a better connection to the Cape Haze peninsula and would serve the vital functions of hurricane evacuation and economic development. The project was termed the “Englewood Interstate Connector.”

The City of North Port played a very important role in development of this corridor through its amendment of the Conservation and Coastal Management Element, which allowed the construction of the Winchester Boulevard hurricane evacuation route to be extended through the “Conservation”-designated Myakka State Forest in North Port. Winchester Boulevard is now a component of the Englewood Interstate Connector design. It should also be noted that Winchester Boulevard traverses a known scrub jay area within the State Forest.

The City has also continued to work very closely with all applicable emergency management agencies to prepare for and support those agencies in times of need.

As of early 2008, the Southwest Florida Regional Planning Council was evaluating the Regional Hurricane Evacuation Plan. The RPC anticipates that the coastal high hazard area along the Myakka River will be among the map revisions.

The Sarasota County School District’s construction of new schools and the hardening of older schools have created additional shelter space. The City continues to encourage developers to build common facilities in new developments to the latest hurricane shelter standards.

Suggested Changes to the Conservation and Coastal Management Element

In addition to changes to existing goals, objectives and policies (see below), the EAR recommended that the following be addressed in new policies:

- The ongoing scrub jay program that the City is developing with the USFWS.
- Support for the City’s participation with Sarasota County in developing a Scrub Jay Habitat Conservation Plan, provided that the Plan also establishes known scrub areas in North Port as

identified mitigation areas, particularly including areas on the Myakkahatchee Creek. These concepts are embodied in new Policies 1.6 and 1.7.

- Support for the funding and implementation of the “Myakkahatchee Creek Corridor Plan,” officially adopted by the City Commission as the Myakkahatchee Creek Greenway Master Plan.

CONSERVATION DATA AND ANALYSIS

NATURAL RESOURCES

Rivers, wetlands, estuarine marshes, groundwater and air

Myakka River. The Myakka River system is an extremely valuable resource because of its natural beauty, recreational significance, vegetation and wildlife habitat area, as well as its natural purification system for surface water and groundwater. The Myakka River is roughly 66 miles long and drains roughly 600 square miles before entering Charlotte Harbor. The River’s headwaters are located in the swamps of Manatee County. Ranching and agriculture are the major land uses in the northern portions of this relatively undeveloped basin.

Approximately two miles of the southern portion of the Myakka River flows through the extreme southwestern part of the City of North Port. The Big Slough (Myakkahatchee Creek), one of four major tributaries of the River, and Little Salt Creek in Warm Mineral Springs have been channelized to some degree.

Residential waterfront development above Snook Haven (Venice Farms Road) and below the Playmore residential development south of U.S. Highway 41, as well as almost the entire eastern shoreline of the River below US 41 in the unincorporated county, has led to some shoreline stabilization. Otherwise, the uplands drained by the River are used agriculturally or are managed for scenic values and wildlife habitat preservation. Within the Myakka River State Park contiguous wetlands occupy broad lowlands adjacent to the lakes. Downstream, hammocks are found along the river. The River below the Myakka River State Park is designated as critical habitat for the Federally endangered West Indian Manatee by the US Fish and Wildlife Service.

The Myakka was designated a State Wild and Scenic River in 1985 through the adoption of the Myakka River Wild and Scenic Designation and Preservation Act (‘Act’) Chapter 258.501, F.S. The Act also established a Myakka River Management Coordinating Council to provide interagency and intergovernmental coordination in the management of the river. In 1994, the Sarasota County Board of County Commissioners appointed a nine-member citizen advisory board, the Myakka River Planning Advisory Board, to provide recommendations for an ordinance that would incorporate goals and objectives of the Myakka Wild and Scenic River Management Plan and the County’s Comprehensive Plan. These recommendations include policies for managing the Wild and Scenic River Protection Zone, as defined in the Act.

In 2007, the City entered into the “State-Local Agreement for Administering the Myakka River Wild and Scenic Protection Zone” with the Florida Department of Environmental

Protection and the Florida Department of Community Affairs to administer the portion of the Wild and Scenic River Protection Zone that is within the City.

Estuarine marshes. According to the Sarasota County Comprehensive Plan, estuarine edges are found along the Myakka River.

The waters of the southern portion of the Big Slough Watershed ultimately flow into Charlotte Harbor via the Myakkahatchee Creek and the Myakka River. The City of North Port has long supported protection of the Harbor's estuaries and marine resources as an active participant in the Charlotte Harbor National Estuary Program (CHNEP).

The CHNEP was created in 1995 by Section 320 of the Clean Water Act. The federal component of the Program operating funding is administered through the Environmental Protection Agency (EPA). Receipt of these federal funds obligates the Program to adopt an annual workplan, adopt a Comprehensive Conservation and Management Plan (CCMP), provide monitoring reports and undergo a CCMP implementation review with EPA every three years.

The CHNEP is a partnership of citizens, elected officials, resource managers and commercial and recreational resource users working to improve the water quality and ecological integrity of the greater Charlotte Harbor watershed. A cooperative decision-making process is used within the program to address diverse resource management concerns in the 4,400 square mile study area. The City Commission actively participates at the decision-making level by appointing one of its own members to serve on the CHNEP's Policy Committee.

The City of North Port is also one of many of CHNEP partners that financially support the Program, others being the U.S. Environmental Protection Agency, Southwest Florida Water Management District, South Florida Water Management District, Florida Department of Environmental Protection, Florida Coastal Zone Management Program, Peace River/Manasota Regional Water Supply Authority, Polk, Sarasota, Manatee, Lee, Charlotte, DeSoto and Hardee Counties, Cities of Sanibel, Cape Coral, Fort Myers, Punta Gorda, Venice, Fort Myers Beach and Winter Haven, and the Southwest Florida Regional Planning Council.

A 2003 CHNEP-sponsored report found that in general, water quality was degrading more than it was improving. Total Suspended Solids (TSS) showed the most degradation. Of the seven basins in the CHNEP study area, the Caloosahatchee River and Estero Bay basins were degrading the most. The Peace River basin was the only basin with more improvements than degradation. The other four basins were stable.

In a recent (2007) update of the CCMP, long-term water quality data collected by the CHNEP partnership demonstrate declining trends in water clarity in the region. CHNEP studies document significant increases in total suspended solids (TSS) throughout Charlotte Harbor and increasing turbidity and nutrients in the Lower Charlotte Harbor region. Furthermore, the update reports that the CHNEP study area has lost more than 38 percent of its original wetland habitat — mostly to agricultural drainage, mining and urban development.

Groundwater. As of early 2008, the Sarasota County Health Department (SCHD) reports no significant health and public safety problems associated with the use of private

wells in the City of North Port. Further, no specific areas of the City experience a higher rate of well contamination than the norm for the rest of the City. Problems with private wells are infrequently reported and geographically scattered.

However, almost half of all residential and commercial units (49.2 percent) in the City are served by septic systems, and a third of all units are served by private wells. As a public policy matter, the City is concerned that the quality and safety of groundwater may be threatened with further proliferation of septic systems and wells as the City continues to develop.

Although water and sewer services are being extended to major new subdivisions as financing agreements with private developers are implemented, most central water and sewer service connections are within the original core area of the City.

The 2005 EAR recommended that the City should be more aggressive in extending potable water and sanitary sewer service throughout the City. With the implementation of the North Port Utilities Master Plan, the City will expand central utility services into existing neighborhoods. The City has enacted Ordinance No. 03-14, which requires all home and business owners on private wells to hook into the City of North Port's central potable water system within 365 days of the service becoming available to them.

Myakkahatchee Creek/Big Slough. The EAR observes that in a platted lands community like North Port, much of the original natural habitat has been compromised by the development of roads and building lots associated with the original platting. Therefore significant native habitat areas in need of preservation are few. The area along the Myakkahatchee Creek is among the best preserved habitats in the City.

Myakkahatchee Creek, otherwise known as the Big Slough, represents a principal source of raw water supply for the City of North Port. The North Port Utilities Department reported that in the 12-month period ending September 2007, the Myakkahatchee Creek supplied almost 44 percent of the potable water used by customers of North Port Utilities. During the 2003 drought, the City was able to send some 30 million gallons of Creek water to Charlotte County, proving beyond doubt that the Creek is important not just to the City, but to the region.

The Myakkahatchee Creek/Big Slough originates in eastern Manatee County and flows for approximately 7.25 miles through the City before reaching the North Port Utilities Department's Water Treatment Plant. The Creek continues for another 2.75 miles, ending at its confluence with the Myakka River. One of the major tributaries of the Myakka River, it has been channelized to some degree.

Artesian springs contribute a small percentage of the Big Slough's flow.

The Peace River. The City of North Port purchases treated surface water from the Peace River/Manasota Regional Water Supply Authority. The Peace River, a large river by Florida standards, originates in northern Polk County and has a drainage area of 2,300 square miles. The Peace River headwaters originate in the Green Swamp of northern Polk County, flowing through Lake Hancock, the Winter Haven chain of lakes, and Lake Hamilton. The mouth of the Peace River is located at Punta Gorda, 120 miles downstream from the headwaters, delivering needed fresh water to the Charlotte Harbor estuary.

The North Port and the Peace River Water Treatment Plants use a conventional surface water and color removal process consisting of taste and odor control, coagulation, flocculation, sedimentation, filtration, disinfection and stabilization as primary water treatment techniques.

Air quality. Sarasota and Charlotte Counties, including the City of North Port, are considered “attainment areas,” which means that the area has not exceeded the national ambient air quality standards set by the federal government. Currently, no air quality monitoring facilities are located in North Port.

No new facilities that produce large quantities of air pollution have located in North Port since 1997. Although the City has grown and traffic congestion has increased, it has not increased to levels that cause air quality problems.

Sarasota County measures four air-quality parameters – ozone, carbon monoxide, particulate matter, and sulfur dioxide – on a continuous basis 24 hours a day, seven days a week. Particulate matter is monitored every sixth day for 24 hours.

Current monitoring sites operated by the County are located at Brookside Middle School, the U.S. 41 Bypass in Venice, Bee Ridge Park, the Sarasota County Courthouse, the City of Sarasota’s reverse osmosis plant, South Lido Park, and Goff Communications in Venice. The County has plans to operate a nitrogen oxide (NO_x) monitor that will record NO_x emissions 24 hours a day, seven days a week at the Brookside Middle School site.

The air quality in the County is considered good and has not exceeded the Environmental Protection Agency’s (EPA) and Florida Department of Environmental Protection’s (FDEP) established standards to date.

Sarasota County’s Local Air Pollution Control Program complies with the Florida Air and Water Pollution Control Act, Chapter 403 Florida Statutes.

Floodplain

On behalf of the City of North Port, a consultant was contracted by the Southwest Florida Water Management District to conduct tasks associated with developing a Watershed Management Program for the North Port/Big Slough Watershed, the southern portion of which constitutes North Port’s floodplain.

Included among the consultant’s tasks was performance of a detailed floodplain analysis involving computer modeling and mapping of floodplains at 100 and 500 year recurrence intervals. The project was initiated in July 2003 and a revised Floodplain Analysis Report issued in August 2007. The information in this section was gleaned from this report.

The Big Slough Watershed is located in southeastern Sarasota County. The Myakkahatchee Creek/Big Slough Canal, the central artery of the Watershed, begins in the southeastern part of Manatee County (near Edgeville) and flows through the City, finally emptying into the estuarine portion of the Myakka River. Its headwaters are rural, consisting primarily of agricultural and undeveloped lands. Within the City, the vast majority of urban and developed lands occur in the southern portion of the watershed.

The 195.5 square-mile Big Slough Watershed encompasses many depressional features, including wetlands and water bodies, the most prominent of which is the Big Slough Canal,

called the Myakkahatchee Creek in North Port. The Big Slough Canal passes from north to south through the City and receives inflows from an internal system of waterways which provide surface drainage throughout the City.

The Big Slough Watershed is characterized by flat topography and sandy, shelly and silty sand soils with little organic matter. Low permeability, hydric soils associated with depressional areas and flood plains are predominant within the Watershed.

Surface drainage throughout most of the Watershed north of the City consists largely of natural sloughs and creeks, and many manmade ditches, canals and waterways within the City. Within the City of North Port, surface drainage is provided by an extensive canal system, which discharges primarily to the Big Slough Canal. Some surface drainage occurs via conveyance structures southward into the Port Charlotte conveyance system.

Two surface water features unique to the area are Warm Mineral Springs and Little Salt Spring in North Port. They are the southernmost springs in the Southwest Florida Water Management District.

While the headwaters of the Big Slough Watershed remain predominantly undeveloped or agricultural, changes in land uses throughout the City of North Port reflect significant population growth, as well as continued commercial and industrial growth along the U.S. 41 corridor.

Watershed/Floodplain Analysis: The consultant attempted to identify and gather historical rainfall and discharge data for model calibration and verification. However, due to insufficient streamflow data, it was deemed impractical to perform a traditional model calibration. Instead, the consultant confirmed modeling results in consultation with City of North Port staff, who strongly corroborated results of the simulation for a major 2003 flood event. The consultant's staff visited the North Port area in 2004 just after Hurricane Charley to gain first-hand knowledge and to record findings of flooding issues for later model verifications. Rainfall events verified by the consultant included 13.08 inches over five days for the 2003 flood event and 10.34 inches over seven days for the 2004 rainfall event.

The consultant's staff both observed and mapped flooding conditions during August 2004. Using comparisons with previous studies and limited streamflow data available for the watershed, the consultant confirmed that its model can be used for floodplain delineation and level of service evaluations.

After running the model to delineate the 100-year and 500-year recurrence storms, the consultant compared the results against FEMA's digital 100-year floodplains through two GIS analysis methods. First, 100-year categories were selected from the FEMA floodplains layer and their total acreage within the watershed was calculated and compared to the area inundated by the North Port/Big Slough 100-year floodplain model. Then, both the FEMA and North Port/Big Slough floodplain layers were intersected with a parcels layer provided by the City, generating a count of the number of inundated parcels.

The count includes those parcels for which more than one-half their area are within the mapped floodplain. This count is not indicative of structural flooding, as the great majority of homes are constructed on fill. [Table 5-1](#) presents a summary of the results of those two comparisons.

As can be seen, storm event simulations for the North Port/Big Slough floodplain model suggest a significantly larger area and a substantially greater number of parcels are at risk for flooding, as compared to the currently adopted FEMA flood risk area. (It should be noted, however, that

FEMA mapped only a small portion of the City before issuing the FIRM maps in September 1981.)

Table 5-1

Floodplain Area and Parcel Inundation Comparisons:100-year Recurrence		
Source	Floodplain Area (acres)	Inundated Parcels
FEMA	164.82	2,390
Consultant’s model	18,031.44	5,229

Source: City of North Port Engineering Department

As of early 2008, the Southwest Florida Water Management District was planning to submit draft floodplain information to FEMA in late 2008. The District was also to provide the City with a status report on FEMA map modernization efforts.

Commercially valuable minerals

No survey of commercially valuable minerals has ever been done in North Port, nor are minerals currently being extracted in the City. A limited number of fill/shell operations are still active.

Soil and water erosion

As of early 2008, the U.S. Soil and Water Conservation District for Sarasota County had no direct knowledge of landowners contributing to erosion or water pollution in North Port. Sarasota County’s Comprehensive Plan also reports no widespread soil erosion problems throughout the County.

Some grower groups in watersheds affecting the City have signed agreements with the State Department of Agriculture and Consumer Services to follow best management practices for certain row crop commodities. Similarly, area cattlemen are in the process of revising best management practices, according to Jack Creighton, District Conservationist for Manatee and Sarasota Counties.

In 2005 and 2006, North Port City staff documented areas of human-caused soil and water erosion in the Myakkahatchee Creek Greenway on several privately-owned parcels in the eastern portion of the City and along other City waterways. Much of the damage was determined to have been caused by the unauthorized use of off-road vehicles. On July 10, 2006, the North Port City Commission adopted City Ordinance No. 06-13, later designated as §§ 74-131--74-134 Sec. 74-133 in the City’s Municipal Code. By the provisions of this legislation, the City prohibited the use of off-road vehicles, motorcycles and ATVs on public property. Use of these vehicles was also prohibited on private property except by the property owner, their family and guests.

Soil erosion can also be a problem during the construction activities of development.

There have been instances of minor erosion along the banks of the Myakkahatchee Creek in the navigable areas of the Creek, south of U.S. 41. Shore protection structures, such as sea walls and rip-rap, have been used to mitigate the impacts of erosion on private property in that area.

Table 5-2 below identifies the characteristics of five broad soil categories found in North Port, from its northern City limits southward to Myakka State Forest: Coastal Islands, Hammocks, Flatwoods, Depressions, and Floodplains.

Table 5-2
Soil Categories

<u>Coastal Islands</u>	
Slope	Nearly level to gently sloping
Drainage	Moderately well to very poor
Soil Associations	Canaveral, Beaches, Kesson
Location	Sandy beaches, coastal dunes, low mangrove areas
Comments	Sandy, contains shell fragments
<u>Hammocks</u>	
Slope	Nearly level
Drainage	Poor to very poor
Soil Associations	Wabasso, EauGallie, Felda
Location	Generally both sides of Myakka in a narrow strip
Comments	Dark-colored subsoil, upper part sandy, lower part loamy
<u>Flatwoods</u>	
Slope	Nearly level
Drainage	Moderately well to very poor
Soil Associations	EauGalle, Myakka, Holopaw, Pineda, Pomello
Location	Throughout Sarasota County (except Barrier Islands, floodplains, mangrove swamps)
Comments	Largest category in County (approximately 83%)
<u>Depressions and Sloughs</u>	
Slope	Nearly level
Drainage	Very Poor
Soil Associations	Floridana, Felda, Holopaw, Delray

Location	In depressions in eastern part of County
Comments	Sandy soils, Florida used for improved pasture and truck farming.

<u>Floodplains</u>	
Slope	Nearly level
Drainage	Poor to very poor
Soil Associations	Delray, Felda, Pompano, Kesson, Wulfert
Location	Mangrove swamps at mouth of Myakka River and Roberts Bay
Comments	Very poorly drained
Source: U.S. Dept. Of Agriculture, Soil Conservation Service, Gainesville, Fl., March 1985.	

Recreationally and commercially important areas

Myakkahatchee Creek Greenway – The Myakkahatchee Creek, central artery of the Big Slough Watershed, enters the City at its northern boundary and flows southwesterly through the City until it joins the Myakka River, which in turn flows into Charlotte Harbor and the Gulf of Mexico.

Along a 7.25 mile-long segment of the Creek extending from the northern City limits to just north of the U.S. Highway 41 bridge in the City’s original “downtown” area, the City owns approximately 670 acres of land on both banks. Known locally as the Myakkahatchee Creek Greenway, this property serves three important purposes:

- Protects the Creek as a primary source of potable water for North Port and the region;
- Preserves the flood storage capacity these lands provide; and
- Provides City residents and visitors with a unique recreational opportunity to enjoy this resource.

Anchoring the Greenway at the north City limits is the 206-acre Myakkahatchee Creek Environmental Park. Managed by the Sarasota County Parks and Recreation Department through an interlocal agreement, the park offers bike trails, primitive camping, nature trails, restrooms, wildlife observation opportunities and a picnic area with grills. The Park was purchased with the aid of grants obtained from the Florida Recreation Development Assistance Program and the Florida Communities Trust’s (FCT) Preservation 2000 program.

In 2007, the City received its fourth FCT grant to purchase an additional ±77 acres of land with which to widen a segment of the Greenway south of the Environmental Park.

By City Commission decree, only passive and passive/moderately active recreational uses will be permitted. Amenities and uses in this segment of the Greenway will include a fitness/nature trail with interpretive signage, wildlife observation, horseshoe pits, canoeing and picnic shelters.

A 3.3-acre portion of the 2007 FCT project site was designated as occupied Florida scrub jay habitat by the U.S. Fish and Wildlife Service in 2006.

Other wildlife present in or near the Greenway include the eastern indigo snake, bald eagle, gopher tortoise, great egret, snowy egret, night heron, little blue heron, sandhill crane, otter, red-shouldered hawk, osprey, raccoon and bobcat.

Vegetative communities present in the Greenway include hydric hammock, forested wetland, dry prairie, mesic hammock, scrubby flatwoods and mesic flatwoods.

Forests – The **Myakka State Forest** (8,593 acres) lies entirely within City boundaries. Part of the Myakka Conservancy, the Forest is managed by the State Division of Forestry. The Southwest Florida Water Management District provided funding to purchase half of the Forest and is an important cooperator in the management of the property, especially in regard to hydrological management.

The Forest's recreational amenities and uses include biking, boating, camping, canoeing, fishing, hiking, picnicking, wildlife observation and equestrian trails.

Approximately 2.5 miles of Myakka River frontage lies within the Forest's boundaries. The Myakka River has been designated an "Outstanding Florida Water" and a State "Wild and Scenic River." The Myakkahatchee Creek flows throughout the forest for 1.5 miles and provides an additional water resource.

Vegetative communities present in the Myakka State Forest include mesic flatwoods with a mixture of longleaf pine and slash pine overstory with palmetto understory, pine flatwoods, depression and tidal marsh, scrub, tidal swamp and prairie hammock. The depression marshes, scattered throughout the flatwoods, provide many opportunities for viewing wading birds and other wildlife.

Timber management practices in the Myakka State Forest are important to the restoration and maintenance of forest ecosystems and provide a variety of socio-economic benefits to Floridians. The Florida Department of Agriculture and Consumer Services, Division of Forestry, returns 15 percent of the revenue obtained from timber harvests, recreation, and other income-producing services on Myakka State Forest to Sarasota County for educational purposes.

Wildlife species found in the Myakka State Forest include all of the species found in or near the Myakkahatchee Creek Greenway, as well as alligator and other species common to southwest Florida.

Myakka River Basin – Within the Myakka River Basin, there are 25 public and three private boat ramp lanes with public access, located at 12 different sites, which provide access to the Gulf of Mexico and bays for saltwater fishing and boating recreation. One of these is located in North Port, and one in Venice.

Known pollution problems

Myakka River Basin. Since January 1995, ambient water quality in the Myakka River has been monitored by a private contractor. The sampling methodology recommended by the Sarasota Bay National Estuary Program is designed to track the progress in improving estuarine health by implementing the Program's Comprehensive Conservation and Management Plan and the Myakka River Wild and Scenic Management Plan.

Water quality monitoring stations are located both north and south of U.S. Highway 41. Parameters analyzed include temperature, salinity, specific conductivity, pH, total nitrogen, total phosphorus, total suspended solids, chlorophyll "a," turbidity, color, dissolved oxygen, Secchi disk depths, light attenuation coefficient, dissolved inorganic nitrogen, soluble reactive phosphorus, and biological oxygen demand. Continuous monitoring of dissolved oxygen for two days each month is conducted at selected representative sites.

According to the Florida Department of Environmental Protection, the majority of the Myakka River basin has good water quality which supports productive freshwater and estuarine habitats. Approximately 20 miles of the southern reaches of the River are influenced by tidal flows, as evidenced by the abundance of mangrove swamps and islands. The Myakka River Basin, including the Myakkahatchee Creek in North Port, contains the only Class I surface waters designated in Sarasota County.

The FDEP considers the Myakka River to be in generally good condition.

The west indian manatee lives in Sarasota County waters, including the southern reaches of the Myakkahatchee Creek in North Port, Little Salt Creek near Warm Mineral Springs and the Myakka River. Manatees are herbivorous mammals that feed upon seagrasses and fresh water aquatic plants such as water hyacinth. Seagrass habitats are also essential to a number of other marine species and should be protected and restored where possible.

Mangroves and tidal marshes are now protected at federal, state and local levels.

Floodplain. Please see *Big slough / Myakkahatchee Creek, below.*

Big Slough / Myakkahatchee Creek. The Big Slough, a major tributary of the Myakka River, is designated a Class I surface water. It is a major source of potable water for the City of North Port. Nutrient loading from agricultural operations mainly north of the City, in addition to increased urban development within the City, have contributed to higher volumes of stormwater runoff, which in turn has affected water quality.

The Myakkahatchee Creek's flow is highly dependent on rainfall and resulting stormwater runoff. Historical data indicates that the Creek's water quality diminishes during dry seasons or periods of low rainfall, when the Creek's flow is minimal and influenced by groundwater.

Soil and water. Please see the discussion above under *Soil and Water Erosion.*

Recreational areas and forests. Please see discussions above under *Myakka River Basin* and *Big Slough / Myakkahatchee Creek.*

Groundwater. Please see discussion on groundwater above under *Rivers, wetlands, estuarine marshes, groundwater and air.*

Current and projected water needs and sources

The City's eventual goal is to serve all developed residential areas and the industrial and commercial sectors with potable water and sewer, with the exception of the North Port Estates and Lake Geraldine areas, which are intended to remain agricultural/estates. Implementation of that goal is tied to the City's policy of extending water and sewer service concurrently.

1. Industrial – Three industrially zoned areas constitute the entirety of industrial development within the City:

- An area of small, light industrial operations in the Trott Circle area;
- The North Port Park of Commerce near Interstate Highway 75 on the west side of Toledo Blade Boulevard. The Park of Commerce is home to many larger industrial businesses, many serving regional and national markets; and
- The King Plastics Plant just south and east of the Park of Commerce.

All three areas receive central water and sewer service from North Port Utilities. The Trott Circle area is entirely developed, and only a few undeveloped parcels remain in the Park of Commerce. King Plastics has not announced any plans for expanding its operations.

2. Agricultural – A limited number of small-scale agricultural operations exist in agriculturally-zoned North Port Estates, located in the northernmost area of the City. These operations are served by private wells and septic systems. The City has determined that this area will never receive centralized water and sewer service.

3. Potable water

The North Port Utilities Department currently provides potable water service to approximately 17,750 water connections, both residential and otherwise. Since acquiring the central water and sewer system formerly owned by the now defunct General Development Corporation in 1992, the City has completed several system expansion and improvement projects.

The City has experienced rapid growth in recent years, and the City's Planning and Zoning Department projects its population will grow to approximately 86,592 people by the year 2018. Proposed large scale developments in Thomas Ranch on the City's far western side and other proposed and planned developments in the Kelce Ranch and Panacea areas are anticipated to be focal points of growth in the future, while the older platted lots will also continue to be developed.

Most areas currently served by North Port Utilities are located within or near the old City core area. Many residents and businesses outside of this core currently use private wells for potable water.

North Port Utilities has developed a Utilities Master Plan which is updated at five-year intervals. One of the primary requirements of the Master Plan is that developers, under the terms of Developer's Agreements executed in concert with the City, must pay all costs associated with construction of a water treatment plant, which must then be dedicated to the City.

Processes identified in the Utilities Master Plan will guide the fulfillment of the two major goals identified in the 2005 Evaluation and Appraisal Report (EAR): more aggressive expansion of water and sewer service throughout the City, and identification of new water sources to support future growth. A City ordinance passed in 2003 requires all homeowners and businesses currently served by private wells to connect to North Port Utilities water service within one year of the service becoming available.

Current water sources

Potable water currently supplied by the North Port Utilities Department comes from two primary sources:

1. **Finished water supplied by means of an interconnection with the water treatment and distribution system owned by the *Peace River/Manasota Regional Water Supply Authority*** – By the provisions of its current contract with the Authority, the City receives 1.192 mgd (average annual daily flow, or *AADF*).
2. **The *Myakkahatchee Creek and the Cocoplum Waterway*, both raw water sources** – A Water Use Permit (WUP) issued to the City by the SWFWMD in 2006 permits North Port Utilities to withdraw up to 4.4 millions of gallons per day (mgd), with a peak monthly quantity of 6.0 mgd, from both of these sources. However, the North Port Water Treatment Plant on the Myakkahatchee Creek currently has a treatment capacity of 4.4 mgd.

An intake structure will be constructed on the Cocoplum Waterway to take advantage of this significant source of raw water.

As mentioned elsewhere in this Element, the 670-acre Myakkahatchee Creek Greenway, acquired by the City over a period of decades and scheduled for expansion, serves as a buffer to protect the quality of water in the Creek itself.

Current status of North Port Utilities' water treatment and distribution system – The major components of the City's potable water system are:

1. Myakkahatchee Creek Water Treatment Plant (MCWTP), including storage facilities having a capacity of 3.5 million gallons;
2. Hillsborough Booster Pump Station;
3. Northeast Booster Pump Station, together with a 1 million-gallon storage facility;
4. Transmission and distribution piping system;
5. Southwest Booster Pump Station, also having a 1 million-gallon storage facility; and
6. An interconnection with Charlotte County.

An interconnection with Sarasota County is scheduled for completion in 2008.

Future demand and water sources

The Utilities Department projects future potable water demand on the basis of both projected population increase and projected increases in per capita water consumption rates. In the period 2007-08, average daily demand is projected to be in the range of 4.52 to 6.33 mgd. By 2018, demand is expected to rise to 8.67 mgd, and by 2030, to 12.88 mgd. The following water sources will be employed to meet this demand:

- 1. Peace River/Manasota Regional Water Supply Authority** – In 2011, water supplied to the City by the Authority will increase to 2.7 mgd AADF, a supply level that will continue throughout the planning period covered by this Comprehensive Plan. Water supplied by the Authority is expected to rise to 3.2 mgd in 2014.
- 2. North Port Water Treatment Plant** – Plant expansion scheduled for 2012 will increase the plant's treatment capacity to 4.4 mgd. However, recent regulations will limit its expected production capacity to 3.5 mgd. An intake structure on the Cocoplum Waterway will be constructed so that the Waterway may be used as a permanent water source, its water to be blended with Myakkahatchee Creek water during dry periods.
- 3. A Northeast Water Treatment Plant** to serve the Kelce Ranch and Panacea areas is expected to be online in 2014. It will produce an estimated 1.4 mgd initially. Plant expansions will increase production to 3.2 mgd by 2018, 4.6 mgd by 2021 and 6.4 mgd by 2025. These projects have been delayed and will be programmed into the City's Capital Improvement Plan when needed and be financially feasible per State Statute.
- 4. A Southwest Water Treatment Plant** to serve the Thomas Ranch area, expected to be online by 2015-2016. Depending upon the pace of development, production will be 1.4 mgd initially, increasing to 2.8 mgd in 2025. This project has been delayed and will be programmed into the City's Capital Improvement Plan when needed and be financially feasible per State Statute.

Again depending upon the City's growth rate and the need for new treatment facilities, all of the above sources together will produce approximately 15.9 mgd.

In addition to the above sources, a demonstration Aquifer Storage and Recovery (ASR) well continues to be evaluated for its potential as a water source for use during the dry winter months.

Current and future reuse water supply

Treatment facilities at the North Port Wastewater Treatment Plant are currently permitted to produce up to 1.88 mgd of reuse water on an annual average basis. Reuse water is stored in an onsite 500,000-gallon tank.

The City will soon be expanding permitted reuse treatment capacity from 1.88 mgd to 4.4 mgd. Ultimately, reuse treatment capacity will increase to 7.0 mgd in conjunction with the expansion of the City's Wastewater Treatment Plant and disposal systems. The expansion will include construction of a 2.5 million-gallon reuse storage tank.

The City recently finalized a Reuse Master Plan, which identified several potential reuse customers whose total demand could eventually top 21 mgd, As the City of North Port's wastewater flow increases throughout the planning period, additional reuse water will be processed and distributed to new and existing North Port Utilities customers.

Water conservation and the Southwest Florida Water Management District

The City of North Port has benefitted from a long history of cooperation with and support from the Southwest Florida Water Management District (SWFWMD). This cooperative relationship continues throughout the drought that began in 2006. A City ordinance enacted in 1990 requires the City to comply with SWFWMD-imposed water use restrictions in a declared water shortage emergency. The City complies with and vigorously enforces mandatory water use restrictions, including once-a-week watering, imposed by the District in 2007.

The City has enacted year-round water conservation rules that exceed SWFWMD requirements, as well as an inverted, six-tiered rate structure designed to encourage conservation by making heavy consumers of water pay more per quantity of water.

Information gleaned from the SWFWMD-funded *Floodplain Analysis Report* completed in 2007 is also expected to provide North Port Utilities with useful information concerning the Myakkahatchee Creek as a raw water source.

The District is also helping the City evaluate the potential of Aquifer Storage and Recovery (ASR) as a way to capture the increased quantity of surface water available in the Myakkahatchee Creek and Cocoplum Waterway in the summer. A pilot ASR well at the North Port Water Treatment Plant is currently undergoing cycle testing and laboratory analysis.

Through the City's use of conservation programs and reuse water for bulk purchasers the City saves 27 million gallons per month, or 1 million gallons per day. This water is used primarily for irrigation of golf courses and landscaping. This allows the City to use less potable water for these water intensive uses.

For further details concerning potable water and reuse water, please see the **Potable Water** and **Sanitary Sewer Elements** of this Comprehensive Plan.

COASTAL ZONE MANAGEMENT SECTION

DATA AND ANALYSIS

Inventory of existing land uses in the coastal planning area

For the purposes of this Element, the City of North Port defines its coastal planning area as lands lying within the Category 1 hurricane storm surge zone depicted on the Southwest Florida Regional Planning Council's *Hurricane Storm Tide Atlas* for Sarasota County.

Community background

The area that became the platted lands community of North Port was originally a conglomeration of sloughs that drained into Charlotte Harbor. This natural regime was altered significantly beginning in the 1950s, when General Development Corporation began dredging a drainage system that today totals some 378 miles in length, including 84 miles of major waterways and 294 miles of drainage ways. These dredging activities, together with the creation of a network of public roads totaling 814 miles, all but eliminated most of the sloughs.

The City of North Port is predominantly residential in nature, with most non-residential development confined to unplatted areas called Activity Centers. The current population is just over 56,000. It is anticipated that under the current Future Land Use Map, including platted lots, and approved developments, the City's population has the potential to be approximately 267,934.

Shoreline uses

No shoreline conflicts occur or are planned for development in the coastal planning area. Approximately 7.5 miles of the Myakkahatchee Creek north of the U.S. Highway 41 bridge is protected and buffered by the Recreation/Open Space-designated lands of the Myakkahatchee Creek Greenway. South of the bridge in a residentially-zoned, built-out subdivision, homes with seawalls or rock revetment line both banks of the Creek for approximately a mile. Southward of this residential area, the Creek enters the State-owned Conservation area known as the Myakka State Forest. No further development is anticipated on either the Creek or the River.

River Road Office Park (Activity Center #8) has purchased land on the Myakka River for a private passive park. This property is designated for Conservation use.

Need for water-dependent and water-related development sites

The City of North Port has one limited public marina, Marina Park on Chancellor Boulevard. This site has ample parking and provides boaters with access to the Myakka River and Charlotte Harbor. The extension of the local option infrastructure surtax from 2010 through 2024 will provide an estimated \$3,150,000 for construction of watercraft launches, docks and ramps for non-motorized access to City canals.

In an application to the Florida Communities Trust *Florida Forever* program that resulted in the awarding of a \$2.8 million land acquisition grant in 2007, the City proposed the construction of a public observation platform in the freshwater portion of the Myakkahatchee Creek Greenway. Construction of this amenity will follow the planned acquisition of another 70± acres of land to

expand the Greenway. At this time (early 2008), the City does not anticipate further development of recreational amenities or other public structures immediately abutting the Creek.

Because the subdivision south of the U.S. 41 bridge is entirely developed, no opportunities exist for the development of water-related sites along the brackish water portion of the Creek. South and west of this subdivision lies the State-owned Myakka State Forest.

Areas in need of redevelopment

At present, no areas associated with either the Myakkahatchee Creek or the Myakka River are in need of redevelopment.

The City has attempted to establish a Community Redevelopment Area on U.S. Highway 41, but Sarasota County did not approve formal designation of this district. The City has a Master Plan to guide development in that area, even without the CRA.

Economic base of coastal planning area

The Future Land Use Element does not reference the economic base of the coastal planning area, which the City has defined as the areas surrounding the Myakka River and the Myakkahatchee Creek.

The Element does state that, “Continued development of these [Myakkahatchee Creek] lots beyond current levels would negatively impact the potable water, environmental, and floodplain function [of] the Creek.” The City, through land acquisition, has been very successful in assembling land to protect the Creek, and has also cooperated with the Division of Forestry regarding administration of the Myakka State Forest, which borders the River for approximately three miles.

The conservation lands associated with the Myakkahatchee Creek Greenway and the Myakka State Forest do have limited eco-tourism potential, but neither figures at all prominently in the City’s economic base.

The City of North Port is primarily a residential community. Activity Center #1, containing the oldest residential subdivisions and the City’s original downtown commercial area, is the Activity Center nearest the coastal planning area.

Effects of future land uses on natural resources in the coastal planning area

A mixture of homes and some commercial uses are planned for the Thomas Ranch property, located in the southwest corner of the City. Maximum buildout density has been limited to 15,000 residential units. The majority of anticipated development will be approximately 2.5 miles from the coastal zone along the Myakka River. The City recognizes and intends to work with the developer to minimize the effects of proposed development, particularly runoff. However, the effects of this development on the coastal zone, as defined in Florida statutes, are anticipated to be minimal. The area along the Myakka River will be developed to be consistent with the Myakka River Wild and Scenic Designation Act, the Myakka River Wild and Scenic Management Plan, and the future ordinances the City will be adopting regarding the Wild and Scenic Protection Zone.

Vegetative cover, wetlands and wildlife habitats

Vegetative cover, wetlands and wildlife habitats within the Myakka State Forest are managed in accordance with conservation best management practices by the State Division of Forestry. Myakka State Forest is made up primarily of mesic flatwoods with a mixture of longleaf pine and slash pine overstory with a palmetto understory. Numerous depression marshes are scattered throughout the flatwoods, providing many opportunities for viewing wading birds and other wildlife. The forest includes approximately 2.5 miles of frontage on the Myakka River, which is designated as an Outstanding Florida Water and a State Wild and Scenic River. The Myakkahatchee Creek flows throughout the forest for 1.5 miles and provides an additional water resource.

The City is a voting member of the Myakka River Management Coordinating Council, and recently signed a ‘State-Local Agreement For Administering the Myakka River Wild and Scenic River Protection Zone Between the Florida Department of Protection, the Florida Department of Community Affairs, and the City of North Port.’

Residential development will continue in the subdivisions surrounding the Myakkahatchee Creek. However, for over 20 years the City has conscientiously been implementing a land acquisition program to protect the Creek and its Class I waters from the U.S. 41 bridge to the northern City limits. (For approximately one mile south of the bridge, the Creek passes through built-out residential subdivisions.)

The current Myakkahatchee Creek Greenway acquisition phase will be financially supported by a \$2.8 million Florida Communities Trust grant and matching City funds in an equal amount. These funds will be used to double the width (800-900+ feet after acquisition) of the narrowest, 2.8-mile-long stretch of the Myakkahatchee Creek Greenway. The City intends to remove, and later restore to near-natural conditions, the roadways immediately paralleling the Creek in this area. Following restoration, these former roadways will add approximately 15.5 acres to the Greenway.

Best management practices will be followed to protect resources within the Greenway, as expressed in the adopted Myakkahatchee Creek Greenway Master Plan. The City is also obligated to implement specific management practices outlined in its 2007 Florida Communities Trust grant contract.

As noted in this Element and elsewhere in the City’s Comprehensive Plan, the City will continue to coordinate efforts with the United States Fish and Wildlife Service, the Florida Fish and Wildlife Conservation Commission, the Florida Department of Environmental Protection, the Division of Forestry and other appropriate agencies to minimize negative impacts to manatees that are found in the Myakka River and its estuaries, the extreme southern waters of the Myakkahatchee Creek within the City, and Little Salt Creek in the Warm Mineral Springs area.

A bird rookery, that includes nesting wood storks, is established on an island in the Myakka River adjacent to the City’s coastal zone. The City will coordinate with the above-named agencies to identify any additional rookeries that may become established, and will fully cooperate with these agencies regarding situations that could affect wildlife and wildlife habitat. Agency cooperation is vital when one considers the wealth of wildlife and habitat in this area, as is evidenced on the ‘Biodiversity Hot Spots Map’ found at the end of this element.

Living marine resources

In winter months especially, manatees are commonly seen in the southernmost waters of the Myakkahatchee Creek just before it flows into Charlotte County and Sarasota County. A prime observation area is Marina Park on Chancellor Boulevard. The Park is at the southern end of built-out subdivisions bordering the Creek. Manatees also frequent the waters of Little Salt Creek in Warm Mineral Springs. The City has no plans to develop additional public access points for boaters in this area.

Sarasota County's Manatee Protection Program encompasses the southern half of the Town of Longboat Key, the City of Sarasota, the City of Venice, but only a small portion of the City of North Port along the Myakka River and the Myakkahatchee Creek.

Inventory and analysis of impacts of development and proposed redevelopment in the Future Land Use Element

The City did attempt to implement a Community Redevelopment Area that would also have provided tax increment financing for the implementation of the U.S. 41 Corridor Master Plan. However, Sarasota County would not approve creation of the proposed CRA. The City does intend to implement the Master Plan, which includes the area where U.S. 41 crosses the Myakkahatchee Creek.

To the north of the bridge, very limited passive and active/passive amenities will be developed in the Myakkahatchee Creek Greenway. These amenities include picnic pavilions, horseshoe pits, a playground with restrooms and an observation deck.

As discussed above, existing residential development in built-out subdivisions abuts the Creek south of U.S. 41.

Historic resources and sites

Two archaeological sites, together identified by the State as 8SO1308, exist within the City's coastal planning area (Category 1 SLOSH zone). Designated familiarly as "Jeff's Clam Midden," the site is comprised of two prehistoric shell middens that are recorded as being eligible for placement on the National Register of Historic Places. The site is located on State-owned preservation land very near the Myakka River.

Inventory and analysis of estuarine pollution conditions and actions needed to maintain estuaries

The Myakka River watershed receives special protection. The 34-mile segment of the Myakka River in Sarasota County was designated as a State Wild and Scenic River and an Outstanding Florida Water. Approximately 2.75 miles of the River flows through North Port, most of it bordered on both banks by the Myakka State Forest.

The River flows into Charlotte Harbor, a SWFWMD Surface Water Improvement and Management (SWIM) water body. The Myakka River Basin is subject to study and management through this program. As mentioned previously, the City is a voting member of the Myakka River Management Coordinating Council. The City has signed the State-Local Agreement to administer the Myakka River Wild and Scenic Protection Zone.

The segment of the Myakkahatchee Creek within City boundaries and the Myakka River are Class I water bodies and are thereby protected as drinking water sources. North Port has created a natural, 670-acre protective buffer surrounding the Creek. Part of the river estuary is protected for shellfish harvesting.

In 2001, Total Maximum Daily Loads for six watershed segments in the Myakka Watershed were proposed by the U.S. Environmental Protection Agency, but those standards were never adopted as part of a finalized plan. The proposal generally recommended no additional nitrogen or bacteria loads to the basin until additional study could be conducted to determine if the bacteriological, dissolved oxygen, and biological conditions found in the basin were natural or human-caused impairments.

Like the unincorporated area of Sarasota County bordering the City on the north and west, portions of the City of North Port contribute to pollution that affects estuaries downstream of the City, and the problem will grow with future development. As a collector of runoff from a large portion of the City, the Myakkahatchee Creek does inevitably convey some pollutants to the estuarine area surrounding the Myakka River.

Of great concern to the City is the quantity of pollutants that reach the Creek from the overuse of nitrogen-based fertilizers. In 2007, the City Commission passed a restrictive new fertilizer ordinance (Ordinance No. 07-45) that promises to reduce the amount of nitrogen and phosphorous reaching the River estuaries. Under the ordinance, no fertilizer containing either chemical can be applied to lawns from June 1 through September 30. Among other provisions, it also creates a 10-foot-wide “fertilizer free zone” around ponds, streams, canals and the top of seawalls. No fertilizer may be applied within a wetland, or within 25 feet of a wetland, or within the flow channel of swales. All commercial and institutional applicators of fertilizer must receive training and certification in a City-approved program provided by the Sarasota County Extension Service.

Because the City has created a buffer called the Myakkahatchee Creek Greenway, upstream runoff is to a large degree naturally attenuated. The importance of the Greenway as a natural filtering agent cannot be underestimated, since the Creek it protects is the primary drainage feature for the entire City. Fortunately, the subdivisions south of the U.S. 41 bridge along the Creek reached build-out years ago, and no additional development can therefore occur that might exacerbate pollution.

Unfortunately, the original developer of the City, General Development Corporation, went bankrupt, leaving the City with an incomplete central water and sewer system. Consequently, many North Port homes are served by septic systems. Beginning in 2007 and continuing into 2008, the North Port Utilities Department began earnest discussions with the City Commission and administration about a coordinated plan to address this challenge.

A Neighborhood Improvements Master Plan will be developed in 2008 to evaluate those areas not currently receiving utility service. The plan will contain procedures to identify and prioritize neighborhoods according to need. The plan will focus on financial feasibility. The City requires owners of homes in existing neighborhoods to connect to the City of North Port water and sewer system within one year after service is available.

Preliminary estimates indicate the implementation of the Neighborhood Improvements project may cost over \$1.8 billion. The voter-approved third extension of the local option surtax

provides almost \$25 million in future funding for expansion of water and sewer distribution and collection systems. Another \$10 million for transmission mains and associated infrastructure will be generated by capacity fees on all new construction. Other funding to complete this project will include assessments and potential grant funding.

The City's Stormwater Manager reports that no point sources of pollution exist that might affect the Myakkahatchee Creek and, ultimately, the Myakka River.

Assessment of impacts of facilities proposed in other elements:

Traffic Circulation

No new roads are proposed for construction in the City's coastal zone.

Sanitary Sewer

With the planned expansion of the City's Wastewater Treatment Plant, a second deep injection well will be built on the same property as the existing Deep Injection Well. That property is located outside of North Port's High Hazard Zone (i.e., the SLOSH/Hurricane Category 1 Zone). The initial well is approximately 3,200 feet deep.

Solid Waste

No structural facilities for disposal of solid waste are planned for construction within the coastal zone.

Drainage

Currently, a study of the Big Slough Watershed, which encompasses all of the City of North Port, is being conducted under a cooperative funding agreement between the Southwest Florida Water Management District (SWFWMD) and the City. The study began in 2003 and should be completed sometime between late 2008 and mid 2009.

The following drainage improvement projects may be proposed in the final version of the Big Slough Watershed analysis:

- *Acquisition of properties for development of a regional stormwater detention and water quality treatment system.* These surface water reservoirs could attenuate flood waters and improve water quality while also providing an additional potable surface water source that could serve the region.
- *Diversion of flood waters from the City's R-36 canal system southwesterly to Deer Prairie Slough.* Historically, a significant portion of the City's watershed drained to the Deer Prairie Slough. This flow path was altered when General Development Corporation (GDC) constructed the City's canal system. Diverting the flow will require extensive hydraulic, hydrologic and wetland analysis to ensure that no adverse effects occur downstream or upstream.
- *Redirection of flood waters among the existing canal system.* This alternative, too, would require extensive hydraulic analysis to ensure no adverse downstream or upstream effects.

- *Constrain the flow of water entering the City from the north via the Myakkahatchee Creek/Big Slough Canal.* Upstream flooding and the potential of over hydration of upstream wetlands would need to be evaluated. The City would need to consult with upstream land owners.
- *Construct additional conveyance capacity within the City's primary drainage system.* An additional bypass canal, additional connectivity between existing canals, widening and/or dredging existing waterways and replacing restrictive culvert pipes with larger pipes are all options. Extensive hydraulic analysis would be required to ensure no adverse downstream flooding or hydrobiological effects in receiving waters.
- *Evaluate the need for additional (or fewer) water control structures, telemetry controls and gate automation.*

It should again be emphasized that all of the above options, including their potential affects, are still being evaluated.

Potable Water

No potable water facilities are planned for construction within the coastal planning area. A water treatment plant and storage tank to serve the West Villages Improvement District is planned for construction west of the planning area by 2015.

Natural Groundwater Aquifer Recharge

A groundwater supply feasibility study is planned in conjunction with the proposed construction of the West Villages water treatment plant.

Further engineering, hydrogeological and laboratory testing will continue in Phase V of the City's existing Aquifer Storage and Recovery well demonstration project.

Actions needed to remedy existing pollution problems

The following actions, as well as those discussed above, will do much to remedy existing pollution problems:

1. Continuation of land acquisition to enlarge the Myakkahatchee Creek Greenway from its current 670 acres to 740 acres-plus will increase natural attenuation of pollutants that might otherwise reach the Creek and, eventually, the coastal zone and estuaries.
2. Vigorous enforcement of new City Ordinance No. 07-45, which restricts the use of fertilizer, particularly near water bodies.
3. No above-ground City infrastructure of any type is part of the City's Capital Improvement Program.
4. Continued enforcement of those portions of the City's Unified Land Development Code (as amended) relating to Dredge and Fill Regulations (Chapter 13), Earthmoving Activities (Chapter 14), Flood Damage Prevention Regulations (Chapter 17), Landscaping Regulations (Chapter 21), Site and Development Plan Regulations (Chapter 33), Subdivision Regulations (Chapter 37), Transfer of Development Rights (Chapter 41), Wetlands Protection Regulations (Chapter 49) and Zoning Regulations (Chapter 53).

5. Expansion of central sewer service to existing neighborhoods.
6. Continued cooperation with the Myakka River Management Coordinating Council.
7. Continued cooperation with the Charlotte Harbor National Estuary Program and the goals of the Myakka Wild and Scenic River Management Plan.
8. Continued cooperation with the U.S. Fish and Wildlife Service.
9. Continued cooperation with the Florida Fish and Wildlife Conservation Commission.
10. Continued sharing of information and participation with the Southwest Florida Regional Planning Council.
11. Continued cooperation with regulatory actions promulgated by the Southwest Florida Water Management District.

Natural disaster planning concerns

Although the whole of Sarasota County has been designated a coastal zone County by the Department of Community Affairs, the City of North Port lies inland from the Gulf of Mexico coast a distance of 10 to 15 miles.

The City does, however, share some of the characteristics of a coastal zone area because it is connected to the Gulf coast via the Myakkahatchee Creek and the Myakka River. For the purposes of this analysis and per Florida Statute, the City of North Port defines its “coastal planning area” as that portion of the City within the “Category 1” zone shown on the Southwest Florida Regional Planning Council’s SLOSH/“Hurricane Storm Tide Atlas” for landfalling storms affecting Sarasota County.

Excluding the Thomas Ranch annexed area, most of the City (approximately 60 percent) lies north of and outside of all storm category SLOSH zones. In the most densely populated portion of the City, about 30 percent lies in Category 4/5 and 5 to 10 percent in Category 3.

Only a small area south of U.S. Highway 41 near the Charlotte County line, including older neighborhoods near Biscayne and Pan American Boulevards and Sydney Avenue, lie within the Category 2 zone. Most of the Duck Key subdivision (south of U.S. 41 near the Myakkahatchee Creek) lies in Category 2, with portions of one or two local roads in Category 1.

Holiday Park, a manufactured housing subdivision containing 865 units, is in Category 2.

About 70 percent of the 8,500-acre State-managed Myakka State Forest is within the Category 3 zone, while the remainder of the Forest near the Myakka River is within the Category 2 and 1 zones.

West of the Myakka River in the Thomas Ranch annexed area, the Gran Paradiso development south of U.S. 41 lies within SLOSH Category 3 and Category 4/5. This development will have approximately 200 units at buildout.

Most of Thomas Ranch itself, including the residential areas of the West Villages Improvement District, is within the Category 3 and 4/5 zones. About one-quarter of the Ranch east of and along River Road lies within the Category 1 and 2 hurricane zones, as well as the FEMA/FIRM 100-year floodplain. Areas within the ranch designated for Conservation use total almost three-quarters of a square mile.

The commercial-zoned Town Center of Thomas Ranch lies primarily within Categories 2 and 3, except for a small portion in Category 1. The privately-owned, yet to be developed River Road Office Park is within the Category 1 and 2 zones near the Myakka River. The City will be carefully evaluating the effects tropical storms and hurricanes may have on these areas.

Future proposed development along and east of River Road will require very close scrutiny by the City.

The Myakkahatchee Creek area – The southern reaches of the Myakkahatchee Creek are within Category 2 and, to a much lesser extent, Category 1. However, the Creek serves as a SLOSH conduit for Gulf of Mexico storms making landfall in the immediate area, extending narrow projections of the Category 3 and Category 4/5 zones northward.

The majority of residential development adjacent to the Myakkahatchee Creek lies south of the U.S. Highway 41 bridge, paralleling the Creek for a distance of one mile.

North of the bridge along both banks of the Creek and extending all the way to the City's northern boundary (a distance of about seven miles), the City has acquired Recreation/Open Space-designated lands totaling some 670 acres to serve as a protective natural buffer and natural floodwater storage area.

Considered as a whole, most of the City's waterfront land that would be directly affected by wave action from storm events is designated for Conservation use, such as the Myakka State Forest and a park that the developer of the River Road Office Park will create for employees.

Natural disaster evacuation planning concerns

The Hurricane Vulnerability Zone

The hurricane vulnerability zone for the City of North Port includes four storm category zones depicted on the Southwest Florida Regional Planning Council's SLOSH/"Hurricane Storm Tide Atlas" for landfalling storms affecting Sarasota County: Category 1, Category 2, Category 3 and Category 4/5. No portions of the City lie within the Tropical Storm zone.

Number of persons requiring evacuation and Number of persons requiring public hurricane shelter

According to the currently available edition of the Southwest Florida Regional Planning Council's Hurricane Evacuation Study Update (2001), the City of North Port lies in five evacuation zones and portions of 10 others. It is impossible to calculate or estimate the number of North Port residents who reside within those zones shared with other jurisdictions. **Table 1** on the following page is adapted from the Study Update.

Based on Regional Planning Council surveys conducted in 1979, 1981 and 1987, 24 percent of survey respondents reported they would use public shelters. Based on this particular response to the survey, the "**Persons requiring public shelter**" columns of **Table 5-3** include estimates of the number of persons in each storm zone who would use public shelters in the month of July and the month of October. However, as the study says, survey results do not necessarily predict actual behavior.

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Table 5-3: Population of North Port Evacuation Zones (2001 Estimates)					
Storm Category	Evacuation Zone	July Population	Persons requiring public shelter*	October Population	Persons requiring public shelter*
1	East Venice (portion)**	319	77	684	164
	North Port Myakka	0	0	0	0
	Total	319	77	684	164
2	East Venice (portion)**	178	43	193	46
	North Englewood (portion)**	263	63	277	66
	Warm Mineral Springs (portion)**	4	1	4	1
	Total	89	107	474	114
3	East Venice (portion)**	2,412	579	2,574	618
	North Englewood (portion)**	1,960	470	2,103	505
	Warm Mineral Springs (portion)**	1,111	267	1,215	292
	North Port Myakka	3,754	901	4,047	971
	North Port	3,051	732	3,240	778
	Total	12,288	2,949	13,179	3,163
4 / 5	East Venice (portion)**	9,313	2,235	10,052	2,412
	North Englewood (portion)**	2,317	556	2,455	589
	Warm Mineral Springs (portion)**	513	123	722	173
	North Port	8,693	2,086	9,171	2,201
	Total	20,836	5,001	22,400	5,376
Total population in all zones		33,532	8,133	36,737	8,817

* 24% of people in zone

**Number of North Port citizens residing in this zone is not known

Source: Southwest Florida Regional Planning Council

Number of hurricane shelter spaces available

Sarasota County has designated four North Port schools as general population hurricane shelters, and two others as shelters for People with Special Needs (PSNs). North Port shelters for PSNs are shown in Italicized type in **Table 5-4** below. It should also be noted that the City’s second middle school, scheduled to open in the 2008-9 school year, will likely provide additional shelter space.

Table 5-4: Sarasota County-Designated Shelters in the City of North Port			
Shelter Name	Address	Approx. Elevation (ft.)	Capacity
Glenallen Elementary	7050 Glenallen Blvd.	20	2,059*
Toledo Blade Elementary	1201 Geranium Ave.	24	830
North Port High School	6400 W. Price Blvd.	21	5,000
Heron Creek Middle School	6501 W. Price Blvd.	21	N/A
<i>Lamarque Elementary</i>	<i>3415 Lamarque Avenue</i>	<i>N/A</i>	<i>450 (est.)</i>
<i>Cranberry Elementary</i>	<i>2775 Shalimar Terrace</i>	<i>N/A</i>	<i>450 (est.)</i>
*After 2005 improvements			

Source: Sarasota County

North Port City Hall, 4970 City Hall Boulevard, and the George Mullen Activity Center, 4956 City Center Boulevard, are also available for use by City employees and their families.

The City of North Port has just one manufactured housing community within its boundaries, the 861-unit Holiday Park. County Emergency Management has assigned to the City the responsibility of evacuating several manufactured housing communities just west of the City. The general area for which the City is responsible includes the area from River Road eastward, including the manufactured housing communities of La Casa, Riverwalk, Lazy River, Harbor Cove, and the Myakka River RV Park.

Table 5-5 below lists each of the City’s evacuation zones by name, the shelter residents of each zone would likely find most convenient to travel to, and the estimated travel time to the shelter.

Table 5-5: Evacuation Zones, Shelters of Choice & Travel Times			
Storm Category	Evacuation Zone	Shelter Name	Travel Time (Hr.)
1	North Port Myakka	Glenallen Elementary	0.1
	East Venice	Toledo Blade Elementary	0.7
2	North Englewood	San Pedro Catholic Church*	0.4
3-4/5	Warm Mineral Springs	North Port High School	0.4
3-4/5	North Port	North Port High School	0.3
*Closes for a Category 2 Storm Event			

Evacuation Routes; transportation and hazard constraints on evacuation times

The City's two main evacuation routes to Interstate Highway 75, Sumter Boulevard and Toledo Blade Boulevard, are currently being improved.

Toledo Blade Boulevard from U.S. 41 to I-75 is currently being widened from two lanes to four lanes, which will greatly improve evacuation time.

Sumter Boulevard is currently being widened from two lanes to four lanes from U.S. 41 northward to just north of Heron Creek Boulevard. An existing segment of Sumter Boulevard from Sylvania to I-75 is four lanes wide, leaving a two-lane central segment approximately two miles long. The City is keenly aware that the central two-lane segment of Sumter Boulevard will constrict and slow the flow of evacuation traffic to I-75, and therefore it must be widened as soon as funding is available.

A third evacuation route for North Port communities west of the Myakka River is **River Road** in unincorporated Sarasota County outside the City's jurisdiction. The County is identifying funding for a design to widen River Road from two to four lanes, and the West Villages Improvement District (Thomas Ranch) may contribute to the design study. Development of West Villages is limited to a maximum at 15,000 units, but currently the area is essentially unpopulated. However, its future development will significantly affect evacuation times on River Road, which presently is a two-lane road with limited capacity that also serves as an evacuation route for East Venice, Englewood and other Charlotte County communities.

As Thomas Ranch is developed, some of the roads listed in [Table 5-6](#) on the following page will be linked. Pine Street will be extended as "West Villages Parkway," eventually linking with River Road north of U.S. Highway 41. Manasota Beach Road will be extended east into Thomas Ranch/West Villages to River Road, which should help to move evacuation traffic more quickly to River Road and I-75.

The State, and particularly the southwestern region of Florida that includes North Port, experienced a surge in population growth throughout the 1990s and in the first decade of the 21st century. The level of service of **Interstate Highway 75** has perceptibly and significantly declined along with this growth. Consequently, the ability of I-75 to handle a mass or even a partial evacuation has been called into question, even with planned future widening.

The Transportation Element contains two policies to enhance potential future hurricane evacuation routes through road linkages:

Policy 4.5: In order to create another hurricane evacuation route, this policy supports federal, state, or regionally funded initiatives to extend Toledo Blade/Choctaw Boulevard northward to intersect with **State Road 72**.

Policy 4.6: In order to further enhance hurricane evacuation route, this policy supports federal, state, or regionally funded initiatives to create a link between an extended Toledo Blade/Choctaw Boulevard or other North Port roadways and **State Road 17** in Charlotte County.

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Table 5-6: North Port Evacuation Route Capacities (source: SWFRPC, 2001)									
LINK	Lanes	Road Type/ Class	Free Flow Speed/ % NPZ*/ Median	Length Category (Miles)/ Adj. Dev.	Peak Hr. Pk. Dir. Capacity (LOS D)**	Peak Hr. 2-Way Capacity (LOS D)**	Traffic Flow Split		
							50/50	70/30	90/10
Manasota Beach Road/ Manasota Key Road									
SR 776 (Englewood Road) to Manasota Key Road	2	Arterial/I	40 MPH	>1.5	880	1,550	775	966	1,046
Manasota Beach Road to Charlotte County	2	Arterial/I	35 MPH	>1.5	800	1,39	695	866	938
Pine Street									
River Road to Charlotte County	2	Arterial/I	45 MPH	1-1.5	940	1,650	825	1,028	1,114
River Road North/South									
I-75 to Pine Street	2	2-Lane Hwy.	20%	Rural	815	1,430	715	891	965
Sumter Boulevard									
US 41 to Sylvania Avenue	2	Arterial/I			690	1,220	610	760	824
Sylvania Avenue to I-75	4	Arterial			1,850	3,240	1,620	2,019	2,187
Toledo Blade Boulevard									
I-75 to Charlotte County	2	Collector			690	1,220	610	760	824

* Percent No-Passing Zones

**Two-way service volumes for Sarasota County roads are from these Sarasota County tables: 2000 Generalized Roadway Level of Service Analysis, Volume Tables, Peak Hour Two Way Service Volumes, June 2001.

Evacuation times

The Southwest Florida Regional Planning Council’s *Hurricane Evacuation Study Update* (2001) notes that, “The worst route (i.e., most limited capacity) is the determining factor [for evacuation time].”

Further, says the Study Update, “...Some routes end up being ultimate constricting points for more than one zone. That being the case, it may be expected that these times will become cumulative. This creates a ‘greatest time to clear’ for the County as a whole.” The SWFRPC study identifies only two such routes for all of Sarasota County. Most significantly for North Port, one of the two is South River Road in the event of a landfalling Category 3 or 4/5 storm. Below are the SWFRPC’s clearance time estimates in hours for South River Road:

Table 5-7: South River Road Clearance Times (Category 3 or 4/5 Storm)					
July			October		
Slow	Intermediate	Quick	Slow	Intermediate	Quick
9.5	7.6	7.1	10.4	8.4	7.7

Source: Southwest Florida Regional Planning Council

Clearance rates for North Port evacuation zones by Storm Category are noted in **Table 5-8** on the following page. Data has been excerpted from the SWFRPC Study Update.

Conservation & Coastal Zone Management Element

Table 5-8: Time to Clear Landfalling Storm for Evacuation Zones in and near North Port (2001 estimates)

Storm Category	Evacuation Zone	Restricting Points	July			October		
			Slow	Intermediate	Quick	Slow	Intermediate	Quick
1	East Venice	North River Road	0.2	0.2	0.2	0.5	0.4	0.3
	Englewood South River Road	South River Road	2.5	2.0	1.9	2.8	2.2	2.1
	North Port Myakka	U.S. 41/Jacaranda Blvd. to Charlotte County	0.0	0.0	0.0	0.0	0.0	0.0
2	East Venice	North River Road	0.3	0.3	0.3	0.6	0.5	0.4
	North Englewood	SR 776/Jacaranda Boulevard to Circlewoods Drive	2.5	2.0	1.9	2.8	2.2	2.0
	Englewood South River Road	South River Road	7.0	5.6	5.2	7.7	6.2	5.7
	North Port Myakka	U.S. 41/Jacaranda Blvd. to Charlotte County	1.0	1.0	1.0	1.1	1.1	1.1
	Warm Mineral Springs	U.S. 41/Jacaranda Blvd. to Charlotte County	1.0	1.0	1.0	1.1	1.1	1.1
3	East Venice	North River Road	2.1	1.7	1.5	2.5	2.0	1.8
	North Englewood	SR 776/Jacaranda Boulevard to Circlewoods Drive	4.5	3.6	3.3	4.9	3.9	3.6
	Englewood South River Road	South River Road	9.5	7.6	7.1	10.4	8.4	7.7
	Warm Mineral Springs	U.S. 41/Jacaranda Blvd. to Charlotte County	2.3	2.3	2.3	2.5	2.5	2.5
	North Port Myakka	U.S. 41/Jacaranda Blvd. to Charlotte County	2.3	2.3	2.3	2.5	2.5	2.5
	North Port	U.S. 41 to Char. And Sumter Blvd./I-75 to U.S. 41	2.1	2.0	2.0	2.3	2.2	2.1
4/5	East Venice	U.S. 41 (U.S. 41 Bypass N. to Colonia Ln.) & Jacaranda	6.0	6.0	6.0	6.5	6.5	6.5
	North Englewood	SR 776/Jacaranda Boulevard to Circlewoods Drive	5.9	4.7	4.4	6.3	5.1	4.7
	Warm Mineral Springs	U.S. 41/Jacaranda Blvd. to Charlotte County	3.3	3.3	3.3	3.6	3.6	3.6
	North Port	U.S. 41/Jacar. to Char. and Sumter Blvd./I-75 to U.S. 41	3.6	3.4	3.4	3.9	3.7	3.7

Source: Southwest Florida Regional Planning Council

Projected impact of anticipated population

density proposed in the Future Land Use Element.

It is anticipated that, under the current Future Land Use Map, including platted lots, and approved developments, the City's population has the potential to be approximately 267,934. Since 2000, the City's population has more than doubled.

The storm zones shown on the SLOSH Map (Sea, Lake and Overland Surge from Hurricanes) issued by the SWFRPC indicate that the majority of the City's land area lies in Category 3, while most of the currently populated and future populous areas are within, or even beyond, the Category 4/5 zone.

According to current planning estimates, future growth in North Port will occur predominantly in new developments with their own commercial areas, as opposed to piecemeal development of platted lots. Policy 13.1 (1) in the Future Land Use Element states that civic structures, schools, clubhouses and other structures should be designed to serve as hurricane shelters, thereby providing safe refuge for residents or employees.

As discussed elsewhere in this Element and the Future Land Use Element, the City has taken the approach of acquiring property along the Myakkahatchee Creek in order to preserve natural floodwater storage capacity and keep development out of the floodplain. With future planned acquisitions, the Myakkahatchee Creek Greenway should increase from its current 670 acres to approximately 750 acres.

About 75 percent of Thomas Ranch west of the Myakka River is within the Category 3 and 4/5 zones, the remainder lying within the Category 1 and 2 hurricane zones. The City will take extra care when reviewing any developments proposed for the latter two zones near the River.

The City will gain an important, updated planning tool with the anticipated completion of the Big Slough Watershed study in late 2008/early 2009. The Southwest Florida Water Management District is reviewing the updated 100-year floodplain maps, which indicate that a larger portion of the City lies within the floodplain than is shown on the incomplete FEMA FIRM maps of 1981.

The most troubling aspect of future growth within North Port as well as the unincorporated area of Sarasota County that surrounds the City is the further strain that will be placed on evacuation routes, particularly on County-maintained River Road and Interstate Highway 75. The City will be attempting to complete the four-laning of Sumter Boulevard, another vital evacuation route for City residents, within the next few years.

Special needs of the elderly, handicapped, hospitalized or special needs people

Sarasota County reports that as of the first quarter of 2008, 2,800 People with Special Needs (PSNs) and 1,800 caregivers are registered in the County, and there is sufficient shelter space to house all of them. Registered PSNs in North Port currently number approximately 270. While the pace of population growth has slowed considerably in North Port as of early 2008, renewed growth will inevitably mean a larger population of PSNs.

With renewed growth, the Sarasota County School District will again accelerate the pace of school construction in the City, including construction of the City's second high school. Undoubtedly all of these new facilities will be hardened to serve as public shelters.

North Port does not have a hospital within its own borders, and currently patients must be transported to the neighboring communities of Venice and Port Charlotte to receive advanced care.

However, Sarasota Memorial Hospital, Sarasota County's public hospital, broke ground in January 2008 for the hospital's **North Port Sarasota Memorial Health Care Center** on Toledo Blade Boulevard. The freestanding emergency/trauma facility will open its doors in January 2009 with 18 treatment rooms, a 24-hour observation unit and specialized rooms for trauma, psychiatric care and obstetrics. The Care Center will also offer urgent/routine walk-in care and comprehensive outpatient services, including rehabilitation, home health, laboratory, onsite physicians' services and imaging services.

The new, 125,000 square-foot health care facility will offer North Port residents, including PSNs, the ability to receive trauma and emergency care much more quickly than has before been possible.

The new facility will complement services offered by the **North Port Health Park**, a 33,000-square-foot ambulatory care facility. Located on U.S. Highway 41 in North Port, the Health Park provides diagnostic and radiology services and laboratory capabilities.

Potential measures to maintain or reduce hurricane evacuation times

In addition to road capacity improvements either needed or already underway, the following might be considered by the City in order to maintain or reduce hurricane evacuation times:

- Evacuation notices should go out to the public as early as possible, and the public should be advised to evacuate when called upon to do so.
- Increase usage of modern electronic notification methods, such as the City's website and its automated telephone notification system.
- There is evidence to suggest that many people who would qualify as People with Special Needs have failed to register for the program. The City should consider promoting the program more aggressively, and whenever opportunities exist in conjunction with community outreach programs.
- When Fire Rescue vehicles are fully occupied transporting PSNs, the City might turn to private ambulance services to assist with evacuating the more seriously ill or bedridden.
- Those without transportation of their own might be qualified as PSNs on that basis alone, even though they are not medically qualified. Members of the general population who are transportation-dependent could be encouraged to go to a bus stop, where they would be picked up and moved to a transfer point, where other buses would take them to general population shelters.
- The County is developing a plan for mobile home parks and coastal communities whereby a small public transit bus would be dispatched to a central point in a community, such as a clubhouse. Transportation-dependent residents would be instructed to go to that central point and board a bus, which would either take them to a transfer point and then to another bus for transportation to a shelter, or directly to a general population shelter.
- Promote carpooling.

- Four-lane Price Boulevard, a major east-west arterial in the City, in order to more efficiently move people from their neighborhoods, onto Price Boulevard and then to a designated evacuation route more quickly.
- The I-75 “Contra-Flow” plan, in which the southbound lanes of I-75 would also be used for northward evacuation. This plan may only be ordered by the Governor. For the North Port area, the Contra-flow traffic plan would start at Toledo Blade Boulevard.
- Consider requiring developers to construct hurricane-resistant clubhouses as shelters for the residents of their new developments.
- Consider reducing the intensity and density of development within the most vulnerable Hurricane zones.

Coastal high hazard area and infrastructure located within it

As mentioned elsewhere in this Element, the City of North Port’s coastal high hazard area is the SLOSH Category 1 zone.

Some local roads in the Duck Key subdivision located near the Myakkahatchee Creek south of U.S. 41 are within the Category 2 SLOSH zone. One or two Duck Key roads appear to be within Category 1.

The City’s Deep Injection Well is located in the Category 2 zone. The 3,200-foot deep well is used to dispose of treated effluent. Above-ground infrastructure associated with the well and well head is minimal. With the planned expansion of the City’s Wastewater Treatment Plant, a second Deep Injection Well will be constructed on the same property.

Apart from these facilities, the City has no above-ground infrastructure in either the Category 1 or the Category 2 zone.

Nor has the City yet experienced repetitive loss of any structures. However, Policy 2.1 of the Capital Improvements Element states as follows:

“The City shall promote the relocation of repeatedly flood damaged structures in FEMA "A" Zones as indicated on the existing Flood Insurance Rate Maps or revised floodplain map(s) as adopted by the City Commission consistent with FEMA and /or SWFWMD requirements, and in category 1 SLOSH zones, to safe locations.”

Beach and dune systems – The City of North Port has no beaches or dune systems.

Public access facilities

Shoreline access points

Due to the presence of water control and intake structures near the North Port Water Treatment Plant on the Myakkahatchee Creek, currently available direct public access to the Myakka River, Charlotte Harbor and the Gulf of Mexico is limited to one facility, Marina Park on Chancellor Boulevard. The facility has a parking lot. Other than Marina Park, no boat ramps, public docks or commercial marinas or fishing piers with access to these water bodies exist within the City.

Scenic overlooks

A scenic view of the Myakka River just north of the City is afforded by the U.S. Highway 41 bridge across the River. The Myakka State Forest has several hiking trails that lead to scenic areas along the River.