Chapter 3
AFFECTED ENVIRONMENT

The location of the Proposed Action is in north-central Manatee County and consists of one no-build, and two construction (build) alternatives; the Fort Hamer Alternative and Rye Road Alternative. The study areas for both build alternatives were previously shown in Figure 2-3 and described in Section 2.5. This chapter describes the existing condition present within the areas potentially affected by the two build alternatives. Specific analyses are provided for social and economic characteristics, natural environment, and physical characteristics present within the region.

The elements of the environment would be examined at the regional, county, and local levels. However, based on the limited scope of the proposed improvement, the environmental assessment would focus primarily on conditions present within the 0.5-mile project study areas.

3.1 SOCIAL CHARACTERISTICS

For the purposes of this Final Environmental Impact Statement (FEIS), social characteristics are defined as those issues related to the existing and planned human environment. These characteristics include but are not limited to population, economic activity, land use, transportation, quality of life, and community cohesion.

3.1.1 SOCIOECONOMIC CONDITIONS

3.1.1.1 Characteristics of the Population

Existing Population

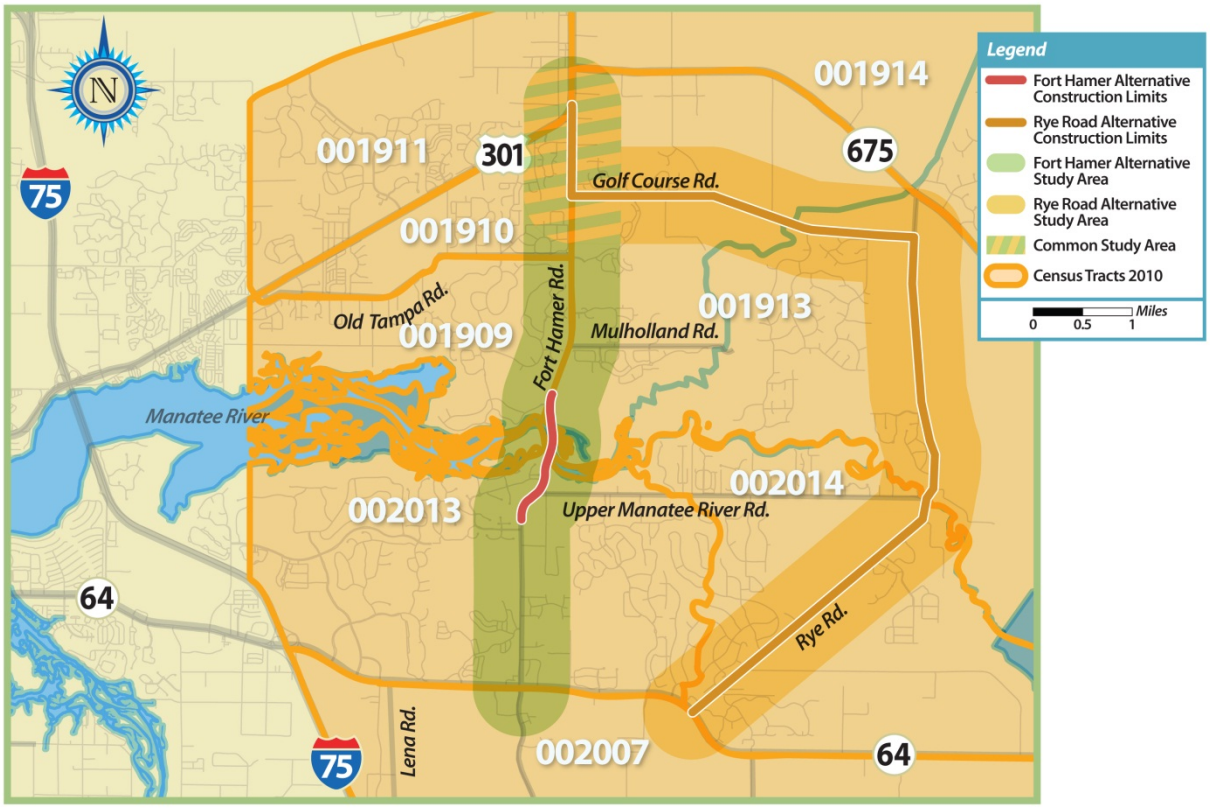
Relevant information regarding the population in Manatee County and the study area is presented in **Table 3-1**. The demographic information presented is based primarily at the U.S. Census tract level, and incorporates those tracts that are present within 0.5-mile of a project centerline. Many of the figures presented in the table are an average of values derived from the multiple Census tracts intersected by each alternative. The Fort Hamer Alternative incorporates data from Census Tracts 001909, 001010, 001011, 001013, 001914, 002007, and 002013. The Rye Road Alternative incorporates data from Census Tracts 001910, 001911, 001913, 001914, 002007,002013, and 002014 (Census, 2010b). **Figure 3-1** depicts the location of these Census tracts in relation to the two build alternatives.

TABLE 3-1
MANATEE COUNTY AND BUILD ALTERNATIVES SOCIOECONOMIC INFORMATION

Statistic	Manatee County	Fort Hamer Alternative Study Area	Rye Road Alternative Study Area
Population 2000*	264,002	12,698	14,838
Population 2010	322,833	33,365	37,155
Percent Increase in Population 2000-2010	22.3	162.8	150.4
Median Age	45.7	43.3	43.1
Percent Population 65 Years Old and Older 2010	23.3	17.2	16.5
Average Household Size 2006-2010	2.40	2.61	2.65
Median Household Income 2006-2010	$47,812	$73,606	$74,662
Per Capita Income 2006-2010	$28,072	$34,230	$34,065
Median Value of Owner Occupied Housing 2006-2010	$214,000	$326,405	$333,533

Note: Figures from the impacted Census tracts were combined and averaged to develop a total for the study area.
Source: Census, 2010a, * Census, 2000.

FIGURE 3-1
2010 CENSUS TRACT LOCATIONS



Source: Census, 2010b.

As shown in Table 3-1, the population of Manatee County in the year 2000 was 264,002; in 2010, the County population had grown to 322,833. This change represents a 22.3 percent population increase in the 10-year period. Additional analysis of the populations within the affected Census tracts shows growth rates well above the County average. Within the Census tracts affected by the Fort Hamer Alternative, the population increased from 12,698 in year 2000 to 33,365 in year 2010 (a 163.8 percent increase). Within the Census tracts affected by the Rye Road Alternative, the population increased from 14,838 in year 2000 to 37,155 in 2010 (a 150.4 percent increase).

Comparison of County demographic characteristics (Table 3-1) to that of the Census tracts impacted by the project alternatives shows two areas of divergence in the make-up of the populations. Data show the percentage of persons over the age of 65 within the Fort Hamer Alternative Study Area (17.2 percent) and Rye Road Alternative Study Area (16.5 percent) were lower than for Manatee County as a whole (23.3 percent). This figure may indicate that a higher percentage of individuals were still in the workforce traveling to and from work daily within the impacted area than in the County as a whole. Additionally, the median household income figures within the Fort Hamer Alternative ($73,606) and Rye Road Alternative ($74,662) study areas were well above the County-wide average of $47,812.

Table 3-2 shows the racial/ethnic composition of the 2010 Census tracts intersected by the two build alternatives' study areas in comparison to Manatee County. The percent of White population within those tracts intersected by the Fort Hamer Alternative Study Area (89.9 percent) and the Rye Road Alternative Study Area (90.4 percent) is higher than the County-wide White population (81.9 percent). Except for Asian, all other race/ethnic groups occur in lower percentages in both the Fort Hamer Alternative and Rye Road Alternative study areas than in Manatee County as a whole.

TABLE 3-2
RACIAL/ETHNIC COMPOSITION

	Manatee County 2010 Census		Fort Hamer Alternative Study Area 2010 Census		Rye Road Alternative Study Area 2010 Census	
Race or Ethnicity	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Race						
White	264,322	81.9	29,997	89.9	33,587	90.4
Black	28,230	8.7	1,335	4.0	1,383	3.7
American Indian	1,044	0.3	58	0.2	65	0.2
Asian	5,275	1.6	819	2.5	888	2.4
Hawaiian/Pacific Islander	218	0.1	9	0.03	9	0.02
Other	17,260	5.3	550	1.7	589	1.6
Multi-Race	6,484	2.0	597	1.8	634	1.7
Ethnicity						
Hispanic	47,955	14.9	2,757	8.3	2,957	8.0
Total Population	**322,833**	*	**33,365**	*	**37,155**	*

* Total percentage exceeds 100 percent due to individuals occurring within multiple categories.
Source: Census, 2010a.

Future Population

Table 3-3 presents population projections for Manatee County and for the areas contained within the most proximate U.S. Census Tracts (by alternative as previously described in this section). The County growth estimates presented in Table 3-3 were developed by the Florida Bureau of Economic and Business Research (BEBR), and represent the "medium growth estimate." This estimate was selected for use as it serves as the most likely growth scenario modeled by BEBR. The future population figures presented for each alternative's study areas were derived from data included in the Sarasota/Manatee/Charlotte County Transportation Model (SMC Model). The projections contained in the SMC Model were developed by the Sarasota/Manatee Metropolitan Planning Organization (MPO) in 2007.

TABLE 3-3
POPULATION PROJECTIONS

Statistic	Manatee County	Fort Hamer Alternative Study Area*	Rye Road Alternative Study Area*
Population Projection for Year 2035	438,400	84,354	83,464
Average Annual Growth Rate, 2010-2035	1.4	6.1	5.0
Total Percent Increase in Population, 2010-2035	35.8	152.8	124.6

* TAZs from SMC Model consolidated to correspond with area of U.S. Census tracts identified in Section 3.1.1.1.
Source: MPO, 2011; Florida Statistical Abstract, 2009.

Overall, the population in Manatee County is projected to continue to increase at a moderate rate adding approximately 115,500 residents over the next 25 years. Within the study areas, the growth in population is expected to be much more dramatic. Within the Fort Hamer Alternative Study Area, the population is expected to grow by 152.8 percent by year 2035 (a rate 10.1 percent per year), and within the Rye Road Alternative Study Area by 124.6 percent (a rate of 9 percent annually). These figures help to illustrate the rapid urbanization occurring in the area of the proposed bridge.

3.1.1.2 Existing Economic Conditions

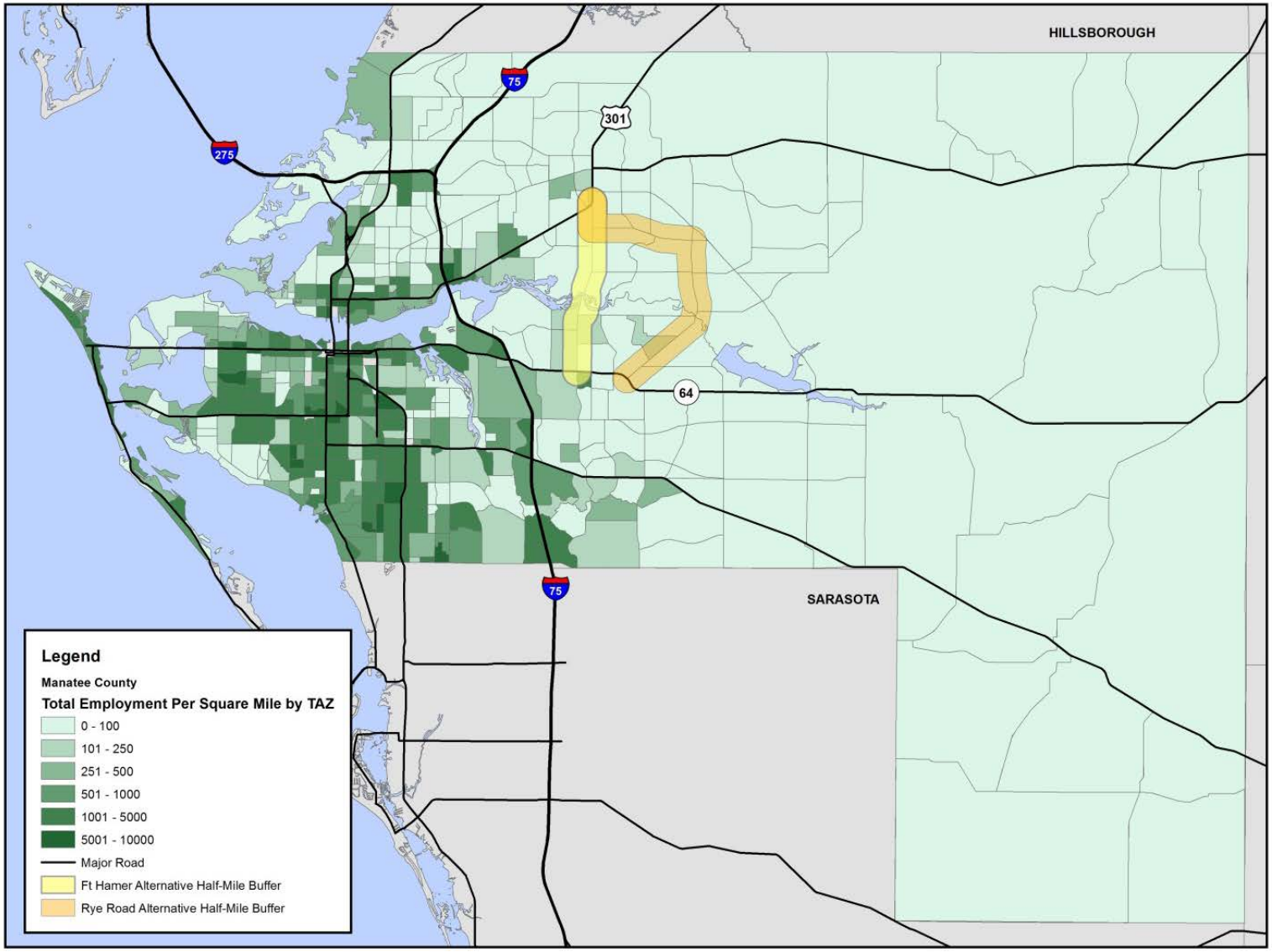
Relevant information regarding the existing economic condition in Manatee County and the alternative's study areas is presented in **Table 3-4**. The information presented in Table 3-4 is based at the Census tract level, and incorporates those tracts that are present within 0.5-mile of an alternative's centerline. The tracts included in the economic analysis are consistent with those presented in the discussion of population in Section 3.1.1.1 and depicted in **Figure 3-2**.

TABLE 3-4
2011 EMPLOYMENT BY INDUSTRY

Industry	Florida		Manatee County		Fort Hamer Alternative Study Area		Rye Road Alternative Study Area	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Agriculture, forestry, fishing and hunting, mining	95,306	1.2	2,472	1.9	255	1.9	312	2.2
Construction	638,036	7.7	10,647	8.0	720	5.3	786	5.5
Manufacturing	466,379	5.6	10,643	8.0	1,432	10.5	1,464	10.2
Wholesale trade	252,245	3.1	3,474	2.6	390	2.9	429	3.0
Retail trade	1,085,541	13.1	19,906	14.9	1,830	13.4	1,997	13.9
Transportation and warehousing, utilities	428,201	5.2	5,296	4.0	560	4.1	704	4.9
Information	181,479	2.2	2,307	1.7	273	2.0	244	1.7
Finance and insurance, real estate, rental and leasing	653,080	7.9	9,885	7.4	987	7.2	1,101	7.7
Professional, scientific, management, administrative, waste management	995,089	12.0	15,431	11.6	2,126	15.5	2,086	14.5
Educational services, health care and social assistance	1,692,745	20.5	28,190	21.1	2,744	20.1	2,992	20.8
Arts, entertainment, recreation, accommodation and food services	929,210	11.3	12,084	9.1	979	7.2	920	6.4
Other services, except public administration	437,984	5.3	7,120	5.3	420	3.1	364	2.5
Public Administration	403,216	4.9	5,881	4.4	967	7.1	966	6.7
Total Employment	**8,258,511**	**100**	**133,336**	**100**	**13,683**	**100**	**14,365**	**100**

Source: ACS, 2011a.

FIGURE 3-2
TOTAL EMPLOYMENT PER SQUARE MILE BY TAZ



Source: MPO, 2011.

Industry

The 2011 American Community Survey (ACS) statistics on existing industry show that economic activity within the State of Florida is focused on the service and tourism industries. Similarly, activity within the Manatee County industry is focused in several segments of the service sector, with the largest shares of employment falling in Educational Services, Health Care, and Social Assistance; Retail Trade; and Professional, Scientific, and Management, and Administrative Services.

Industry figures compiled from the 2010 U.S. Census tracts that fall within the study area of each build alternative show that the type of industry found locally generally reflects those present at the state and county levels. Additionally, the data shows that though most sectors are similar in proportion to the state and county averages, locally manufacturing represents a share of the economy that is nearly twice that reported state-wide. See Table 3-4 for total employment by industry.

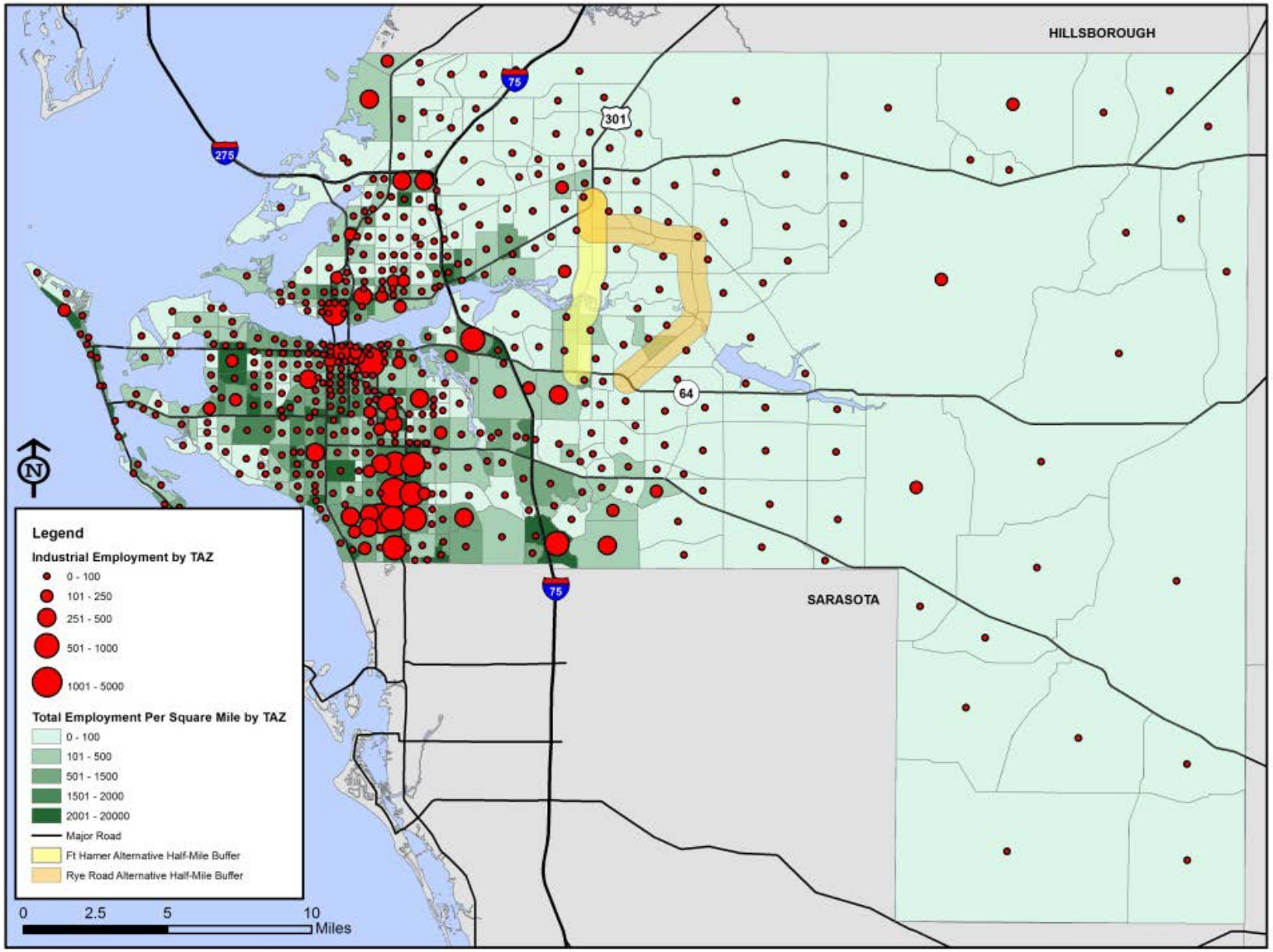
Overall, approximately 10.3 percent of employment within Manatee County falls within the vicinity of the Fort Hamer Alternative and approximately 10.8 percent of county employment falls within the 2010 U.S. Census tracts affected by the Rye Road Alternative.

Employment

Figure 3-2 provides a depiction of the distribution of employment across both alternatives' study areas. Employment data for the base year (2007) of the SMC Model was used in development of the map in place of 2011 ACS Block Group data due to high sampling errors in the ACS data. The map depicts total employment by Traffic Analysis Zone (TAZ) by square mile. Note that the vast majority of employment in Manatee County is located west of Interstate 75 (I-75).

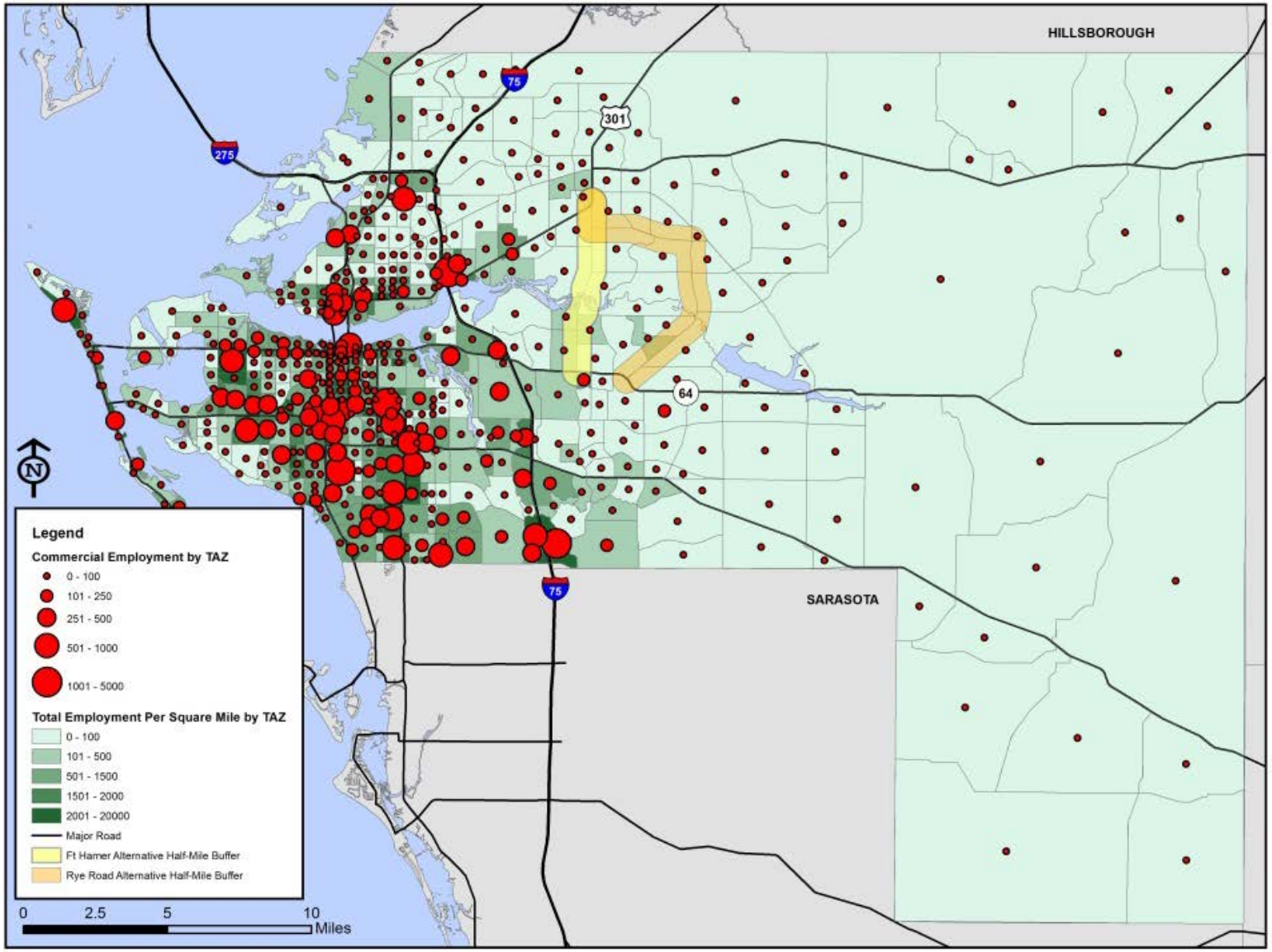
Figures 3-3 through **3-5** present the location of employment within Manatee County by employment sector. The TAZ employment data is divided into three basic groupings to include Industrial, Commercial, and Service. The maps show that the majority of the employment occurring along either alternative corridor is generally related to the service industry. The commercial and industrial activity is focused on either U.S. Highway 301 (US 301) or State Road 64 (SR 64). Many of those areas showing the highest density of employment along both corridors corresponds with the location of identified schools and golf courses. The concentration of employment north of the alignments is centered in the rural community of Parrish, and the major employment activity south of SR 64 is part of the master planned Lakewood Ranch development.

FIGURE 3-3
INDUSTRIAL EMPLOYMENT



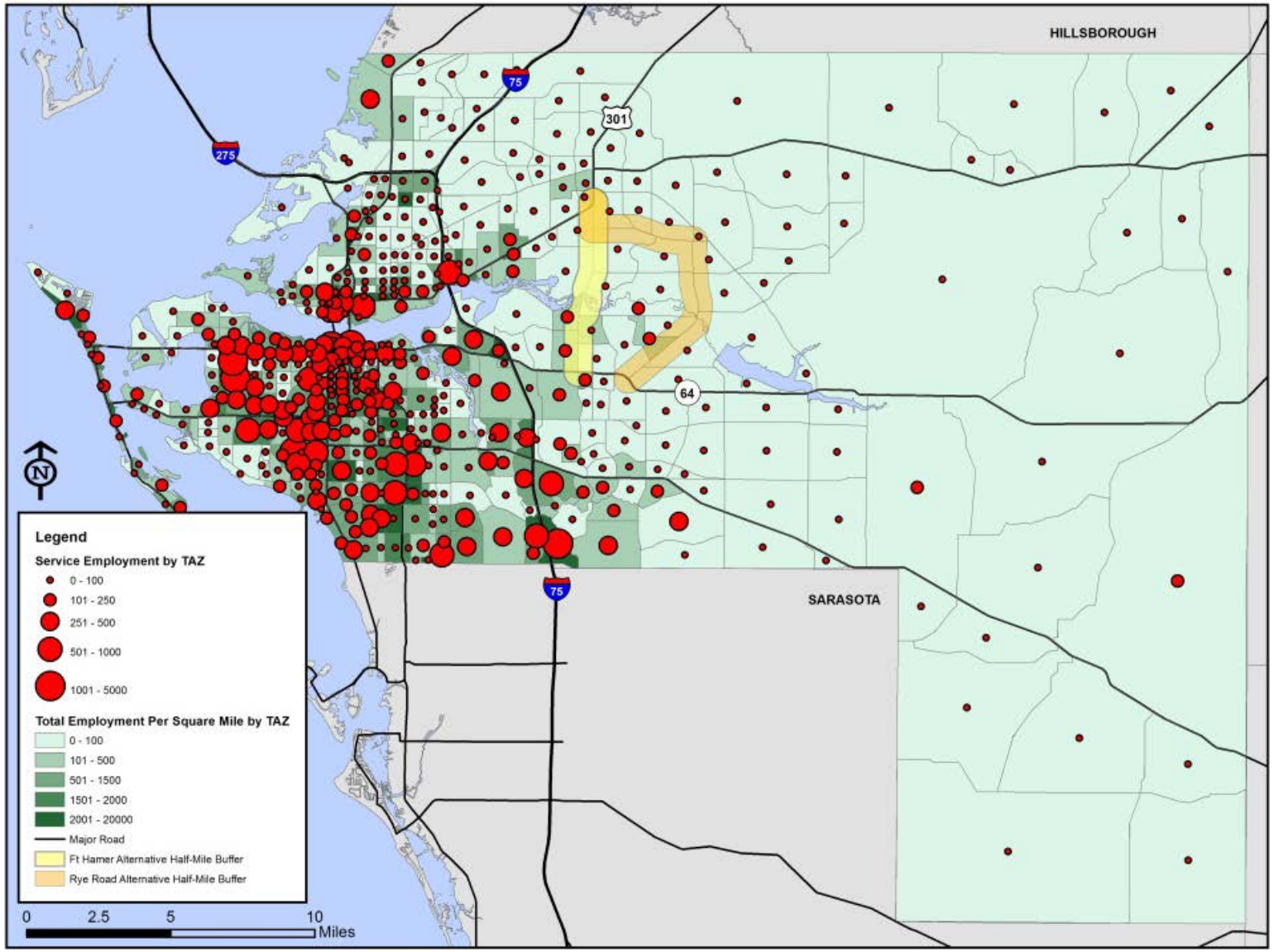
Source: MPO, 2011.

FIGURE 3-4
COMMERCIAL EMPLOYMENT



Source: MPO, 2011.

FIGURE 3-5
SERVICE EMPLOYMENT

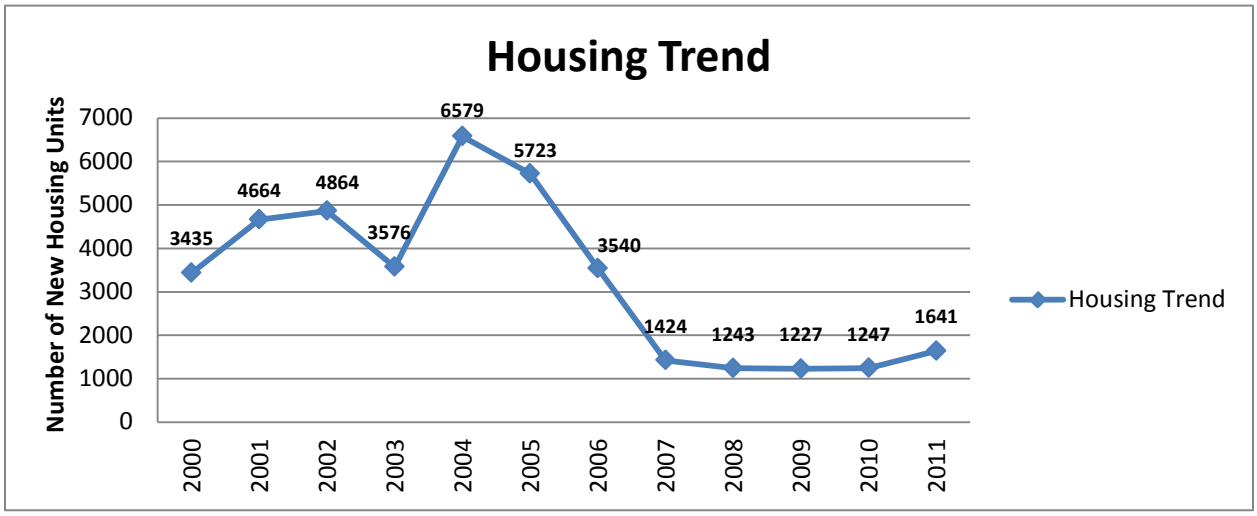


Source: MPO, 2011.

Housing Industry

Historically the housing industry has accounted for a large portion of the economy in Manatee County. Due in part to its proximity to major employment centers such as St. Petersburg, Tampa, Bradenton, and Sarasota, and despite the current sluggish Florida economy, Manatee County continues to sustain a robust housing industry. Though the recent economic downturn affected the rate of development within the county, recent U.S. Census Housing Data (Census, 2011) show that the housing market in Manatee County has started to recover from the low of 1,227 new housing units constructed in 2009. It is important to note that even as the housing market slowed, Manatee County continued adding new homes. The rate of construction of new housing units in the County never dipped below 1,225 homes in a single year, a rate the County has maintained for more than a decade. **Figure 3-6** depicts the housing starts in Manatee County over the 2000-2011 timeframe.

FIGURE 3-6
MANATEE COUNTY HOUSING STARTS (2000-2011)



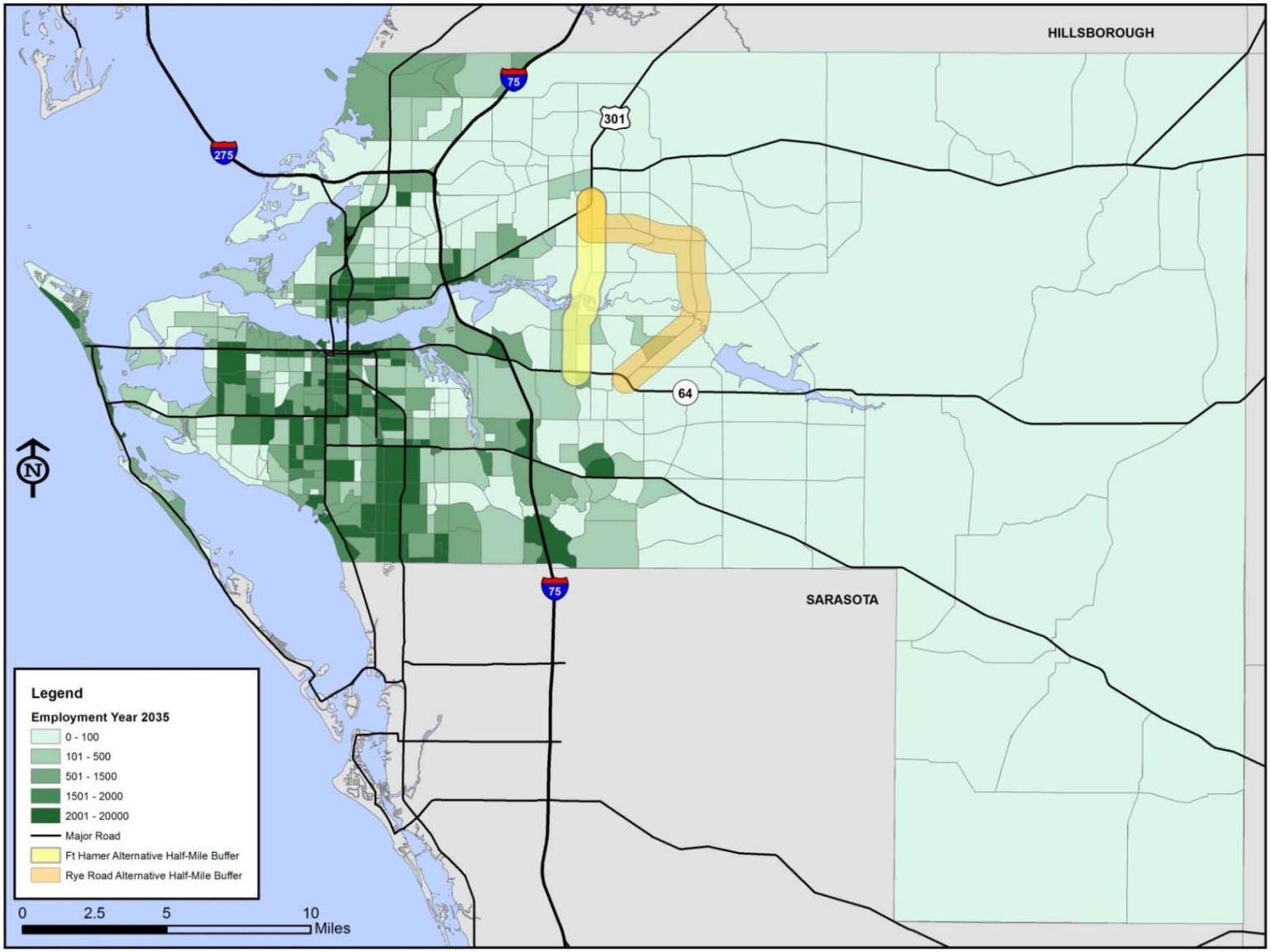
Source: Census, 2011.

Projected Employment

Figure 3-7 provides a depiction of the distribution of employment across both alternatives' study areas. Employment for year 2035 of the SMC Model was used in development of the map. The map depicts total employment by TAZ by square mile. Note that the vast majority of employment in Manatee County remains located west of I-75, and does not expand within the project area.

Socioeconomic impacts are discussed in Section 4.1.1.

FIGURE 3-7
YEAR 2035 TOTAL EMPLOYMENT PER SQUARE MILE BY TAZ



Source: MPO, 2011.

3.1.2 LAND USE CHARACTERISTICS

This section describes the character of existing and future land use within the Fort Hamer Alternative and Rye Road Alternative study areas.

Local Plan Consistency: The Fort Hamer Alternative is identified in both the Future Thoroughfare Map Series and Capital Improvement Element presented as part of Manatee County's Comprehensive Plan. Additionally, the project is listed as a Financially Feasible Project in the Sarasota/Manatee MPO's 2035 Long Range Transportation Plan (LRTP) (MPO, 2012). Finally, the project is identified in the Manatee County's 2013-2017 Capital Improvements Program (CIP) (Manatee County BOCC, 2012). Neither the Rye Road Alternative nor the No-Build Alternative is currently consistent with these plans and would require plan amendments and updates.

3.1.2.1 Existing Land Uses

Existing land use adjacent to the Fort Hamer Alternative and Rye Road Alternative is generally characterized by residential development (both existing and under construction). Many of the older single-family homes exist on larger rural parcels while other, typically newer homes, are located in higher density subdivisions. The commercial and industrial use found within both study areas is focused along SR 64 and US 301. The Fort Hamer County Park, Rye Preserve, and proposed Hidden Harbour Park occupy central areas of each corridor adjacent to the Manatee River.

As shown in **Table 3-5**, the Fort Hamer Alternative Study Area covers approximately 4,344 acres in central Manatee County. The two predominant types of land use present within the study area are residential (49.5 percent) and agricultural (29.2 percent). Land designated as mixed use and villages combines to account for 16.9 percent of the study area while commercial, industrial, public, and non-designated land combine to account for the remaining 4.4 percent. Though not made apparent through the existing zoning designations or in Table 3-5, approximately 250 acres (5.8 percent) within the Fort Hamer Alternative Study Area are dedicated to public/recreational use.

Table 3-6 shows the existing land use within the Rye Road Alternative Study Area. Agriculture (61.3 percent) represents the predominant land use within the study area followed by residential development (31.0 percent). Large segments of Rye Road near the Manatee River remain primarily rural in character. Portions of Rye Road Alternative near SR 64 and US 301 retain a more suburban character.

TABLE 3-5
ZONING WITHIN THE FORT HAMER ALTERNATIVE STUDY AREA

Land Use	Acreage	Percent of Area
General Agriculture (A)	285	6.6
Suburban Agriculture (A-1)	984	22.7
General Commercial (GC)	14	0.3
Planned Development Commercial (PD-C)	19	0.4
Planned Development Industrial (PD-I)	7	0.2
Planned Development Mixed Use (PD-MU)	600	13.8
Planned Development Public Interest (PD-PI)	46	1.1
Planned Development Residential (PD-R)	2,062	47.5
Residential Single Family (RSF-1)	64	1.5
Residential Single Family (RSF-3)	23	0.5
Villages (VIL)	133	3.1
Non-Designated (Manatee River)	106	2.4
Total	**4,344**	**100.0**

Source: Manatee County, 2012a.

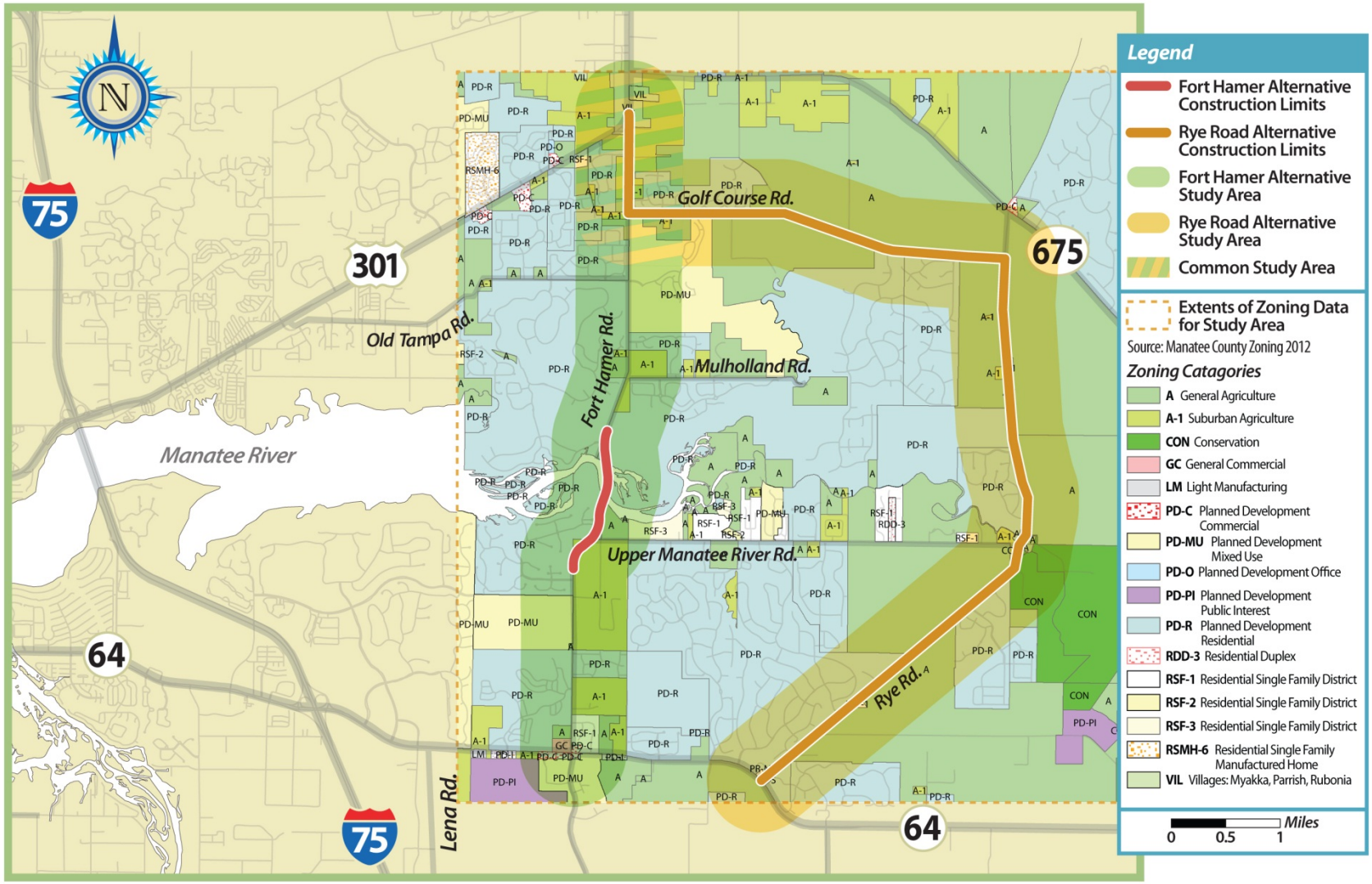
TABLE 3-6
ZONING WITHIN THE RYE ROAD ALTERNATIVE STUDY AREA

Land Use	Acres	Percent of Study Area
General Agriculture (A)	3,842	54.5
Suburban Agriculture (A-1)	476	6.8
Conservation (CON)	189	2.7
Neighborhood Commercial Small (NC-S)	3	0.0
Planned Development Commercial (PD-C)	5	0.1
Planned Development Mixed Use (PD-MU)	183	2.6
Planned Development Public Interest (PD-PI)	5	0.1
Planned Development Residential (PD-R)	2,185	31.0
Professional Medium (PR-M)	3	0.0
Residential Single Family (RSF-1)	24	0.3
Villages (VIL)	133	1.9
Total	**7,048**	**100.0**

Source: Manatee County, 2012a.

Figure 3-8 shows the existing zoning within the project area.

FIGURE 3-8
2010 ZONING MAP



Source: Manatee County, 2012a.

Neither study area intersects a Development of Regional Impact (DRI). A DRI is defined by Chapter 380.06(1), Florida Statutes (F.S.) as any development that would have a substantial impact on the health, safety, or welfare of citizens in more than one county. DRIs are classified based on supported activity, and within Manatee County generally must exceed 2,000 residential units or 400,000 square feet (sf^2) of commercial/retail space. Both alternatives avoid direct impacts to singular large scale developments; however, both pass within close proximity of several sub-DRI projects. **Table 3-7** lists future development planned within the project area. **Figure 3-9** provides a depiction of the location of the planned future development. Both Table 3-7 and Figure 3-9 include those projects that are currently classified as "approved" or "pending" by Manatee County. Several of the "approved" developments are in phases of active development, but have not yet reached completion.

TABLE 3-7
PENDING/APPROVED RESIDENTIAL DEVELOPMENT

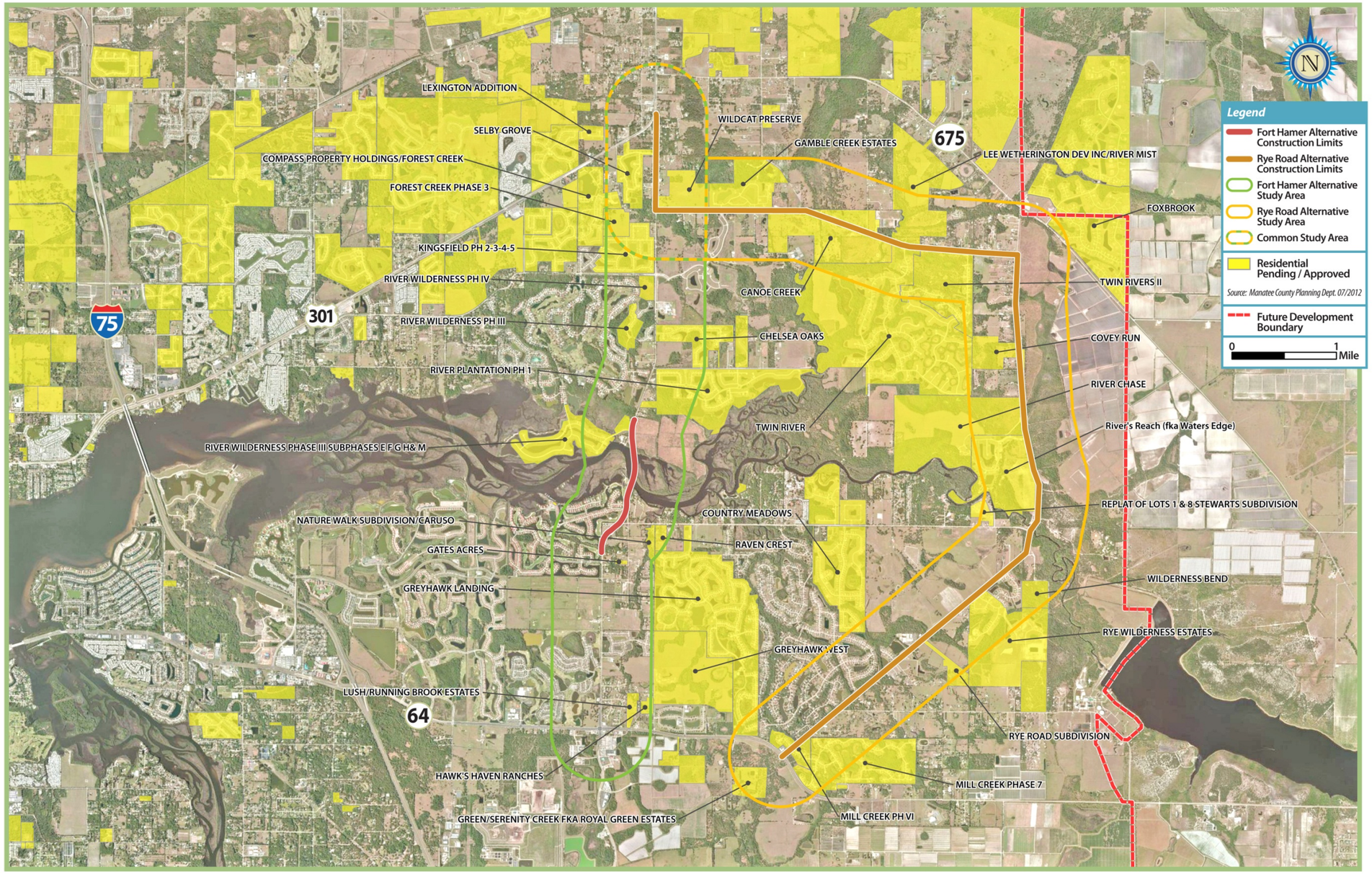
Fort Hamer Alternative Study Area Developments	Rye Road Alternative Study Area Developments	
Warner Crossing	Serenity Creek	Covey Run
Running Brook Estates	Circle C Subdivision	River Mist
Hawk's Haven Ranches	Rye Road Subdivision	Canoe Creek
Nature Walk Subdivision	Rye Wilderness Estates	Palmetto Pines
Raven Crest	Wilderness Bend	Wilderness Estates on Gamble Creek
Wildcat Preserve	Stewarts Subdivision	Wild Cat Preserve
Denali Acres Subdivision	River Chase	Denali Acres Subdivision

Source: Manatee County BOCC, 2012.

3.1.2.2 Future Land Use

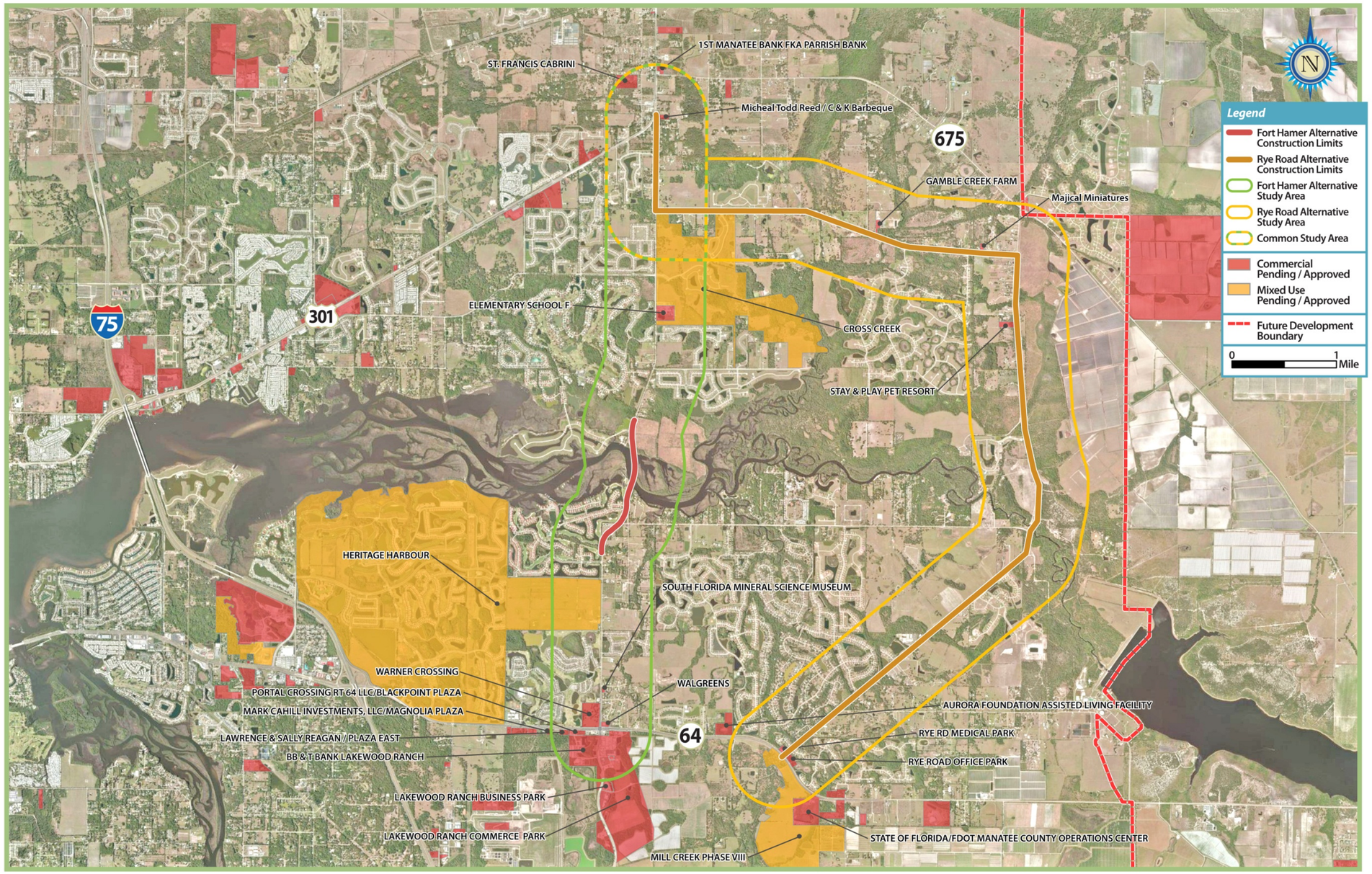
Manatee County's Comprehensive Plan establishes the basis for land development in Manatee County over a 20-year planning horizon. The document provides a series of goals, objectives, and policies that are intended to guide the location, character, and rate of growth within the county. The Comprehensive Plan contains several elements that guide future development including intergovernmental coordination, recreation and open space, coastal management, conservation, general facilities, housing, transportation, capital improvement, and future land use elements (Manatee County, 2010).

The Future Land Use Element defines allowable use by type of activity and sets standards for the intensity of development (Manatee County, 2012b). The future land use is accompanied by Manatee County's 2030 Future Land Use Map, which defines the areas of use geographically. The map includes an Urban Services Boundary, which defines the limit to which public services such as sewer and water would be extended by year 2030, and generally defines the future limit of urbanized development.



Source: Manatee County, 2013.

FIGURE 3-9A
PLANNED FUTURE RESIDENTIAL
DEVELOPMENT IN THE PROJECT AREA



Source: Manatee County, 2013.

FIGURE 3-9B
PLANNED FUTURE COMMERCIAL AND MIXED USE DEVELOPMENT IN THE PROJECT AREA

The Future Land Use Map (**Figure 3-10**) shows that both study areas occur within the Manatee County urban services area and that the majority of the land along each of the alternatives is designated to support future residential and mixed-use development. **Table 3-8** summarizes the future land use in both the Fort Hamer Alternative and Rye Road Alternative study areas.

TABLE 3-8
FUTURE LAND USE (YEAR 2030)

Land Use	Fort Hamer Alternative Study Area		Rye Road Alternative Study Area	
	Acres	Percent of Area	Acres	Percent of Area
Agriculture/Rural (AG-R)	126	2.9	9	0.1
Conservation Lands (CON)	0	0.0	184	2.6
Industrial-Light (IL)	73	1.7	0	0.0
Mixed Use (MU)	21	0.5	60	0.9
Mixed Use Community (MU-C)	34	0.8	0	0.0
Public/Semi-Public 1 (P/SP-1)	46	1.1	1	0.0
Residential – 6 DU/GA (RES-6)	222	5.1	222	3.2
Retail/Office/Residential (ROR)	103	2.4	0	0.0
Major Recreation/Open Space (R-OS)	82	1.9	49	0.7
Urban Fringe – 3 DU/GA (UF-3)	3,637	83.7	6,521	92.5
Total	**4,344**	**100.0**	**7,046**	**100.0**

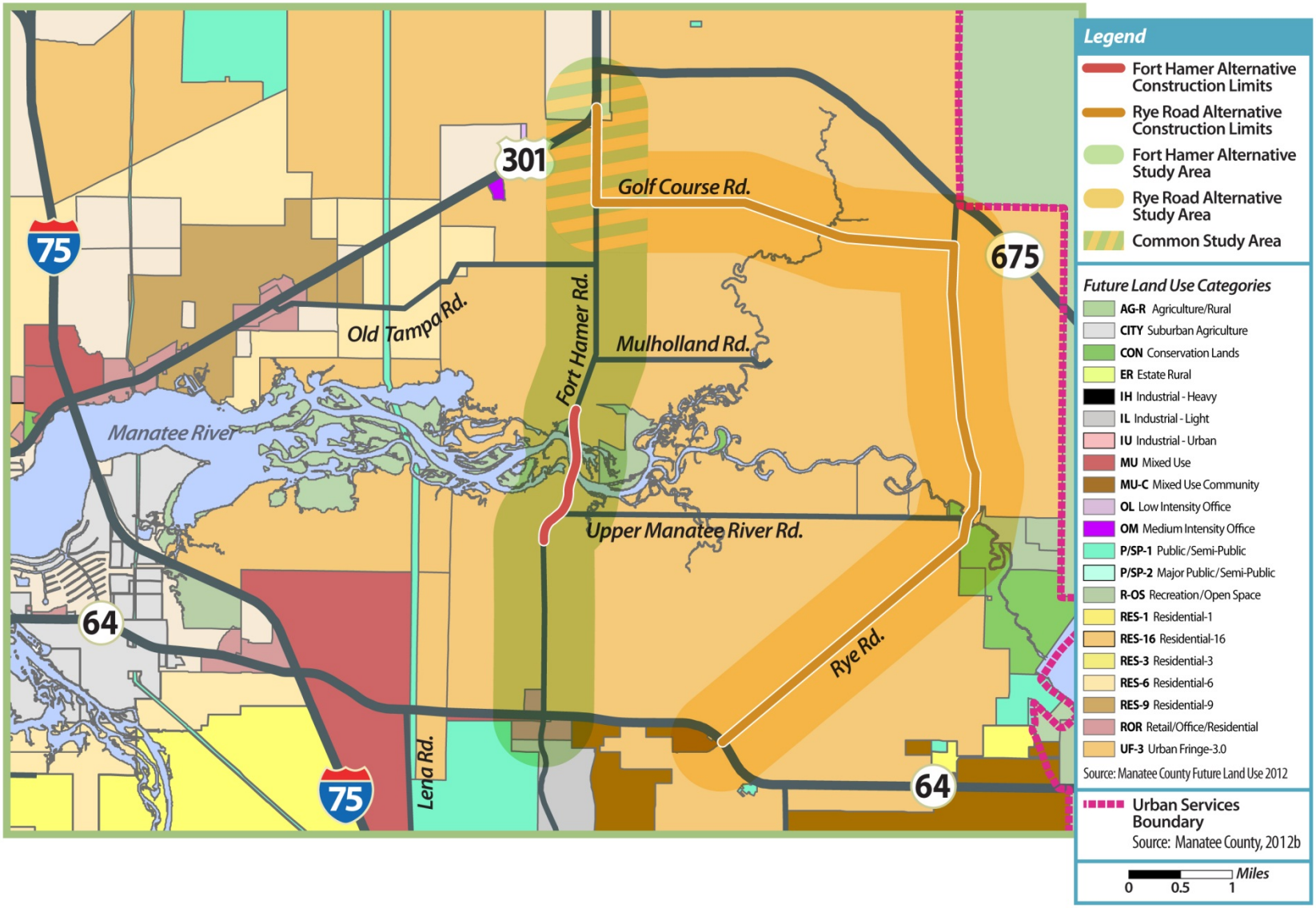
Note: Numbers may not add due to rounding.
Source: Manatee County, 2012b.

Land use impacts are discussed in Section 4.1.2.

3.1.3 TRAFFIC

The Transportation Research Board's (TRB's) *Highway Capacity Manual* (HCM) defines the operational characteristics of roadways based upon traffic, roadway geometry, and presence and number of traffic signals (TRB, 2010). The level of service (LOS) is measured based upon six service flow rates – LOS A through LOS F. LOS A represents free flow traffic conditions where vehicles are unaffected by the presence of other vehicles in the traffic stream. LOS B is representative of stable traffic stream where other vehicles are noticeable. LOS C is representative of the traffic stream where the maneuverability of vehicles are noticeability affected by other vehicles. LOS D represents dense, but stable traffic flow where the speed and maneuverability are severely restricted. LOS E traffic conditions become unstable where the speeds are low along with minor interruptions and the traffic volume approaches the capacity of the road. LOS F is where the traffic volume exceeds the road capacity characterized by queues in which the traffic stream experiences stop and go conditions. For more information see Appendix B. Manatee County has adopted LOS D as their standard in its 2035 LRTP (MPO, 2012).

FIGURE 3-10
2030 FUTURE LAND USE MAP AND URBAN SERVICES AREA BOUNDARY

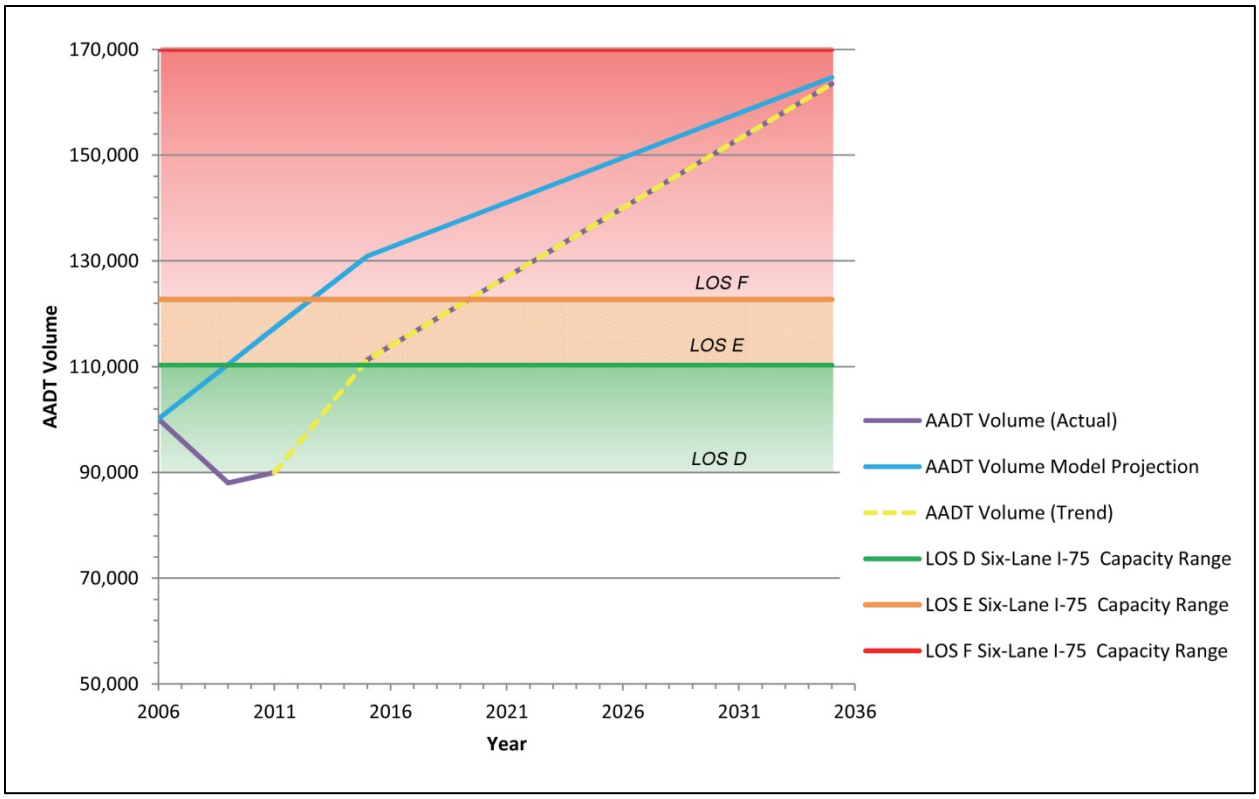


Source: Manatee County, 2012b.

Annual Average Daily Traffic (AADT) volumes were obtained from the Sarasota/Manatee MPO for the roadway segments listed in **Table 3-9** for the 2011 and future 2015 and 2035 No-Build Alternative. **Figure 3-11** shows the modeled AADT volumes on I-75 between SR 64 and US 301 during the period 2006-2035. The graph also shows the actual AADT volumes on this segment of I-75 from 2006-2011. In 2006, I-75 between SR 64 and US 301 had a volume of 100,100 vehicles per day (vpd) and operated at LOS D. By 2009, the AADT volume had decreased to 88,000 vpd (LOS C) as a result of the economic recession, but then rebounded to 90,500 vpd (LOS C) in 2011. As shown in Figure 3-11, the modeled volumes during the period 2006-2011 were noticeably higher than the actual volumes observed; this is due to the model not taking into account the effects of the recession. Although the modeled results are greater than the observed vpd on this segment of I-75 from 2006-2011, this model is the only tool currently available to estimate future traffic volume on this roadway segment. This model was last updated by the Sarasota/Manatee MPO in March 2011.

Traffic impacts are discussed in Section 4.1.3.

FIGURE 3-11
I-75 (SR 64 TO US 301) AADT VOLUMES AND LOS SIX-LANE I-75 CAPACITY



Sources: FDOT, 2010. Actual AADT Volumes – FDOT, 2011b. *Fort Hamer Road Bridge Traffic Technical Memorandum*, URS, May 2013 (Appendix B).

TABLE 3-9
EXISTING (2011) AND FUTURE (2015 AND 2035) NO-BUILD ALTERNATIVE TRAFFIC AND LOS

Roadway	From	To	Existing 2011 AADT	No-Build Capacity[3]	Existing LOS[2]	2015 No-Build AADT	No-Build Capacity[3]	2015 No-Build LOS[2]	2035 No-Build[1] AADT	No-Build Capacity[3]	2035 No-Build LOS[2]
Upper Manatee River Rd.	SR 64	Waterlefe Blvd.	8,300	14,200	B	9,100	14,200	B	14,500	14,200	F
	Waterlefe Blvd.	Gates Creek Rd.	5,500	14,200	B	5,900	14,200	B	9,800	14,200	D
	Gates Creek Rd.	Manatee River	N/A		-	-		-	-		-
Fort Hamer Rd.	Manatee River	Mulholland Rd.	300	14,200	B	1,400	14,200	B	2,100	14,200	B
	Mulholland Rd.	Old Tampa Rd.	2,700	14,200	B	3,700	14,200	B	2,100	14,200	B
	Golf Course Rd.	US 301	1,900	14,200	B	5,200	14,200	B	10,500	14,200	C
Rye Rd.	SR 64	Upper Manatee River Rd.	5,700	14,200	B	7,000	14,200	C	15,600	14,200	F
	Upper Manatee River Rd.	Golf Course Rd.	2,800	14,200	B	2,900	14,200	B	19,800	14,200	F
Golf Course Rd.	Rye Rd.	Fort Hamer Rd.	1,800	14,200	B	1,100	14,200	B	11,500	14,200	C
I-75[1]	SR 64	US 301	90,500	122,700	C	130,900	122,700	F	164,700	122,700	F

[1] I-75 is currently six lanes; an eight-lane design is approved but construction is unfunded.
[2] LOS – Level of Service (A-F) defined by the TRB's HCM (TRB, 2010).
[3] Capacities – FDOT, 2010.
AADT = Annual Average Daily Traffic.

3.1.4 COMMUNITY COHESION

Historically, both the Fort Hamer Road/Upper Manatee River Road and Rye Road/Golf Course Road corridors were predominantly rural areas supporting low-density residential development and agriculture. However, the rural character of the area has changed dramatically in the past two decades as large-scale residential development replaced farms and rural homesteads. Fort Hamer Road, Upper Manatee River Road, Rye Road, and Golf Course Road now support multiple master-planned residential developments including Rye Wilderness Estates, River Wilderness, Kingsfield, River Chase, Greenfield Plantation, Waterlefe, Gates Creek, and Windsong. Large residential developments, as described previously in Section 3.1.2, are now planned and permitted for much of the remaining undeveloped lands found along both project corridors.

Typically, community connections present within this area of Manatee County occur within the distinct developments. Many of the larger residential developments are gated and include common areas and community centers that provide services only to the residents of that development. Many of these master-planned communities incorporate an internal focus including centralized roadway and pedestrian networks with limited connectivity to adjacent neighborhoods or developments. The internal focus of these neighborhoods serves to buffer them from activities that occur beyond the bounds of the development.

The development pattern and infrastructure elements present in this portion of Manatee County foster an environment where movement between neighborhoods is reliant upon the use of an automobile. Many of the community focal points and infrastructure elements that would facilitate the face to face interaction of residents from neighboring communities are sited along collector roadways which are located outside of the centrally focused neighborhoods.

Community Cohesion impacts are discussed in Section 4.1.4.

3.1.5 RELOCATION POTENTIAL

The term “relocation potential” makes reference to the potential for the displacement of occupants of areas located along the proposed alternatives as a result of right-of-way (ROW) expansion. The occupants of the affected areas may include elements such as individuals, families, households, businesses, government activities, or property only.

As previously described in Chapter 2, a major consideration in the selection of the two build alternatives was their use of existing roadways and minimization of potential conflicts with existing developments and residences.

The No-Build Alternative does not include any additional road capacity improvements and, thus would have no potential for a relocation impact.

The Fort Hamer Alternative, passes within close proximity of several master planned residential developments, single-family homes, golf courses, regional park, church, and an elementary school. As described previously in Chapter 2, the Fort Hamer Alternative would maintain two lanes of travel along the length of the project and require a 48-foot typical section. Additionally, the Fort Hamer Alternative would require the acquisition of new ROW to provide the connection between Upper Manatee River Road and Fort Hamer Road.

Much like the Fort Hamer Alternative, the Rye Road Alternative passes through an area supporting a mix of residential development, a school, golf courses, regional park, and a church. The typical section for the Rye Road Alternative would require 110 feet of ROW along Rye Road, Golf Course Road, and Fort Hamer Road; and 138 feet at the Manatee River Crossing. The Rye Road Alternative would involve the widening of Rye Road, Golf Course Road, and northern end of Fort Hamer Road from two to four lanes.

Relocation impacts are discussed in Section 4.1.5.

3.1.6 COMMUNITY SERVICES AND FACILITIES

Community facilities provide a focal point for adjacent neighborhoods and communities, as well as serving the needs of the surrounding areas. For the purpose of this study, community facilities include religious centers, schools, parks and recreation areas, public facilities, and pedestrian/bicycle facilities. The presence of each of these facilities within the Fort Hamer and Rye Road Alternatives' Study Areas are described below.

3.1.6.1 Religious Centers

A total of four religious centers are located within the Fort Hamer Alternative Study Area as shown on **Figure 3-12**. Christ Presbyterian Church is located on Upper Manatee River Road approximately 0.5 mile north of SR 64. Parrish United Methodist Church, St. Frances X Cabrini Catholic Church, and First Baptist Church-Parrish are all located on the west side of US 301 just north of the Fort Hamer Road/US 301 intersection.

Four religious centers are also located within the Rye Road Alternative Study Area. These include the aforementioned Parrish United Methodist Church, St. Frances X Cabrini Catholic Church, and First Baptist Church-Parrish in addition to the Garden Community Church which meets in the Gene Witt Elementary School located on Rye Road approximately 1.5 miles north of SR 64.

FIGURE 3-12
RELIGIOUS CENTERS AND SCHOOLS WITHIN THE FORT HAMER ALTERNATIVE AND RYE ROAD ALTERNATIVE STUDY AREAS

Sources: Manatee County, 2012c. University of Florida, 2009a.

3.1.6.2 Schools

One existing educational facility is located within the Fort Hamer Alternative Study Area; the Annie Lucy Williams Elementary School, with an enrollment of 725 students, is located on the east side of Fort Hamer Road between Old Tampa Road and Mulholland Road. A second educational facility, a high school, is in the conceptual stages of development, and is planned for an area east of Fort Hamer Road just north of the Manatee River.

The Gene Witt Elementary School, with an enrollment of 561 students, is the only educational facility located within the Rye Road Alternative Study Area. This school is sited on the west side of Rye Road approximately 1.5 miles north of the Rye Road/SR 64 intersection. Figure 3-12 shows the location of these two schools.

3.1.6.3 Parks and Recreation Areas

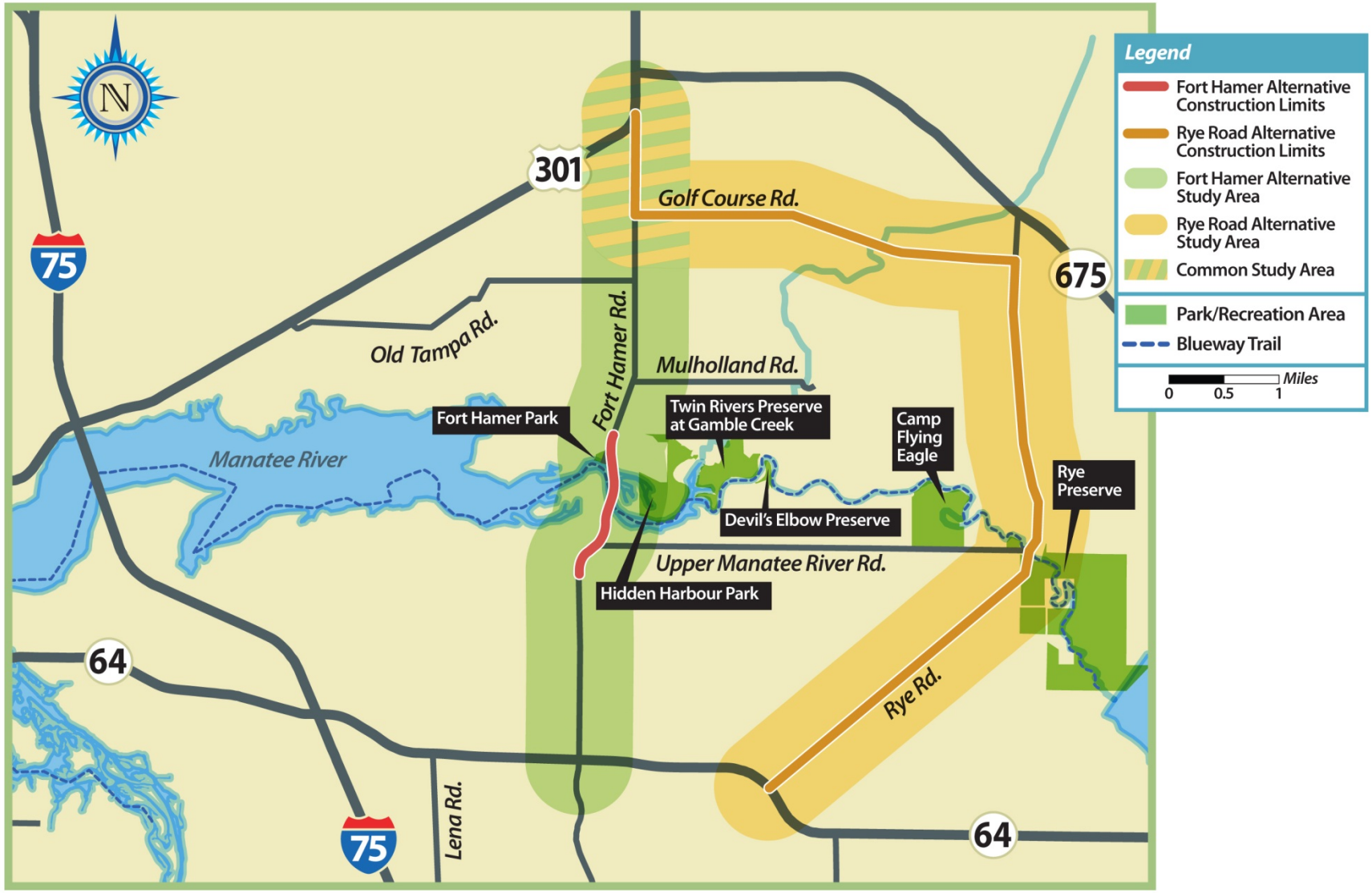
One existing park is located within the Fort Hamer Alternative Study Area (see **Figure 3-13**). Fort Hamer Park is located at the southern terminus of Fort Hamer Road along the north bank of the Manatee River. This park is owned and managed by Manatee County and was recently improved with the addition of a collegiate rowing facility, including a boat storage building, crew training facility, public restrooms, and public boat launching amenities.

The site of the future Hidden Harbour Park is also located within the Fort Hamer Alternative Study Area on the east side of Fort Hamer Road and adjacent to the Manatee River. The site is owned by Manatee County and development of the park is scheduled to begin in 2013. The Manatee County CIP lists $5.7 million in funding for development of the park with $967,703 in funding allocated in Fiscal Year (FY) 2013 (Manatee County BOCC, 2012). The proposed regional park is being designed in collaboration with a future high school, which would occupy approximately 90 acres of the 210-acre site. When complete, the park would provide numerous ball fields, a playground, picnic shelters, boardwalks and trails, observation decks, and a canoe/kayak launch.

Within the Rye Road Alternative Study Area, the Rye Preserve occupies 145 acres on both sides of Rye Road where it crosses the Manatee River. Portions of this park were originally acquired in 1986 with a grant from the National Park Service Land and Water Conservation Fund. At that time, the recreation area located north of the Manatee River and east of Rye Road was named "Rye Wilderness Park." Manatee County has since expanded the recreation area and renamed the facility "Rye Preserve." The Preserve features hiking trails, horseback trails, picnic areas, playground, and a canoe/kayak launch, in addition to camping and fishing opportunities.

The Manatee River Blueway Trail is a County-designated paddling trail that passes through both the Fort Hamer Alternative and Rye Road Alternatives study areas. The Blueway Trail follows the Manatee River from the dam at Lake Manatee to the Gulf of Mexico and includes the canoe/kayak launch at Rye Preserve.

FIGURE 3-13
PARK AND RECREATION FACILITIES WITHIN THE FORT HAMER ALTERNATIVE AND RYE ROAD ALTERNATIVE STUDY AREAS



Source: Manatee County, 2012d.

3.1.6.4 Public Facilities

Public facilities include fire and police stations, post offices, libraries, water treatment plants, and other government facilities that provide services to the public (religious centers, schools, and parks are covered separately above). Within the Fort Hamer Alternative Study Area, a U.S. Post Office and the Parrish Fire Control District Fire Department are located on US 301 approximately 500 feet north of the Fort Hamer Road/US 301 intersection (see **Figure 3-14**). No public facilities are located along Fort Hamer Road and Upper Manatee River Road.

Four public facilities are located within the Rye Road Alternative Study Area. The Parrish Fire Department and U.S. Post Office are located north of the Fort Hamer/US 301 intersection. The East Manatee Fire Department Station 3 is located on the west side of Rye Road approximately 1.5 miles north of the Rye Road/SR 64 intersection. A Manatee County Reclaimed Water facility is located just east of Rye Road at the Waterline Road intersection.

3.1.6.5 Pedestrian/Bicycle Facilities

Intermittent sidewalks currently exist along the Fort Hamer corridor. Existing sidewalks are adjacent to Greenfield Plantation and Waterlefe subdivisions along Upper Manatee River Road and adjacent to Kingsfield subdivision on Fort Hamer Road. Based on the Needs Plan included in the Sarasota/Manatee MPO's 2035 LRTP, no bicycle facilities currently are planned within the Fort Hamer Alternative Study Area; however, the LRTP does identify a trail alignment that passes along the north side of the Manatee River connecting Rye Preserve with Fort Hamer Park (MPO, 2012). This trail is currently identified as a future need. The feasibility of construction of the project is reasonable as Manatee County is working through exactions to obtain passage through private lands. Ordinances authorizing the rezoning of two private properties (River Chase and River's Beach), both of which are located between the two parks, include a statement that requires the development of a recreation/nature trail. Conversation with Manatee County Parks and Recreation staff affirmed that although funding is currently unavailable for near-term development of the trail, the desire to construct the facility exists.

Similar to the conditions observed within the Fort Hamer Alternative Study Area, sidewalks occur as a fragmented network along the Rye Road Alternative. A continuous sidewalk is present along Rye Road from SR 64 north to 167th Boulevard NE, a distance of approximately 2.5 miles. Sidewalks occur again proximate to the River's Reach development and along portions of Fort Hamer Road. Currently, based on the Needs Plan included in the LRTP, there are no bicycle facilities planned within the Rye Road Alternative Study Area.

FIGURE 3-14
PUBLIC FACILITIES WITHIN THE FORT HAMER ALTERNATIVE AND RYE ROAD ALTERNATIVE STUDY AREAS

Sources: University of Florida, 2008 and 2009b.

3.1.7 ENVIRONMENTAL JUSTICE POPULATIONS

In February 1994, the President of the United States issued Executive Order 12898 (Environmental Justice) requiring federal agencies to analyze and address, as appropriate, disproportionately high adverse human health and environmental effects of federal actions on ethnic and cultural minority populations and low-income populations, when such analysis is required by the *National Environmental Policy Act of 1969* (NEPA). An adverse effect on minority and/or low-income populations occurs when:

1. The adverse effect occurs primarily to a minority and/or low-income population, or

2. The adverse effect suffered by the minority and/or low-income population is more severe or greater in magnitude than the adverse effect suffered by the non-minority and/or non-low-income populations.

In addition to compliance with Executive Order 12898, any proposed federal project must comply with the provisions of *Title VI of the Civil Rights Act of 1964*, as amended by *Title VIII of the Civil Rights Act of 1968*. Title VI provides that no person will, on the grounds of race, color, religion, sex, national origin, marital status, disability, or family composition be excluded from participation in, be denied the benefits of, or be otherwise subject to discrimination under any program of the federal, state, or local government. Title VIII guarantees each person equal opportunity in housing.

3.1.7.1 Assessment of the Population

To address the requirements of the policies outlined above, the presence of minority and low income populations were assessed within the area of the proposed alternatives. Criteria outlined in, *Environmental Justice, Guidance Under the National Environmental Policy Act*, published by the Council on Environmental Quality (CEQ) in December 1997, were used to guide the examination of potential environmental justice effects (CEQ, 1997). The following three points were taken from the CEQ guidance to establish the presence of a population protected by Executive Order 12898:

1. The minority or low-income population exceeds 50% in the impacted area.

2. The minority or low-income population percentage in the impacted areas is "meaningfully greater"[1] than the minority or low-income population in the general population or other appropriate geographic area.

3. There is more than one minority or low-income group present and the minority or low-income percentage, as calculated by summing all minority or low-income persons, meets one of the thresholds presented above.

[1] Note: for use in this study, the term "meaningfully greater" is defined as a population that accounts for 1.5 times the County average within a specified geographic unit. This figure is set as a threshold to help in the identification of a distinct minority and low-income community that may be present within the project area.

In addition to the identification of the presence of minority and low-income populations, an assessment of impacts related to the proposed federal action must occur. *Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analysis*, published by the Environmental Protection Agency (EPA) in April 1998, poses one additional question to be answered in the assessment of project impact.

1. Are the environmental impacts likely to fall disproportionately on minority and/or low-income members of the community?

The following subsections outline the presence of low-income, racial minority, and ethnic minority populations within central Manatee County. Section 4.1.7 of the FEIS identifies the potential for disproportionate effects, and the mitigative measures available to reduce impacts.

3.1.7.2 Poverty

To identify the presence of low-income populations in the project area, 2010 ACS 5-year estimates were reviewed at the Census tract level (Census, 2010c). The U.S. Census Bureau uses a set of income thresholds based on Office of Management and Budget's (OMB's) directives that vary by family size and composition. If total income is less than the threshold, then every individual in that family is considered to be in poverty. The official poverty thresholds do not vary geographically, however they are adjusted annually. The official poverty definition uses income before taxes and does not include capital gains or non-cash benefits (such as public housing, Medicaid, and food stamps).

Table 3-10 presents the poverty threshold established by the U.S. Census Bureau in accordance with the standard set forth in OMB Policy Directive 14.

TABLE 3-10
2010 U.S. CENSUS POVERTY THRESHOLD

Size of Family Unit	Poverty Threshold
One person (unrelated individual)	$11,139
Under 65 years	$11,344
65 years and over	$10,458
Two people	$14,218
Householder under 65 years	$14,676
Householder 65 years and over	$13,194
Three people	$17,374
Four people	$22,314
Five people	$26,439
Six people	$29,897
Seven people	$34,009
Eight people	$37,934
Nine people or more	$45,220

Source: ACS, 2011a.

Table 3-11 presents the 2010 ACS poverty rate data for Manatee County and the eight U.S. Census tracts contained within the Fort Hamer Alternative and Rye Road Alternative study areas. The information identified shows that the percentage of Manatee County residents that fell below the poverty level during the 12 months preceding year 2010 (12.8 percent) was higher than the average for the same population within the affected U.S. Census tracts (11.4 percent). This finding shows that the area supporting the two build alternatives does not contain a low-income population that is greater than 50 percent of the overall population, nor does the population in poverty within the affected U.S. Census tracts represent a portion of the population that is "meaningfully greater" than the county average. (**Figure 3-15**).

TABLE 3-11
2010 POVERTY IN PAST 12 MONTHS

Location	Percent in Poverty in Past 12 Months
Manatee County	12.80
Tract 001909	3.90
Tract 001910	7.60
Tract 001911	11.40
Tract 001913	7.20
Tract 001914	2.20
Tract 002007	7.80
Tract 002013	3.30
Tract 002014	4.50

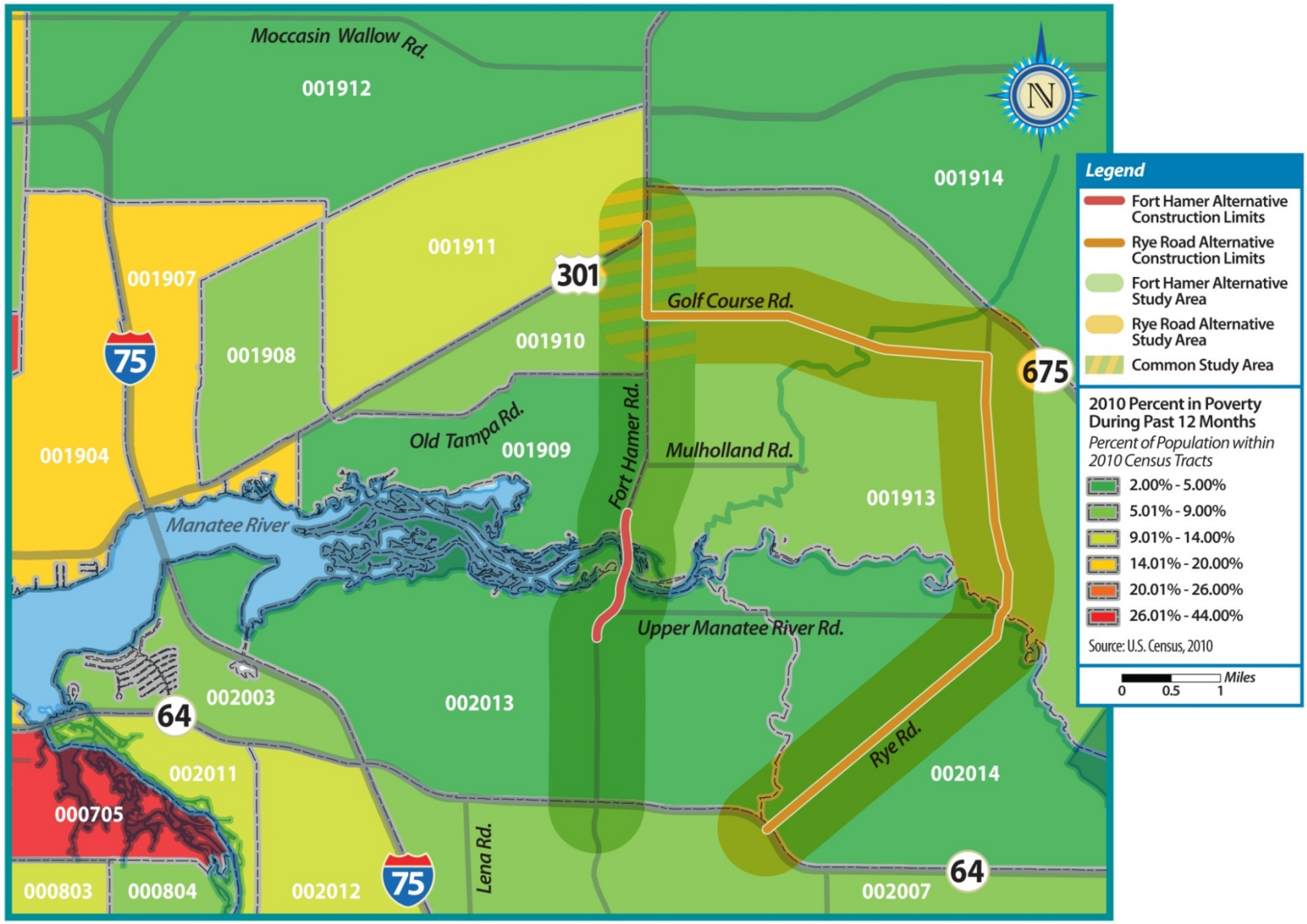
Source: ACS, 2011a.

3.1.7.3 Minority Populations

The figures included in **Table 3-12** show that the non-white population (including American Indian, Asian, Black, Hawaiian/Pacific Islander, Other, and Multi-Race groups) within in Manatee County represents 18.1 percent of the population overall. The highest concentration of minority residents within the affected census tracts occurs within Tract 001910, and accounts for 12.9 percent of the population, a figure well below the county average.

Review of 2010 ACS data shows that the minority population present within the Fort Hamer Alternative and Rye Road Alternative study areas does not exceed 50 percent of the overall population. Based on the identified demographic information, the non-white population does not represent a percentage of the population that is "meaningfully greater" than the overall County average (**Figures 3-16** and **3-17**).

FIGURE 3-15
PROJECT AREA, POVERTY IN PAST 12 MONTHS

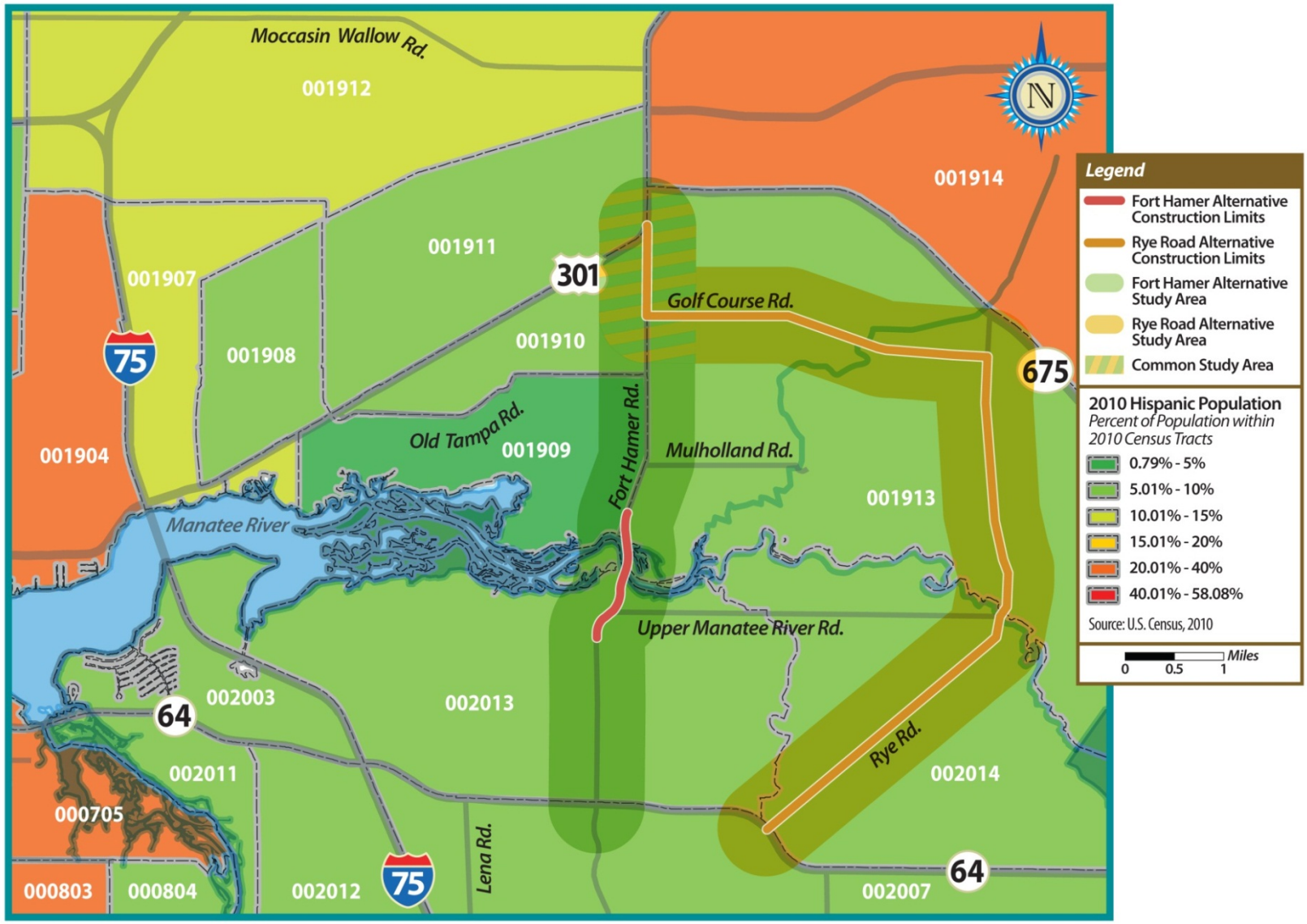


Sources: Census, 2010b. ACS, 2011a.

FIGURE 3-16
2010 NON-WHITE POPULATION

Sources: Census, 2010a and 2010b.

FIGURE 3-17
2010 HISPANIC POPULATION



Sources: Census, 2010a and 2010b.

TABLE 3-12
2010 PERCENT OF POPULATION NON-WHITE/HISPANIC

Location	Percent Population Non-White	Percent Population Hispanic
Manatee County	18.1	14.9
Tract 001909	5.9	4.5
Tract 001910	12.9	7.9
Tract 001911	11.3	9.0
Tract 001913	10.0	7.8
Tract 001914	11.9	24.1
Tract 002007	5.6	5.1
Tract 002013	11.0	6.4
Tract 002014	5.3	5.3

Source: Census, 2010a.

Assessment of the Hispanic population within Manatee County shows that this group accounts for 14.9 percent of the overall County population. When compared to the populations present within the affected Census Tracts, it is apparent that the Hispanic population within Census Tract 001914 (24.1 percent) exceeds the County average. Additionally, the Hispanic population identified within Tract 001914 represents a portion of the population that is greater than 1.5 times the County average, and meets the threshold for a "meaningfully greater" population. Potential effects to the Hispanic population is discussed in Section 4.1.7.

3.1.8 CONTROVERSY POTENTIAL

From 2010 to present, coordination with various governmental agencies, property owners, local groups, and the general public has revealed both opposition and support for the two build alternatives among residents within the project area. Residents within the project area have expressed concerns broadly categorized as follows:

- Safety – pedestrian and bicycle safety, especially in the area of the elementary school on Fort Hamer Road (Annie Lucy Williams Elementary School);
- Trucks – perception that a new bridge with the Fort Hamer Alternative would be heavily used by large trucks, thereby increasing noise and safety issues;
- Environmental/Natural Resources – potential impacts to remaining natural habitats and wildlife resources along the river (common to both build alternatives);
- Visual and Aesthetics – potential loss of "natural" views in areas not already developed on both sides of the river, especially with the Fort Hamer Alternative;
- Costs – the cost of the project, especially given the current local and regional economy (common to both build alternatives); and

- Need – additional lanes across the Manatee River at Fort Hamer Road are not needed or can be met by adding additional lanes to the Rye Road Bridge.

Residents of the Waterlefe subdivision, in particular, have expressed several concerns, including (but not limited to) the following:

- Safety – access to Winding Stream Way and the main entrance to the development,
- Visual and Aesthetics – potential impacts to the viewshed from resident homes and golf course,
- Noise – elevated noise levels from increased vehicle and truck traffic, and
- Property Devaluation – potential impacts to property values.

A written disclosure of the proposed bridge crossing at Fort Hamer Road and Upper Manatee River Road was made (and continues to be made) to all Waterlefe homeowners in their purchase documents (Appendix A-1).

These controversies have continued throughout preparation of this FEIS.

Other residents and groups in the area favor a new transportation corridor between I-75 and Rye Road, including the proposed location connecting Fort Hamer Road and Upper Manatee River Road. Their reasoning is that nearly all of what were rural undeveloped and agricultural lands in that part of the County has already been developed or has been approved for residential and mixed-use development and population and employment in the area is projected to continue to grow. Supporters have stated that additional roadway capacity is needed in order to provide relief to the I-75 corridor and to reduce congestion, improve safety on local roads, and to assist in emergency response and evacuation. A bridge crossing at Fort Hamer Road and Upper Manatee River Road is consistent with Manatee County's 2035 LRTP (MPO, 2012) and the County's adopted Comprehensive Plan (Manatee County, 2010). A bridge crossing at Fort Hamer Road and Upper Manatee River Road was in the Manatee County Comprehensive Plan in 1968 as a conceptual development plan, was listed in the County Street Plan Priority for 1968, was listed in the County's proposed land use and development requirements in 1973, was on the County's Thoroughfare Plan in 1976, and shown on the County's Right-of-Way Needs Map in 1984.

Impacts on controversy potential are discussed in Section 4.1.8.

3.1.9 UTILITIES AND RAILROADS

The following is a list of those utilities known to operate or that have plans to operate facilities within both of the project corridors:

- Manatee County Public Works;

- TECO-Peoples Gas;
- Florida Light & Power;
- Peace River Electric Cooperative;
- Bright House; and
- Verizon Florida, Inc.

Existing and planned utilities are summarized in **Table 3-13**. No railroads occur within the Fort Hamer Alternative or Rye Road Alternative study areas. Utility and railroad impacts are discussed in Section 4.1.9.

3.2 CULTURAL RESOURCES

For purposes of this FEIS, Cultural Resources are those concerns related to archaeological resources, historic resources, and tribal considerations.

3.2.1 INTRODUCTION

A Cultural Resource Assessment Survey (CRAS) of the Fort Hamer and Rye Road Alternatives and proposed pond sites was completed by Archaeological Consultants, Inc. (ACI) in 2011 on behalf of the U.S. Coast Guard (USCG), the lead federal agency for this undertaking, and is provided in Appendix C (ACI, 2011). The CRAS was conducted to locate and identify cultural resources within the area of potential effect (APE) and to assess their significance in terms of eligibility for listing in the National Register of Historic Places (NRHP).

Although no physical evidence of the Fort Hamer site was discovered within the APE that would require formal consultation under Section 106 of the NHPA, the USCG pursued consultation with the Tribal Historic Preservation Officer (THPO) for the Seminole Tribe of Florida and the Seminole Nation of Oklahoma in recognition of the importance of the Fort Hamer site to Native American tribes. As a result, the next step was to conduct an in-depth study of Fort Hamer and its importance as an embarkation point for Seminole emigration to the west (see Appendix A-4 for coordination letters, meeting minutes, and other dialogue pertinent to the consultation process). A report titled "Documentation Concerning Second Seminole War Fort Hamer and the Seminole Deportation, Manatee County, Florida" was completed, and the USCG submitted the report to the State Historic Preservation Officer (SHPO) and Seminole Tribe of Florida THPO in March 2013. The SHPO acknowledged receipt of the "historical documentation that was completed at the request of the Seminole Tribe of Florida during consultation" on April 17, 2013 (see Appendix A-4). Consultation with the Seminole Tribe of Florida is currently on-going.

TABLE 3-13
EXISTING AND PROPOSED UTILITIES

Manatee County Public Works (Existing)					
Utility	Aerial (A) Buried (B)	Approximate Location			
		Roadway	Side	From	To
42” WM	B	Lakewood Ranch Boulevard	East	South of SR 64	SR 64
42” WM	B	Upper Manatee River Road	East	SR 64	10th Avenue East
42” WM	B	Upper Manatee River Road	West	10th Avenue East	Gates Creek Road
8” WM	B	Upper Manatee River Road	West	SR 64	Lift Station
6” WM	B	Upper Manatee River Road	East	700 ft South of 10th Avenue East	8th Avenue East
8” WM	B	Upper Manatee River Road	East	150 ft South of 4th Avenue East	4th Avenue East
8” WM	B	Upper Manatee River Road	East	2nd Avenue East	400 ft North of 2nd Avenue East
8” WM	B	Upper Manatee River Road	East	3rd Avenue Northeast	1,850 ft North of 3rd Avenue NE
6” WM	B	Upper Manatee River Road	East	1,850 ft North of 3rd Avenue NE	150 ft South of Gates Creek Road
8” WM	B	Upper Manatee River Road	East	150 ft South of Gates Creek Road	Gates Creek Road
6” FM	B	Upper Manatee River Road	East	SR 64	775 ft South of 10th Avenue East
6” FM	B	Upper Manatee River Road	West	775 ft South of 10th Avenue East	Lift Station
8” FM	B	Upper Manatee River Road	West	Lift Station	Greenfield Boulevard
6” FM	B	Upper Manatee River Road	West	Greenfield Boulevard	4th Avenue East
8” FM	B	Upper Manatee River Road	West	4th Avenue East	250 ft North of 2nd Avenue East
8” FM	B	Upper Manatee River Road	East	250 ft North of 2nd Avenue East	1,500 ft North of 2nd Avenue East
6” FM	B	Upper Manatee River Road	East	1,500 ft North of 2nd Avenue East	3rd Avenue Northeast
6” FM	B	Upper Manatee River Road	West	3rd Avenue Northeast	Waterlefe Boulevard
Lift Station		Upper Manatee River Road	West	10th Avenue East	
24” WM	B	Fort Hamer Road	East	Old Tampa Road	US 301
20” WM	B	60th Street East	North	Fort Hamer Road	US 301

An archaeological and historical survey of the Rye Road Alternative was conducted in September/October 2006 and January 2007. A follow-up windshield survey was conducted in 2010-2011 to confirm whether all earlier identified resources were still extant and if there were additional historic resources (50 years in age or older) that needed to be recorded. These studies are summarized in the 2011 CRAS attached as Appendix C. In keeping with the results from the earlier reports, the 2011 CRAS concluded that there were no NRHP-listed or -eligible resources in the project APE. The SHPO concurred with these findings on February 6, 2013 (see Appendix A-4).

3.2.2 BACKGROUND RESEARCH AND LITERATURE REVIEW

A comprehensive review of archaeological and historical literature, records, and other documents and data pertaining to the project area was conducted. The focus of this research was to ascertain the types of cultural resources known in the project area and vicinity, their temporal/cultural affiliations, site location information, and other relevant data. This included a review of sites listed in the NRHP, the Florida Master Site File (FMSF), cultural resource survey reports, published books and articles, unpublished manuscripts, maps, and interviews. In addition to the FMSF, other data relative to the historical research were obtained from the Eaton Florida History Room of the Manatee County Public Library, the Manatee County Property Appraiser's Office, the Florida Division of Historical Resources (FDHR), the Florida Division of State Lands, and the files of ACI. It should be noted that FMSF data were obtained in December 1999, August 2000, September 2006, December 2006, and March 2011. In addition, several interviews were conducted with archaeologists Bill Burger, Rich Estabrook, and Willard Steele; librarians at the Eaton Room were contacted concerning the Rye Road area.

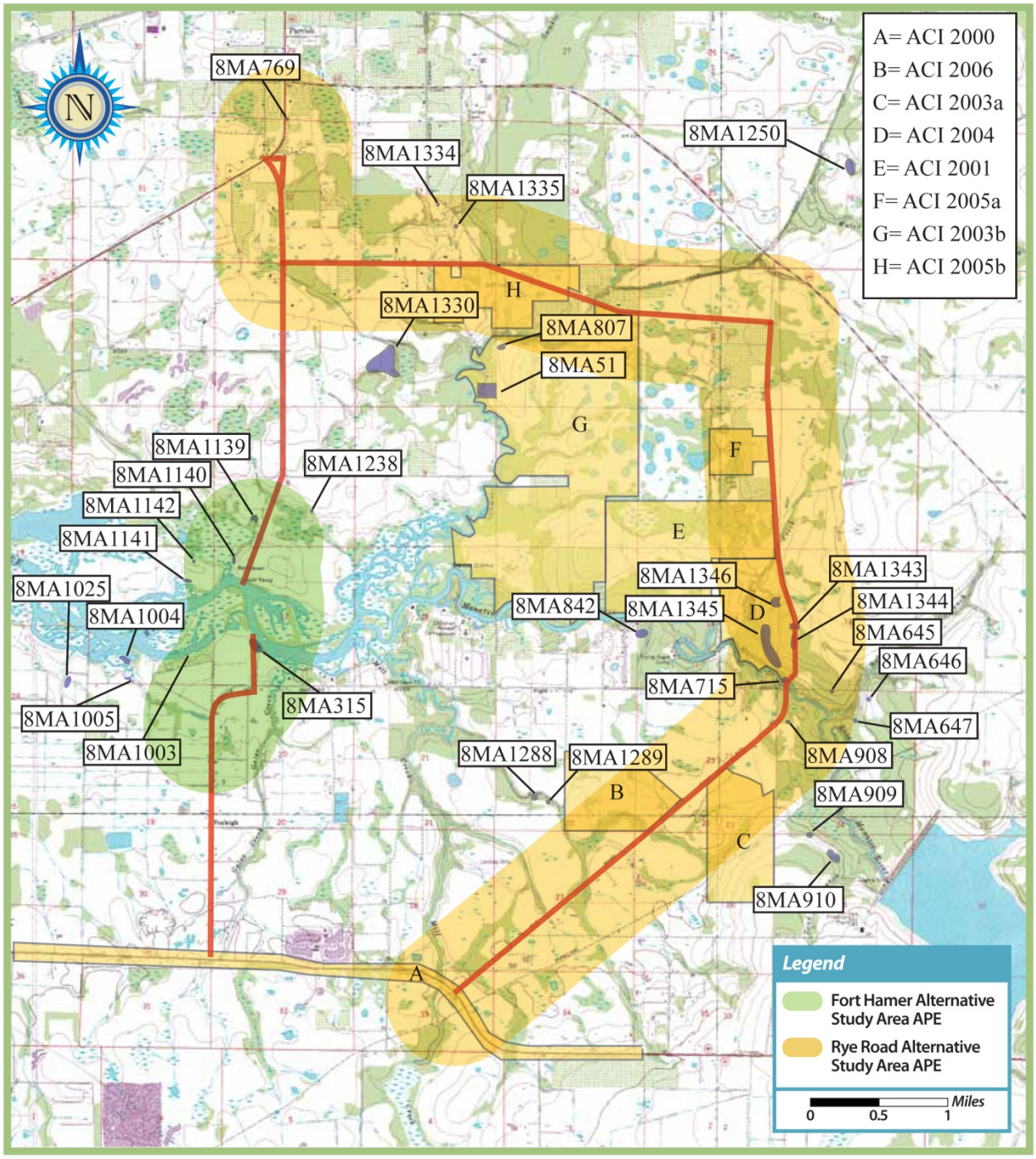
Archaeological Considerations

A review of the FMSF indicated that multiple surveys have been previously conducted in the area, and 28 archaeological sites are recorded within 1 mile of the APE and that a portion of three sites (8MA315, 8MA715, and 8MA1344) are within or adjacent to the APE (see **Figure 3-18**). In addition, 8MA1343, a historic cemetery (Mitchellville Cemetery), is within the project APE along the Rye Road Alternative. Along the Fort Hamer Alternative, these archaeological sites include several small prehistoric sites and the general location of where Fort Hamer (8MA315) was thought to have once been located. The Fort was a 19th Century Seminole War fortification which was considered eligible for listing in the NRHP. However to date, no physical evidence of the structures associated with Fort Hamer have been found. The structures associated with Fort Hamer were removed by order of the U.S. Government on Nobember 19, 1850 (Appendix C).

In 1907/1908, "Lewis", the first steamer to travel up the Manatee River to supply the Tallevast Turpentine Camp at Mitchelville was laid up on the north side of Fort Hamer, caught fire, burned, and sank. No evidence of the Lewis has been found to date (Appendix C).

Near the Rye Road Alternative, recorded archaeological sites include prehistoric mounds, aboriginal lithic and artifact scatters, and historic sites associated with the town of Rye/Mitchellville. Sites within one mile of both alternatives are summarized in **Table 3-14**.

FIGURE 3-18
LOCATION OF PREVIOUSLY RECORDED
ARCHAEOLOGICAL SITES WITHIN ONE MILE OF THE APE



Note: Shovel tests are not to scale.
Source: ACI, 2011.

TABLE 3-14
PREVIOUSLY RECORDED ARCHAEOLOGICAL SITES WITHIN ONE MILE OF THE APE

Site Number	Site Name	Site Type	Culture
Fort Hamer Alternative			
8MA315	Fort Hamer	Seminole War Fort/ Artifact scatter	19th century
8MA1003	Broken Pot	Artifact scatter	Manasota/Safety Harbor
8MA1004	Ancient Oaks Hammock	Artifact scatter	Prehistoric
8MA1005	Round the Bend	Artifact scatter	Prehistoric
8MA1025	Branwen's Scatter	Artifact scatter	Prehistoric
8MA1139	Swampside	Lithic scatter	Prehistoric lacking pottery
8MA1140	Boat Ramp	Lithic scatter	Early Archaic
8MA1141	Cumba	Lithic scatter	Prehistoric lacking pottery
8MA1142	Ridge's Edge	Lithic scatter	Prehistoric lacking pottery
8MA1238	MRP 1	Campsite	Prehistoric lacking pottery
Rye Road Alternative			
8MA51	NN	Prehistoric mound	Unknown
8MA645	Pascuzzi	Lithic scatter	Middle Archaic
8MA646	Hilton	Habitation/Refuse	Safety Harbor/ Weeden Island II
8MA647	Hooey	Habitation/Lithic scatter	Prehistoric lacking pottery
8MA715	Rye Bridge Mound	Prehistoric mound	Prehistoric/Safety Harbor/Contact
8MA769	Cassick	Artifact scatter	Prehistoric
8MA807	Gamble Creek	Artifact scatter, low density	Archaic
8MA842	Archery Range	Single artifact	Archaic
8MA908	Rye Road	Artifact scatter, low density	Prehistoric lacking pottery
8MA909	Swamp Edge	Artifact scatter, low density	Prehistoric lacking pottery
8MA910	Sandy Branch	Artifact scatter, low density	Prehistoric lacking pottery
8MA1250	Foxbrook	Extractive site/Lithic scatter	Prehistoric lacking pottery
8MA1288	Country Creek	Campsite (prehistoric)/ Artifact scatter	Late Archaic
8MA1289	Country Meadows	Campsite(prehistoric)/ Lithic scatter	Middle-Late Archaic
8MA1330	Underhill 4	Campsite(prehistoric)	Prehistoric
8MA1334	Dog's Mole Site	Lithic scatter	Prehistoric lacking pottery
8MA1335	Owl Place Site	Lithic scatter	Prehistoric lacking pottery
8MA1343	Mitchellville Cemetery	Historical cemetery	ca.1879-ca.1924
8MA1344	Waters Edge Historic Scatter	Town/Artifact scatter	19th century American
8MA1345	Waters Edge Prehistoric Scatter	Extractive site/Lithic scatter	Middle Archaic
8MA1346	Waters Edge Muticomponent	Lithic scatter; Town/ Artifact scatter	Prehistoric lacking pottery; 19th and 20th century American

Source: ACI, 2011.

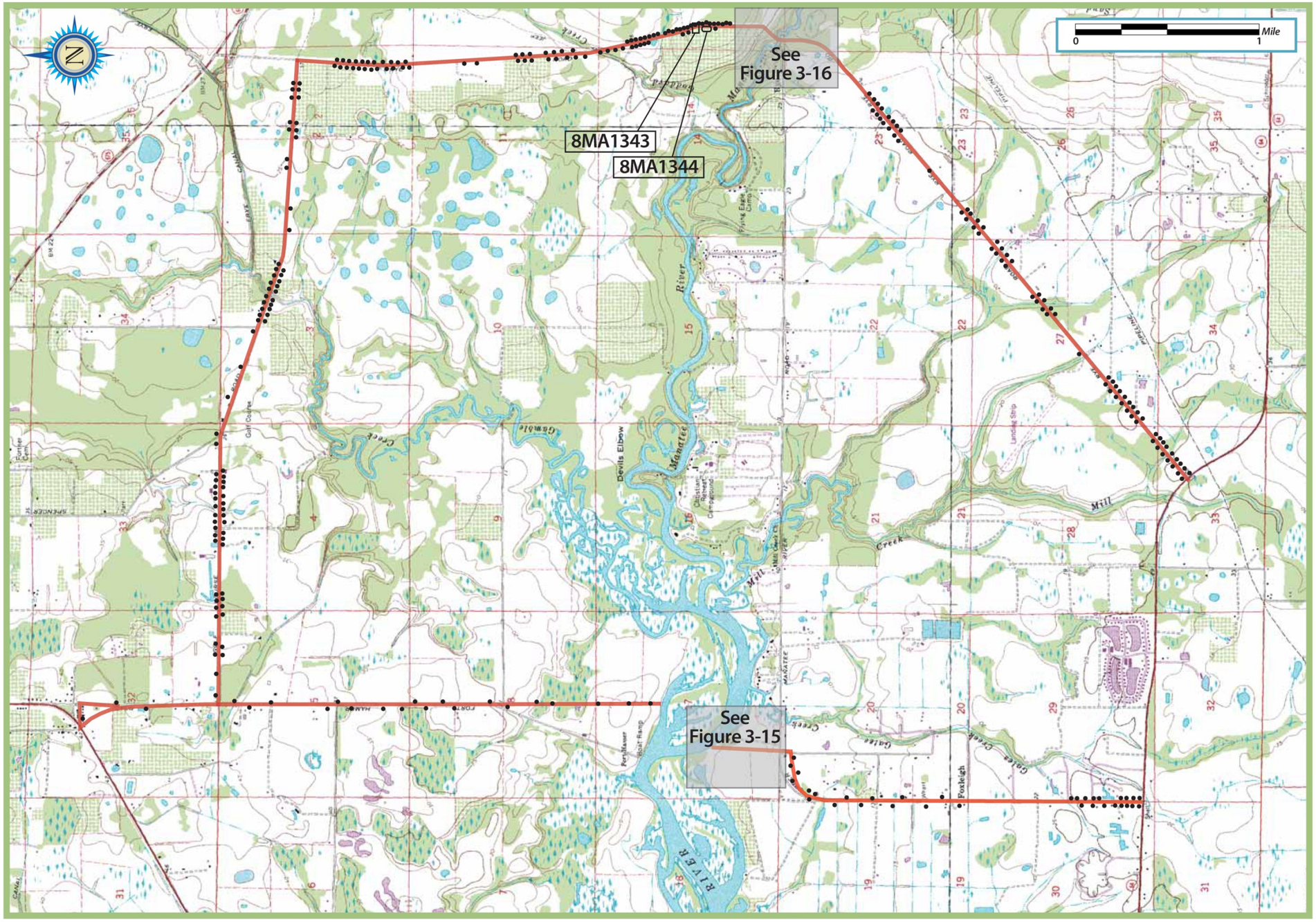
In 1998, a survey of the 700-acre Wading Bird Golf and Country Club (development since renamed Waterlefe Country Club) area was conducted north of the SR 64 corridor, on the southern bank of the Manatee River (Janus, 1998a). This survey recorded three artifact scatter type sites (8MA1003-05), two historic structures (8MA1006 and 8MA1007), and re-evaluated the Fort Hamer Site (8MA315).

When the Fort Hamer area was subjected to Phase II archaeological investigation, Janus Research concluded that "...the portion of the Fort Hamer Site (8MA315) identified within the Wading Bird Golf and Country Club project boundaries area is minimal, and does not appear to meet minimum criteria for listing on the NRHP" (Janus, 1998b). The SHPO concurred with these findings (Percy, 1998), noting that "...the portion of the Fort Hamer Site within the project area is not eligible for listing in the NRHP." A portion of the Fort Hamer Site (8MA315) within the Wading Bird project that was cleared by the SHPO as having not met criteria for listing in the NRHP is within the archaeological APE for this project.

Also, within the vicinity of the Fort Hamer Alternative, a survey of 2,600 acres was conducted for the Heritage Sound DRI/ADA project in 1998. As a result, two archaeological sites and three structures were recorded (Janus, 1999). ACI surveyed SR 64 from east of I-75 to Lorraine Road and recorded two historic buildings near the southern terminus of the alternative. Neither 8MA1177 nor 8MA1178 are eligible for listing in the NRHP (ACI, 2000).

In 2004, a survey of the 260-acre Waters Edge development (development since renamed River's Reach) project area was conducted on the north bank of the Manatee River on the west side of the Rye Road Alternative (ACI, 2004). This survey recorded a historic cemetery (8MA1343), a historic artifact scatter (8MA1344), a lithic scatter (8MA1345), and a multi-component site consisting of a lithic scatter and historic artifact scatter (8MA1346) (see **Figure 3-19**). The historic sites found during the Waters Edge survey were apparently associated with the no longer extant town of Rye/Mitchellville. None of these sites was considered eligible for listing in the NRHP. Four archaeological occurrences were also found. Of the four sites recorded, the historic cemetery (8MA1343) and the historic scatter (8MA1344) are located within the proposed Rye Road Alternative.

The platted area of the Mitchellville Cemetery (8MA1343) is bisected by the existing Rye Road. In 2004, ACI recovered the marble grave marker of Thomas Urquhart, father-in-law of Sam Mitchell, dating to 1884. The marker lies within the platted area of the Mitchellville Cemetery which, according to *Tombstone Inscriptions in Cemeteries of Manatee County, Florida 1850-1980* prepared by the Manasota Genealogical Society, is said to include 25 burials. Field surveys within the Waters Edge property (west of Rye Road) resulted in no evidence of additional burials from that portion of the cemetery (ACI, 2004). However, the remainder of the cemetery included in the existing Rye Road right-of-way and east of the existing Rye Road pavement has not been subjected to cultural resource assessment. Also, during the Waters Edge survey, an assemblage of tile, brick, and a variety of glass fragments was collected from the ground surface south of the grave marker in the vicinity of a school building depicted in the 1958 *Manatee County Soil Survey*. These sites are included within the archaeological APE for this Proposed Action. Neither site is considered potentially eligible for listing in the NRHP.



Note: Shovel tests are not to scale.
Source: ACI, 2011.

FIGURE 3-19
APPROXIMATE LOCATION OF
SHOVEL TESTS WITHIN THE PROJECT AREA

No evidence of the previously recorded Rye Bridge Mound (8MA715) was encountered as a result of ACI's 2004 Waters Edge survey. However, because the site may have been situated within or near the project APE, it was anticipated that associated artifacts might be found during field survey on either the south or north bank of the Manatee River.

Based on the information contained in previously conducted studies and other site locational data (Piper/Janus, 1992), examination of the USGS Lorraine and Parrish Quadrangle Maps and the Manatee Soil Survey (USDA, 1983) as well as historic documents, some locales in the archaeological APE were considered to have a high or moderate potential for the discovery of prehistoric and/or historic archaeological sites. Prehistoric sites, if found, were expected to be prehistoric or historic artifact or lithic scatter sites. Also, it was anticipated that some evidence of historic settlement might be found south of the Manatee River where Fort Hamer may have once been located, and along Fort Hamer Road north of the river where early maps indicated there had once been a trail. These areas of archaeological probability are noted in the Project Research Design prior to initiating the field survey of this segment. The area where the town of Mitchellville/Rye was once located (along Rye Road north of the river) was tested by ACI during a previous survey and as a result, evidence of the town was not anticipated within the Rye Road APE. In addition, based on background research, there was a slight potential that Seminole War activities might have occurred in the vicinity of the Rye Road segment and thus, archaeologists were aware of the potential for mid 19th century artifacts.

Historical/Architectural Considerations

A review of the FMSF revealed that although a number of resources have been recorded in the project vicinity, only four are within the historical APE. One of these, a residence along 121st Avenue (8MA763), was recorded in 1990 as part of the *Cultural Resources Survey, 8.3 Miles of US 301 in Manatee County, Florida* (ACI, 1990). As a result of this survey, the SHPO determined that the Parrish Historic District, located north of the project area, was eligible for listing in the NRHP (Percy, 1991). Site 8MA763 is not included in the district boundaries because the residence is separated from the district by non-historic construction, historic buildings lacking integrity, and open space. A preliminary visual examination revealed that the same elements continue to exclude this building from the Parrish Historic District. Two other resources (8MA1325 and 8MA1326) associated with Moore's Dairy were recorded in 2003 as part of the *Cultural Resource Assessment Survey of the Moore's Dairy Addition to the Heritage Harbor DRI/ADA in Manatee County, Florida* (Janus, 2003b). In 2006, ACI conducted a survey of the US 301/Fort Hamer Road intersection which resulted in the updating of three previously recorded resources (including 8MA763) and the recording of three new resources. None were considered eligible for listing in the NRHP (ACI, 2006b). Of these six resources, one is within the project APE, 8MA1468. The preliminary visual examination of the APE also revealed that approximately 17 buildings appear to be 50 years of age or older and have to be recorded as part of the survey as well as a bridge and a resource group. Based on the preliminary reconnaissance, none appeared to be eligible for listing in the NRHP, individually or as part of a district.

Documentary Research Considerations

Although remains of the location of Fort Hamer (8MA315) were not identified within the archaeological APE during the archaeological survey in 2000 by ACI, nor by Janus Research (Janus, 1998a and 1998b), subsequent meetings with representatives of the THPO of the Seminole Tribe of Florida and federal agencies resulted in extensive archival research to further document the historical site and identify individual Seminoles present at the location. Discussions at a meeting conducted in March 2004 outlined the scope of additional research for the project, which would focus on the emigration of Seminoles from Fort Hamer. Historical documents and a marker indicate that Fort Hamer was an embarkation point for Seminoles emigrating from Florida to the Indian Territory in the west. Extensive research was conducted to determine what groups of Seminoles were included during this period of emigration and specific individuals who traveled from Fort Hamer. This research also provides further documentation on the location of the Fort, possible structures, military personnel, and its role in Florida history.

Documentary research methodology consisted of a comprehensive review of archaeological and historical literature, records, and other documents pertaining to Fort Hamer. This included cultural resource survey reports, published books and articles, newspaper files, unpublished manuscripts, maps, government documents and correspondence, military records, local histories and interviews. Consultations with Willard Steele and later Dr. Paul Backhouse, THPO for the Seminole Tribe of Florida; Emman Spain, Historic Preservation Officer for the Seminole Nation of Oklahoma; and Dr. Joe Knetsch, Government Analyst for the Survey and Mapping Division of the Florida Division of Historical Resources provided valuable insight into Seminole War Era forts and Seminole cultural history. Data relative to the historical research were obtained from the National Archives and Records Administration in Washington, D.C., the Seminole Tribe of Florida Ah-Tah-Thi-Ki Museum archives, the Oklahoma Historical Society, the FDHR, the Florida Division of State Lands, the State Library and Archives of Florida, the Eaton Florida History Room of the Manatee County Central Library, the Manatee County Property Appraiser's Office, and the Manatee County Historical Records Library at the Manatee County Clerk of Circuit Court. Documentary research was conducted from October 2003 through November 2004.

3.2.3 ARCHAEOLOGICAL SURVEY RESULTS

Archaeological field survey included both ground surface reconnaissance and the excavation of 399 test pits. Survey results for both the Fort Hamer Alternative and the Rye Road Alternative are discussed in this section.

Fort Hamer Alternative

Surveys along the Fort Hamer Alternative included the excavation of 118 shovel tests and the use of a metal detector within the archaeological APE near the south bank of the Manatee River. Twenty-two of the shovel tests were placed north of the Manatee River and 33 were placed south

of the river (and south of the area of site 8MA315) at 50-meter (164-foot) and 100-meter (328-foot) intervals, as well as judgmentally.

Three of the tests were dug in a marsh and hammock area within the Manatee River where the proposed bridge would cross (see **Figure 3-20**). South of the Manatee River, 60 shovel tests (ACI, 2000; Janus 1998a) were excavated at 25-meter (82-foot) and 50-meter (164-foot) intervals, as well as judgmentally. Of these 60 shovel tests, 22 were placed in the area where at least a portion of Fort Hamer (8MA315) may have been located (see Figure 3-20).

Of the total shovel test pits excavated throughout the archaeological APE of the Fort Hamer Alternative, only one yielded cultural material. Shovel test #42, located approximately 295 feet (90 meters) south of the Manatee River on the residential property immediately east of the Waterlefe Golf and Country Club (Figure 3-20), produced a single military button. The button, found at a depth of 20 centimeters (8 inches) below the ground surface, was in a disturbed context. Modern window pane glass was recovered from above and below the button. The cast, flat, white metal button is embossed with "U.S." and a swirl design. It is a General Service coat button issued between 1837 and 1865. The occupation of Fort Hamer (1850) occurred within these dates, and thus the button is likely associated with this military outpost.

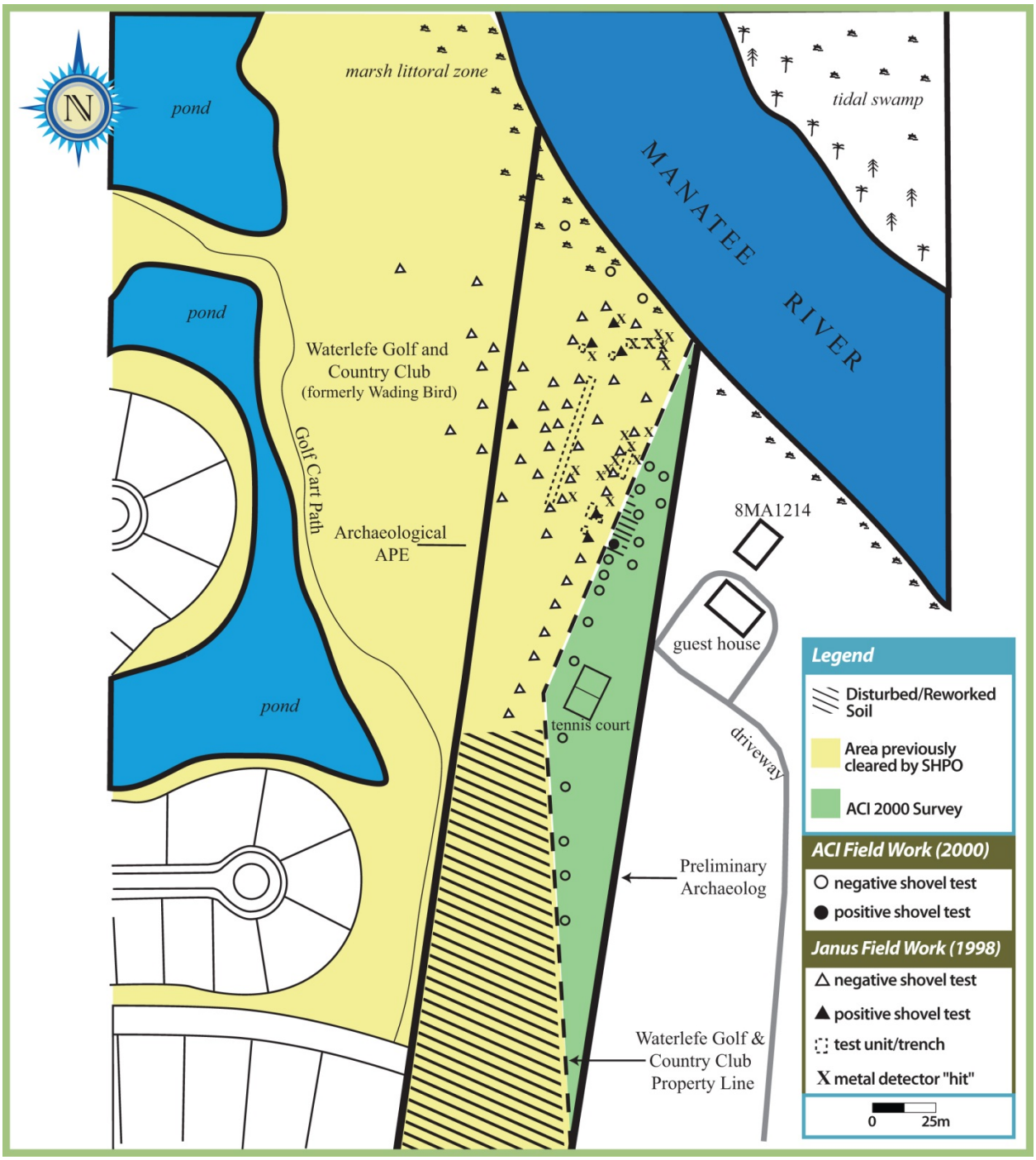
During the 1998 survey of the Wading Bird Golf and Country Club, a metal detector was used to check for the presence of historic material (buttons, nails, etc.) that might be associated with the Fort Hamer Site (Janus, 1998a). ACI also used this methodology to examine a 6,000-square meter area [100 meters (328 feet) by 60 meters (197 feet)]. Each "hit" was flagged and subsurface investigations were conducted. However, only modern materials were recovered. No evidence of historic features or artifacts was encountered.

As a result of ACI's intensive testing and use of a metal detector in that portion of the archaeological APE where artifacts associated with Fort Hamer (8MA315) were expected, no evidence of the Fort was found. These results are in keeping with the previous cultural resource assessments conducted in the project area and resulted in three SHPO clearances of the "Fort Hamer Site" south of the Manatee River, and within a portion of the archaeological APE (Percy, 1998; Matthews, 2001; Gaske, 2005; Figure 3-20).

Rye Road Alternative

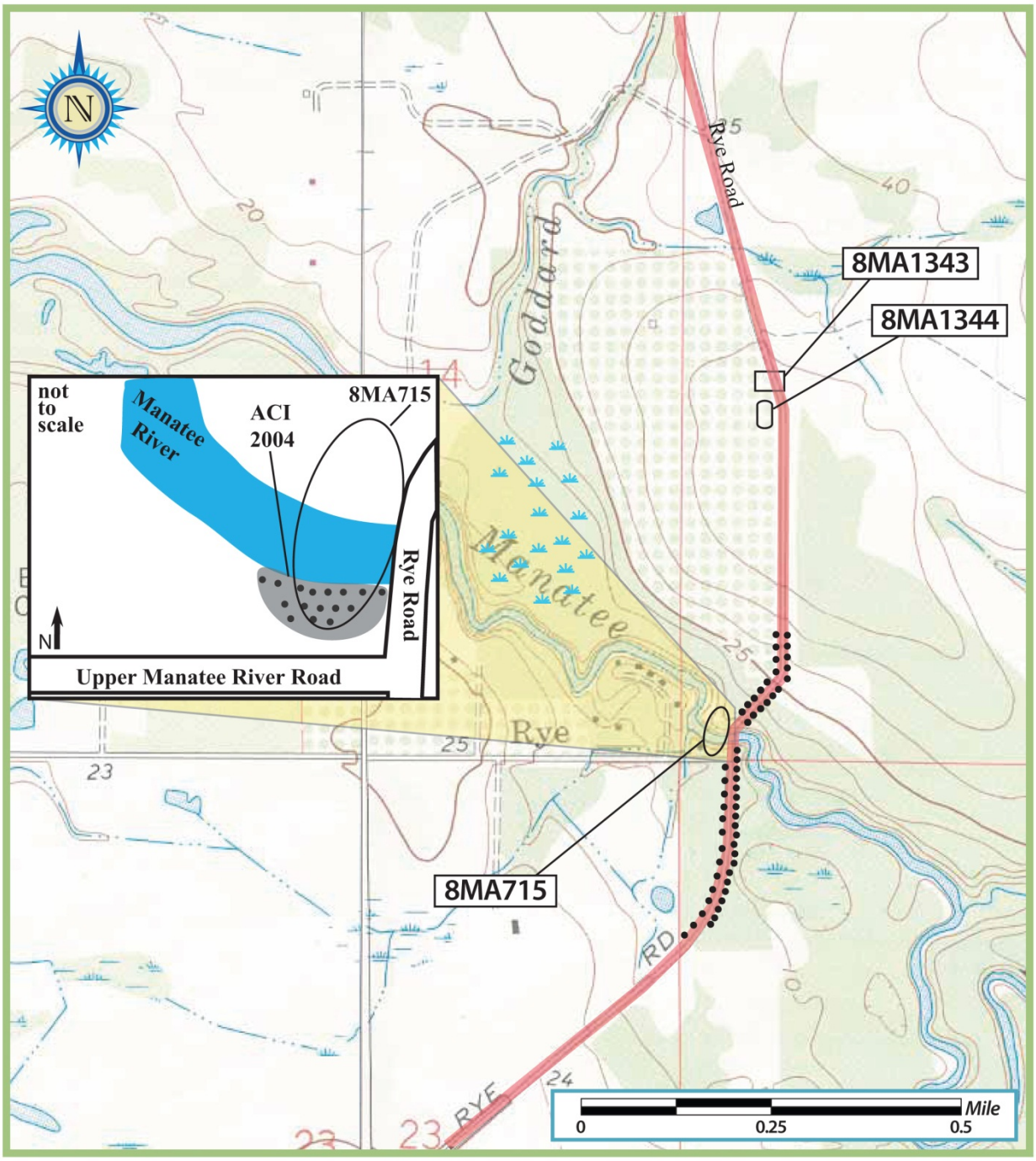
A total of 281 shovel tests were excavated along the Rye Road Alternative (**Figure 3-21**). Of these, 200 were excavated within areas of high probability at 25-meter (164-foot), 10-meter (33-foot), and 5-meter (16.5-foot) intervals. Close interval testing was performed in the vicinity of the Rye Bridge Mound Site (8MA715) in both the current survey for this Proposed Action and a previous survey of the River's Reach property performed by ACI (ACI, 2004; Figure 3-21). Close interval testing also occurred around 8MA1343 and 8MA1344. In addition, 65 shovel tests were excavated at 50-meter (164-foot) intervals in areas considered to have moderate potential for archaeological sites, and 16 were placed judgmentally within the remainder of the alternative.

FIGURE 3-20
APPROXIMATE LOCATION OF SHOVEL TESTS WITHIN THE FORT HAMER ALTERNATIVE



Note: Shovel tests are not to scale.
Source: ACI, 2011.

FIGURE 3-21
APPROXIMATE LOCATION OF SHOVEL TESTS WITHIN THE RYE ROAD ALTERNATIVE



Note: Shovel tests are not to scale.
Source: ACI, 2011.

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As a result of ACI's intensive testing of the portion of the archaeological APE where the Rye Bridge Mound (8MA715) may have been located, no evidence of the mound was found during the Waters Edge survey (ACI, 2004) or during survey for this project. Further, the SHPO determined that the Waters Edge Historic Scatter (8MA1344) was ineligible for listing in the NRHP (ACI, 2004). Additional testing within the project APE did not reveal any further evidence of this site and the area where the site is located has been disturbed. No additional evidence of 8MA1343 was found but is discussed below. A brief description of each site follows and updated FMSF forms area in included in the CRAS (Appendix C).

8MA1343: The Mitchellville Cemetery is located in the southwest quarter of Section 13 in Township 34 South, Range 19 East, and the APE passes through the platted cemetery (Figure 3-21) (USGS, 1979). The cemetery measures approximately 300 feet by 150 feet (Wilson, 2004), and as noted above, it is bisected by the existing Rye Road. Mitchellville Cemetery was established c. 1879 and includes approximately 25 graves.

In 2004, ACI observed one grave marker dated 1884 for Thomas Urquhart, Sam Mitchell's father-in-law. Sam Mitchell colonized Mitcheville/Rey. The marble marker is in the shape of a column representing full life (see **Photo 1**). It is located near the western extremity of the APE, and a recently installed metal fence (see **Photo 2**) marks a portion of the cemetery west of Rye Road. During the survey for this project, four shovel tests were placed east of Rye Road (within the APE) and east of the cemetery in order to check for the presence of cemetery features (i.e., grave markers, soil changes). No evidence of the cemetery or associated features was found. The original and the updated FMSF form for the cemetery are located in the CRAS (Appendix C).

8MA1344: The Waters Edge Historic Scatter is located in the southwest quarter of Section 13 in Township 34 South, Range 19 East (USGS, 1972; Figure 3-21). The site is situated on the crest of a rise north of the Manatee River, immediately south of the Mitchellville Cemetery (8MA1343) (see **Photo 3**).

The site was discovered as a result of surface reconnaissance near the location of a school building depicted on the 1958 *Manatee County Soil Survey* during a survey of the Waters Edge property (ACI, 2004). All recovered materials were found on the surface and 12 shovel tests excavated in the site vicinity failed to produce subsurface artifacts or features. No structural evidence of a building was found. Based on surface reconnaissance and collection, the site as situated west of Rye Road, was estimated to extend some 100 meters north/south by 100 meters east/west. During the current survey, eight shovel tests, placed east of Rye Road (within the APE) at a 25-meter interval, failed to yield additional evidence of the site. Surface reconnaissance also did not uncover any evidence of 8MA1344.

During the original survey artifacts found at The Waters Edge Historic Scatter assemblage consisted of one fragment each of aqua glass, brown glass, "black" glass, slate, tile, and brick. In addition, two pieces of green glass, three pieces of cobalt glass, 10 pieces of solarized glass, and 10 pale green plate glass fragments were recovered.

Photo 1. Grave marker west of Rye Road.

Photo 2. Newly installed fence surrounding cemetery and grave marker west of Rye Road.

Photo 3. Area east of Rye Road and immediately east of 8MA1344, a historic surface scatter.

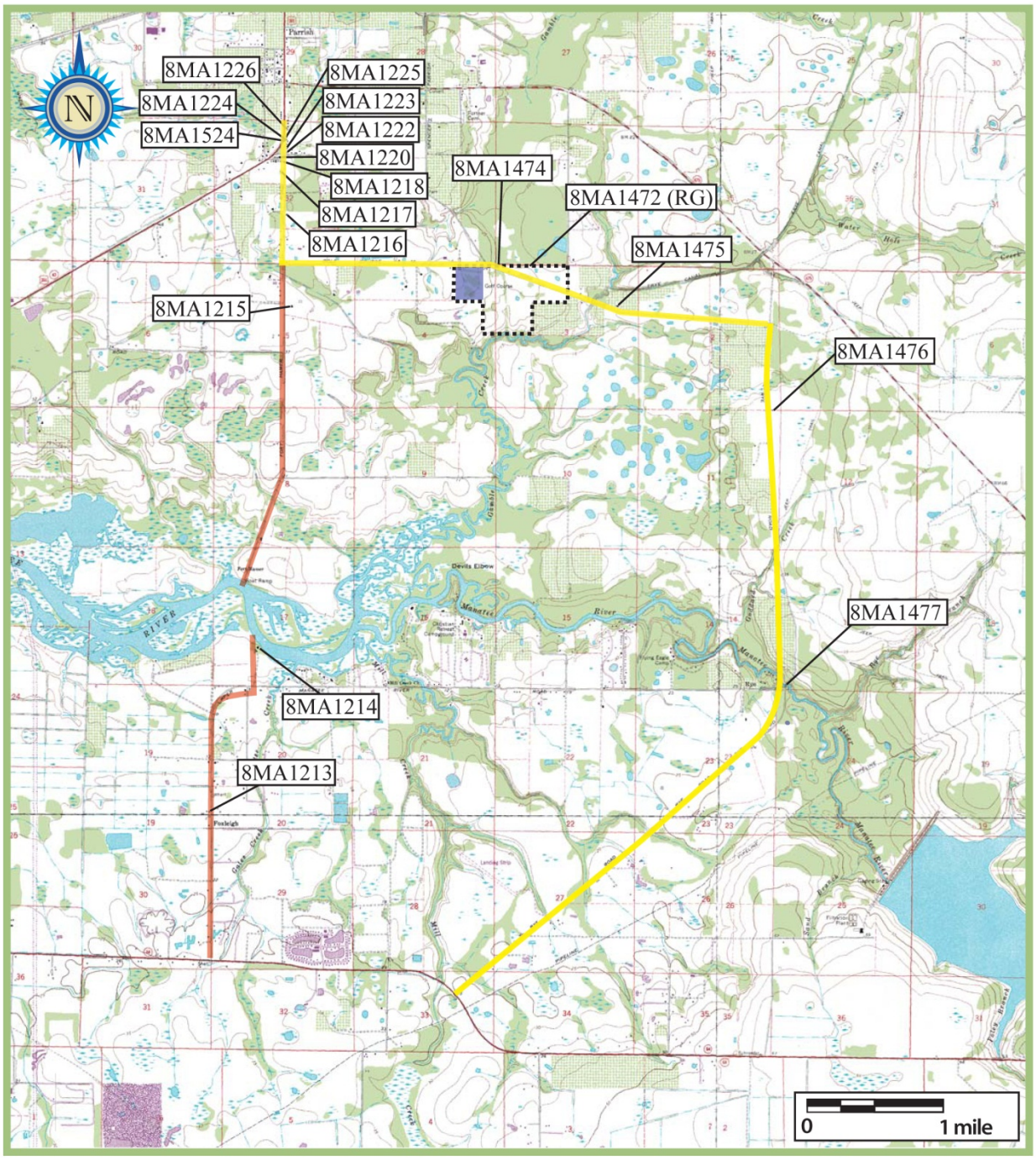
The artifact assemblage of the Waters Edge Historic Scatter was categorized into activity groups and classes similar to the system developed by Stanley South (1977). The groups represented include kitchen (vessel glass) and architecture (e.g., brick, tile, and window pane glass). Together, these represent residential activities. The date ranges of the various glass fragments converge at ca. 1870 to 1930, the occupational period of Rye/Mitchellville. Thus the Waters Edge Historic Scatter may be related to a Mitchellville household.

Although the location of 8MA1344 provides useful information in terms of historic settlement patterns and land use history, the low artifact density and diversity, and lack of diagnostic and subsurface features indicates that the site has a very low research potential. The Waters Edge Historic Scatter is not considered eligible for listing in the NRHP.

3.2.4 HISTORICAL/ARCHITECTURAL SURVEY RESULTS

Twenty-three historic resources were identified within the historical APEs along both the Fort Hamer Alternative and Rye Road Alternative (see **Figure 3-22** and **Table 3-15**). Four of these resources had been previously recorded (8MA763, 8MA1325, 8MA1326, and 8MA1468); however, none of these four are considered eligible for listing in the NRHP (Matthews 2001; Gaske, 2004 and 2006). SHPO also concurred that the 14 newly recorded resources (8MA1213-8MA1226) are not considered eligible for listing in the NRHP (Matthews, 2001). All of the recorded resources are residential buildings constructed between 1920 and 1956. These resources represent commonly occurring types of architecture for the locale and available data does not indicate any significant historical associations with these buildings. In addition, alterations to these historic buildings and/or their lack of contemporaneity precludes their eligibility for the NRHP either individually or collectively as a district.

FIGURE 3-22
HISTORIC RESOURCES LOCATED WITHIN THE HISTORIC APE



Note: Shovel tests are not to scale.
Source: ACI, 2011.

TABLE 3-15
PREVIOUSLY AND NEWLY RECORDED
HISTORIC RESOURCES WITHIN THE HISTORICAL APE

FMSF	Site Name/Address	Date	Style	NRHP Eligibility
Fort Hamer Alternative				
*8MA763	1609 2nd Avenue (now 6009 121st Avenue)	ca. 1930	Frame Vernacular	Not Eligible
8MA1213	108 Upper Manatee River Road	ca. 1950	Frame Vernacular	Not Eligible
8MA1214	11311 Upper Manatee River Road	ca. 1939	Mediterranean Revival	Not Eligible
8MA1215	4402 Fort Hamer Road	ca. 1940	Frame Vernacular	Not Eligible
8MA1216	5432 Fort Hamer Road	ca. 1940	Frame Vernacular	Not Eligible
8MA1217	5909 Fort Hamer Road	ca. 1951	Frame Vernacular	Not Eligible
8MA1218	5925 Fort Hamer Road	ca. 1924	Frame Vernacular	Not Eligible
8MA1219	12109 60th Street East	ca. 1926	Frame Vernacular	Not Eligible
8MA1220	12116 60th Street East	ca. 1940	Frame Vernacular	Not Eligible
8MA1221	12112 60th Street East	ca. 1940	Frame Vernacular	Not Eligible
8MA1222	6104 Fort Hamer Road	ca. 1950	Frame Vernacular	Not Eligible
8MA1223	6108 Fort Hamer Road	ca. 1950	Frame Vernacular	Not Eligible
8MA1224	6112 Fort Hamer Road	ca. 1940	Frame Vernacular	Not Eligible
8MA1225	6204 Fort Hamer Road	ca. 1950	Frame Vernacular	Not Eligible
8MA1226	12129 US 301	ca. 1950	Ranch	Not Eligible
*8MA1325	Moore Dairy South Shed ± 110 Upper Manatee River Road	ca. 1945	Frame Vernacular	Not Eligible
*8MA1326	Moore Dairy Building #1 112 Upper Manatee River Road	ca. 1950	Masonry Vernacular	Not Eligible
*8MA1468	6111 121st Avenue East	Ca. 1954	Frame Vernacular	Not Eligible
Rye Road Alternative				
8MA1472	Palmetto Pines Golf Course Resource Group	ca. 1956	Not applicable	Not Eligible
8MA1474	Clubhouse Palmetto Pines Golf Course	ca. 1956	Masonry Vernacular	Not Eligible
8MA1475	15450 Golf Course Road	ca. 1950	Masonry Vernacular	Not Eligible
8MA1476	3250 Rye Road	ca. 1945	Frame Vernacular	Not Eligible
8MA1477	Rye Road Bridge	ca. 1950	Beam/Girder	Not Eligible

* Denotes previously recorded resource.

Finally, the newly recorded resources are separated from the Parrish Historic District (located north of the project APE) by non-historic construction, historic buildings lacking integrity, and open space. In addition, the Proposed Action would end approximately 160 feet to the west of the Parrish Historic District boundary for the westbound lanes of US 301, and approximately 550 feet to the west of the district boundary for the eastbound lanes. Thus, the district is not affected.

Five historic resources were identified within the Rye Road Alternative. These include one resource group (8MA1472), one bridge (8MA1477), and three buildings (8MA1474-8MA1476). Like those resources along the Fort Hamer Alternative, these resources are commonly occurring types of architecture with no identified significant historical associations. Therefore, they are not considered eligible for listing in the NRHP. The completed FMSF forms for the historic resources recorded for this CRAS are located in Appendix C. Also in Appendix C are the FMSF forms for the four previously recorded structures. The FMSF form for 8MA763 was updated in 2006 as part of the CRAS for the *US 301 (SR 43)/Fort Hamer Road Intersection Safety Improvement Project Development and Environmental (PD&E) Study* (ACI, 2006a).

The FMSF form for 8MA1468 was also recorded as part of this survey (ACI, 2006a) and not updated. The FMSF forms for 8MA1325 and 8MA1326 were not updated as field survey indicated no changes to the structures. Individual site descriptions follow.

Previously Recorded Resources

8MA763: This Frame Vernacular residence was constructed ca. 1930 at 6009 121st Avenue East (formerly 1609 2nd Avenue). This residence is a typical example of Frame Vernacular structures found throughout Manatee County and available information did not reveal significant historical associations. As a result, 8MA763 does not appear NRHP eligible.

8MA1325: This Frame Vernacular barn at the southeast corner of the Moore Dairy Farms parcel, along Upper Manatee River Road between East 3rd Avenue and East 2nd Avenue, was constructed ca. 1945. The concrete block and wood frame residence has a continuous concrete block foundation. It has a combination hip and shed roof, clad in 5-V crimp metal sheeting. This Frame Vernacular barn is typical of post World War II construction found throughout Florida, and numerous non-historic alterations have compromised its architectural integrity. Furthermore, limited research revealed no historical significance. Therefore, 8MA1325 does not appear NRHP eligible (Janus, 2003b).

8MA1326: This Masonry Vernacular building sits within the Moore Dairy Farms parcel, along Upper Manatee River Road between East 3rd Avenue and East 2nd Avenue, was constructed ca. 1950. The concrete block structure has a continuous concrete block foundation and a gable roof, clad with 5-V crimp metal sheeting. This Masonry Vernacular building is typical of post World War II dairy construction found throughout Florida. Due to its late construction date, limited historical significance evidenced in the available data, and non-historic additions, 8MA1326 does not appear NRHP eligible (Janus, 2003b).

8MA1468: This Frame Vernacular residence at 6111 121st Avenue East was constructed ca. 1954. It has a continuous foundation of concrete block, walls faced with vertical and horizontal wood siding, and gable, with a brick chimney east of the ridge line, and flat roofs faced with composition shingle. This residence is a typical example of Frame Vernacular structures found throughout Manatee County, and available information did not reveal significant historical associations. As a result, 8MA1468 does not appear NRHP eligible (ACI, 2006b).

Newly Recorded Resources

8MA1213: This one-story Frame Vernacular residence and dairy constructed ca. 1950 is located at 108 Upper Manatee River Road. The wood frame residence has a continuous concrete block foundation, asbestos shingle siding, a hip roof, and an interior brick chimney. This Frame Vernacular residence and dairy is typical of post World War II construction found throughout Florida. Due to its late construction date, limited historical significance evidenced in the available data, and alterations, 8MA1213 does not appear NRHP eligible.

8MA1214: This residence, a two-story Mediterranean Revival style building constructed ca. 1939, is located at 11311 Upper Manatee River Road. The irregularly-shaped building is surfaced with stucco, has a concrete slab foundation, a flat roof, and six- and eight-light metal casement and one-light fixed windows. Historical research at the Eaton Florida History Room of the Manatee County Public Library indicated that this building was constructed as a ranch ca. 1939 by Wilson S. Isherwood. It appears that Isherwood retained ownership of the property through the mid- to late-1950s. No other information was available concerning Isherwood or subsequent owners and the current owner was not cooperative with ACI's efforts to research the history and possible alterations to the building.

8MA1215: This Frame Vernacular style residence located at 4402 Fort Hamer Road was constructed ca. 1940. The one-story building is characterized by weatherboard siding, a gable roof, a continuous concrete block foundation, and two porches situated on the west elevation. This residence is typical of Frame Vernacular architecture found throughout Manatee County. In addition, the limited data available does not indicate any historical significance. Therefore, it does not appear that 8MA1215 is NRHP eligible.

8MA1216: This one-story residence at 5432 Fort Hamer Road was constructed ca. 1940. The rectangular building has a continuous concrete block foundation, a hip roof, an interior masonry chimney, and a porch with a shed roof on the west elevation. This typical Frame Vernacular residence has lost its architectural integrity due to a substantial number of alterations. In addition, the limited information available did not indicate any historical significance. Thus, 8MA1216 does not appear NRHP eligible.

8MA1217: This Frame Vernacular residence located at 5909 Fort Hamer Road was constructed ca. 1951. The rectangular, one-story building has a gable roof, asbestos shingle and weatherboard siding, and a continuous concrete block foundation. This Frame Vernacular building is typical of post World War II architecture found throughout the area. Available information did not indicate any historical significance. As a result, 8MA1217 does not appear NRHP eligible.

8MA1218: This one-and-one-half-story residence was constructed ca. 1924 in the Frame Vernacular style at 5925 Fort Hamer Road. This irregularly-shaped building has a brick pier foundation, weatherboard siding, and a gable roof with a shed dormer on the north elevation. This residence, of no known historical significance, is typical of 1920s Boom era architecture

found throughout Florida. Furthermore, alterations have impacted the building's architectural integrity. Thus, 8MA1218 does not appear to meet NRHP eligibility criteria.

8MA1219: This Frame Vernacular residence was constructed ca. 1926 at 12109 60th Street East. The one-story rectangular building has a concrete block pier foundation, a combination of plywood, asbestos shingle, and drop siding, a gable roof, and two-light metal awning windows. Non-historic and non-sympathetic alterations have diminished the architectural integrity of this typical Frame Vernacular residence. Furthermore, the limited historical data available did not indicate any significance. Thus, 8MA1219 does not appear NRHP eligible.

8MA1220: This Frame Vernacular one-story residence located at 12116 60th Street East was constructed ca. 1940. This rectangular building has asbestos shingle and plywood siding, a continuous concrete block foundation, a gable roof, and a brick chimney located on the exterior west wall. Given the similarity of this residence to others in Manatee County and the lack of historical significance in the available data, 8MA1220 does not appear NRHP eligible.

8MA1221: Constructed ca. 1940, this Frame Vernacular residence was moved from Sarasota to its current location at 12112 60th Street East around 1948, according to a neighbor. The one-story rectangular residence has a continuous concrete block foundation, asbestos shingle siding, a gable roof, and 1/1 wood double-hung sash windows. Many examples of this type of Frame Vernacular residence remain throughout the immediate area and Manatee County. Additionally, limited research did not show any significant historical associations. Therefore, 8MA1221 does not appear to meet NRHP eligibility criteria.

8MA1222: This rectangular one-story residence located at 6104 Fort Hamer Road was constructed ca. 1950. The Frame Vernacular building is characterized by a continuous concrete block foundation, metal siding, a gable and shed roof, and two- and three-light metal awning and 2/2 metal single-hung sash windows. Limited research did not suggest that this residence possesses any historical significance. Furthermore, this building is typical of post World War II Frame Vernacular residences found throughout Florida. Therefore, 8MA1222 does not appear NRHP eligible.

8MA1223: This one-story rectangular building was constructed ca. 1950 at 6108 Fort Hamer Road. This residence has a concrete block pier foundation with brick infill, a gable roof, and weatherboard siding. Available data did not demonstrate that this building had any historical significance. Furthermore, this modest residence is a typical example of Frame Vernacular residential construction found throughout the surrounding area. Consequently, 8MA1223 does not appear NRHP eligible.

8MA1224: Constructed ca. 1940, this rectangular, one-story Frame Vernacular residence is located at 6112 Fort Hamer Road. Given the extent of the non-historic and non-sympathetic alterations to this residence, in combination with its lack of historical significance as evidenced in the available data, 8MA1224 does not appear eligible for listing in the NRHP.

8MA1225: This Frame Vernacular residence located at 6204 Fort Hamer Road was constructed ca. 1950. This modest residence is a typical example of Frame Vernacular residential construction found throughout Manatee County. In addition, non-historic alterations have diminished this building's architectural integrity. As available data did not demonstrate any historical significance, 8MA1225 does not appear NRHP eligible.

8MA1226: This one-story rectangular residence was constructed ca. 1950 in the Ranch style. This masonry building is surfaced with stucco, has a continuous concrete block foundation, a hip roof and two interior masonry chimneys. This residence is typical of post World War II residential architecture found throughout the region. In addition, limited research did not reveal any historical significance. Thus, 8MA1226 does not appear NRHP eligible.

8MA1475: This two-story Masonry Vernacular style structure was constructed ca. 1950 at 15450 Golf Course Road. Its concrete block walls, faced with clapboard on the second story, rest on a continuous foundation, also of concrete block. It is topped by a gable roof, clad with composition shingle, and there are brick chimneys located within the north slope of the roof. This is a typical example of the Masonry Vernacular style found throughout Manatee County, and limited research revealed no significant historical associations. Therefore, 8MA1475 does not appear eligible for listing in the NRHP.

8MA1476: This Frame Vernacular style structure was constructed ca. 1945 at 3250 Rye Road. This is a typical example of the Frame Vernacular style found throughout Manatee County, and limited research revealed no significant historical associations. Furthermore, additions and alterations have compromised its historic integrity. Therefore, 8MA1476 does not appear eligible for listing in the NRHP.

8MA1477: Florida Department of Transportation (FDOT) bridge number 134022 is an example of a typical beam/girder bridge found in Manatee County. It was constructed over the Manatee River ca. 1950 with an overall span of approximately 100 feet 6.5 inches running north to south, while its overall width is approximately 21 feet 6 inches. It consists of an approach span, at 10 feet 8 inches, and a main span of 89 feet 10.5 inches. It is supported by seven concrete bent piers, each with four piles. The superstructure of the bridge contains low concrete wall on either side, supporting a steel guardrail on steel posts (unknown date). This bridge, 8MA1477, is typical of bridge construction found in Manatee County, and limited research did not uncover any significant historical associations. Therefore, this resource does not appear to be eligible for listing in the NRHP (Jackson, 1992). Note: This bridge structure was demolished and replaced with a new bridge structure in 2008.

<u>Resource Group</u>

8MA1472: The Palmetto Pines Golf Course Resource Group is a 217-acre golf course complex at 14355 Golf Course Road in Manatee County. The resource group includes five individual resources, two of which are contributing, and three of which are non-contributing. The two contributing resources are the Clubhouse (8MA1474), which dates to ca. 1956, and the original

40-acre nine-hole golf course, known as the "White Course," (purple area on Figure 3-22) which dates to ca. 1956, and was constructed by Floyd Myers. Mr. Myers was a "snow bird" from Akron, Ohio who owned a farm and a car dealership in the area. He constructed the "White Course" as a private course for use by himself and invited guests. Currently, Golf Course Road passes through the resource group. Per telephone conversation with the FMSF office on September 27, 2006, this course was not given a separate resource number. The Club House is located to the north of the road and the "White Course" is to the south of the road (Figure 3-22, purple area). However, neither are situated within the historical APE. They lie approximately 100 feet outside of the APE. The three non-contributing resources are nine-hole courses: the "Blue Course," the "Orange Course," and the "Red Course," all of which date to the mid-1960s. Golf Course Road, which was once a dirt road has retained its name. In summary, the White Course, built in 1956, was not the first golf course in Manatee County (the Bradenton Country Club, for example, came at least 30 years prior to Palmetto Pines). Furthermore, non-historic golf course additions (Blue, Orange, and Red courses) have compromised its integrity. Therefore, 8MA1472 is not considered eligible for listing in the NRHP.

8MA1474: This Masonry Vernacular style structure was constructed ca. 1956 at 14355 Golf Course Road. This is a typical example of the Masonry Vernacular style found throughout Manatee County, and limited research revealed no significant historical associations. Therefore, 8MA1474 does not appear eligible for listing in the NRHP.

3.2.5 DOCUMENTARY RESEARCH RESULTS

Extensive archival and historical research of available materials resulted in a comprehensive documentation of Fort Hamer and the Seminoles who emigrated from the post (provided in Appendix C). Research was successful in consolidating data gathered from a wide variety of sources into one document. This document began with a detailed outline of the available data, resulting from archival and historical research conducted at the local, regional, and national level, which was then reviewed by Willard Steele and Dr. Joe Knetsch. Historical military and local maps assisted in providing an approximate location for Fort Hamer on the southern banks of the Manatee River, while Post Returns for Fort Hamer provided specific information regarding officers stationed at the fort and daily operations. Military correspondence and government reports outline specific structures located at Fort Hamer and its function as a supply depot and central post among several military installations. In addition, these reports outline the procedures for Seminole emigration from Fort Hamer following the Indian Scare of 1849 and indicate negotiations with the Seminoles, specific groups of Native Americans who were deported, how much they were paid, as well as names of vessels they were transported on and the route the took upon reaching New Orleans. Subsistence Rolls and Annual Annuity Reports published in Raymond C. Lantz's *Seminole Indians of Florida 1850-1874,* were critical in providing names of individuals who emigrated from Fort Hamer to the Indian Territory in the west. Using available data, the research conducted was successful in providing a thorough history of Fort Hamer, including the emigration of 85 Seminoles from this point. Although the exact location of the fort along the southern banks of the Manatee River remains elusive, as all

fort structures were removed from the post and the coastline along the river has shifted, its historical associations continue to be an important part of Florida history.

Cultural impacts are discussed in Section 4.2.

3.3 NATURAL ENVIRONMENT

This section discusses the natural environment features present within the Fort Hamer Alternative and Rye Road Alternative study areas.

3.3.1 LAND USE/VEGETATIVE COVER

Fort Hamer Alternative

The Fort Hamer Alternative Study Area is located in east-central Manatee County along the Manatee River. I-75 and the developed urban areas of Bradenton and Palmetto lie west of the study area, while mixed rural and suburban areas occur east of the study area. The Fort Hamer Alternative Study Area and surrounding areas have experienced considerable growth and development within the past decade. During this time, residential subdivisions, a school, and golf course amenities have been constructed within and immediately adjacent to the study area; however, much of the study area remains in agriculture, forested uplands, open land, and surface waters (including wetlands).

Table 3-16 shows the land use/vegetative cover types in the Fort Hamer Alternative along with their FDOT Florida Land Use Cover and Forms Classification System (FLUCFCS) and U.S. Fish and Wildlife Service (FWS) classifications. As shown in Table 3-16, uplands account for 74.3 percent of the Fort Hamer Alternative Study Area. Of this percentage, developed lands, including residential areas, golf courses, and roadways make up the largest area (42.8 percent of the study area), followed by agriculture (25.5 percent of the study area). Undeveloped non-agricultural and forested upland areas account for only 6.0 percent of the Fort Hamer Alternative Study Area. Upland forested areas within the study area generally consist of small remnant patches of shrub and brushland, Brazilian pepper (*Schinus terebinthifolius*), live oak (*Quercus virginiana*), cabbage palm (*Sabal palmetto*), and hardwood conifer mixed. Brazilian pepper (a nuisance exotic shrub) is prevalent in many of the upland communities present in this alternative.

Wetlands and other surface waters within the Fort Hamer Alternative make up 25.7 percent of the study area and are discussed in Section 3.3.2.

Land use/vegetative cover maps of the Fort Hamer Alternative Study Area are provided in the Biological Assessment (BA) in Appendix E of this FEIS.

TABLE 3-16
LAND USE/VEGETATIVE COVER TYPES WITHIN
THE FORT HAMER ALTERNATIVE STUDY AREA

	FLUCFCS Classification[1]	FWS Classification[2]	Description	Acres	Total Acres	Percent of Study Area
Uplands						
Developed Lands	110	N/A	Residential – Low Density	605.5		
	120	N/A	Residential – Medium Density	741.2		
	130	N/A	Residential – High Density	119.4		
	140	N/A	Commercial and Services	73.9		
	150	N/A	Industrial	0.1		
	170	N/A	Institutional	50.3		
	182	N/A	Golf Courses	196.8		
	185	N/A	Parks	5.2		
	740	N/A	Disturbed Land	25.0		
	814	N/A	Roads and Highways	34.4		
	830	N/A	Utilities	8.2		
			Total Developed Lands		***1,860.0***	***42.8***
Agriculture	210	N/A	Cropland and Pastureland	828.8		
	214	N/A	ROW Crops	26.8		
	220	N/A	Tree Crops	6.3		
	230	N/A	Feeding Operations	43.7		
	240	N/A	Nurseries and Vineyards	65.5		
	250	N/A	Specialty Farms	5.6		
	261	N/A	Fallow Cropland	131.5		
			Total Agriculture		***1,108.2***	***25.5***
Open Lands	190	N/A	Open Land	157.4		
			Total Open Lands		***157.4***	***3.6***
Forested Uplands	320	N/A	Shrub and Brushland	38.6		
	410	N/A	Upland Coniferous Forest	11.8		
	411	N/A	Pine Flatwoods	15.5		
	422	N/A	Brazilian Pepper	2.9		
	427	N/A	Live Oak	6.5		
	428	N/A	Cabbage Palm	0.3		
	434	N/A	Hardwood Conifer Mixed	29.5		
			Total Forested Uplands		***105.1***	***2.4***
			Total Uplands		***3,230.7***	***74.3***
Surface Waters						
Freshwater Lakes and Reservoirs	530	POWHx	Ponds, Reservoirs (includes stormwater ponds)	228.8		
			Total Freshwater Lakes and Reservoirs		***228.8***	***5.3***

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TABLE 3-16 (CONTINUED)
LAND USE/VEGETATIVE COVER TYPES WITHIN
THE FORT HAMER ROAD ALTERNATIVE STUDY AREA

	FLUCFCS Classification[1]	FWS Classification[2]	Description	Acres	Total Acres	Percent of Study Area
Drainage Ditches	510	PEM2Jx	Creeks and Upland-Cut Drainage Ditches	17.5		
				Total Freshwater Ditches	***17.5***	***0.4***
Freshwater Wetlands	615	PFO1P	Stream and Lake Swamps (Bottomland)	272.7		
	617	PFO1C	Mixed Wetland Hardwoods	17.0		
	619	PFO3Y	Exotic Wetland Hardwoods	1.1		
	630	PFO6/7E	Wetland Forested Mixed	176.0		
	631	PSS1C	Wetland Shrub	1.7		
	641	PEM1E	Freshwater Marshes	121.8		
	643	PEM2B	Wet Prairies	21.6		
	644	PEM1H	Emergent Aquatic Vegetation	9.6		
				Total Freshwater Wetlands	***621.5***	***14.3***
Estuarine Streams	510	E1UB2L & E1UB2N	Streams and Waterways (including rivers)	123.5		
				Total Estuarine Streams	***123.5***	***2.8***
Estuarine Wetlands	612	E2SS3N	Mangrove Swamps	11.7		
	631	E2SS3A	Wetland Shrub	0.6		
	642	E2EM1N & E2EM1P	Saltwater Marshes	113.2		
				Total Estuarine Wetlands	***125.5***	***2.9***
				Total Surface Waters	***1,116.8***	***25.7***
				Total Land Use/Vegetative Cover	**4,347.5**	**100.0**

[1] FDOT, 1999.
[2] Cowardin, *et al.,* 1979.

Rye Road Alternative

The Rye Road Alternative Study Area is located east of the Fort Hamer Alternative and west of the Manatee River Dam. Compared to the Fort Hamer Alternative, the Rye Road Alternative Study Area is more rural (**Table 3-17**). Rural habitats within the study area consist of agriculture, forested uplands, open land, and surface waters (including wetlands). Along the Fort Hamer Road portion of the study area, low density residences are present along with some improved pasture. Along the western portion of Golf Course Road, a subdivision has been built within the study area west of Spencer Parrish Road. Between Gamble Creek Road and Jim Davis Road, a golf course and associated buildings are located on the north side of Golf Course Road.

TABLE 3-17
LAND USE/VEGETATIVE COVER TYPES WITHIN THE RYE ROAD ALTERNATIVE STUDY AREA

	FLUCFCS Classification[1]	FWS Classification[2]	Description	Acres	Total Acres	Percent of Study Area
Uplands						
Developed Lands	110	N/A	Residential – Low Density	788.8		
	120	N/A	Residential – Medium Density	846.7		
	129	N/A	Medium Density Under Construction	72.6		
	140	N/A	Commercial and Services	52.3		
	142	N/A	Wholesale Sales and Services	0.5		
	143	N/A	Professional Services	2.3		
	148	N/A	Cemeteries	3.8		
	170	N/A	Institutional	7.0		
	171	N/A	Educational Facilities	12.5		
	175	N/A	Governmental	6.3		
	182	N/A	Golf Courses	164.0		
	740	N/A	Disturbed Land	1.5		
	814	N/A	Roads and Highways	155.0		
	833	N/A	Water Supply Plant	0.9		
	834	N/A	Sewage Treatment	0.3		
				Total Developed Lands	***2,114.2***	***28.4***
Agriculture	210	N/A	Cropland and Pastureland	503.7		
	211	N/A	Improved Pasture	1065.7		
	212	N/A	Unimproved Pasture	41.5		
	220	N/A	Tree Crops	66.6		
	221	N/A	Citrus Groves	92.7		
	224	N/A	Abandoned Groves	108.0		
	240	N/A	Nurseries and Vineyards	31.1		
	241	N/A	Tree Nursery	7.8		
	242	N/A	Sod Farms	316.8		
	250	N/A	Specialty Farms	4.4		
	260	N/A	Other Open Lands (Rural)	139.9		
				Total Agriculture	***2,378.1***	***32.0***
Open Lands	190	N/A	Open Land	354.5		
	193	N/A	Urban Land in Transition without positive indicators of intended activity	3.6		
				Total Open Lands	***358.1***	***4.8***
Forested Uplands	320	N/A	Shrub and Brushland	307.0		
	321	N/A	Palmetto Prairies	63.3		
	410	N/A	Upland Coniferous Forests	14.9		
	411	N/A	Pine Flatwoods	83.6		

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TABLE 3-16 (CONTINUED)
LAND USE/VEGETATIVE COVER TYPES WITHIN THE RYE ROAD ALTERNATIVE STUDY AREA

	FLUCFCS Classification[1]	FWS Classification[2]	Description	Acres	Total Acres	Percent of Study Area
Forested Uplands (continued)	412	N/A	Longleaf Pine-Xeric Oak	118.4		
	413	N/A	Sand Pine	110.6		
	422	N/A	Brazilian Pepper	0.5		
	427	N/A	Live Oak	63.0		
	434	N/A	Hardwood-Conifer Mixed	303.9		
	436	N/A	Upland Scrub, Pine and Hardwoods	15.4		
	438	N/A	Mixed Hardwoods	2.05		
			Total Forested Uplands		***1,082.6***	***14.6***
			Total Uplands		***5,933.0***	***79.8***
Surface Waters						
Freshwater Lakes and Reservoirs	520	POWH	Lakes	0.2		
	530	POWHx	Reservoirs (includes stormwater ponds)	172.4		
	534	POWHx	Reservoirs less than 10 acres	13.2		
			Total Freshwater Lakes and Reservoirs		***185.7***	***2.5***
Drainage Ditches	510	PUB2Jx/PEM1Jx/R2UB2	Upland-Cut Drainage Ditches/Channelized Creeks	31.0		
			Total Freshwater Ditches		***31.0***	***0.4***
Freshwater Streams	510	R2UB2	Streams and Waterways (including rivers)	28.7		
			Total Freshwater Streams		***28.7***	***0.4***
Freshwater Wetlands	615	PFO1P	Stream and Lake Swamps (Bottomland)	814.4		
	617	PFO1C	Mixed Wetland Hardwoods	12.9		
	618	PSS1C	Willow and Elderberry	2.8		
	621	PFO2C	Cypress	7.9		
	630	PFO1C	Wetland Forested Mixed	133.9		
	641	PEM1C	Freshwater Marshes	169.8		
	643	PEM1C	Wet Prairies	102.3		
	644	PAB3	Emergent Aquatic Vegetation	8.2		
	653	PUB2	Intermittent Ponds	0.9		
			Total Freshwater Wetlands		***1,252.9***	***16.9***
			Total Surface Waters		***1,498.3***	***20.2***
			Total Land Use/Vegetative Cover		**7,431.3**	**100.0**

[1] FDOT, 1999.
[2] Cowardin, *et al.,* 1979.

Along the eastern portion of Golf Course Road, more residences are present among large areas of forested uplands and agriculture habitats. Rural areas are most prominent in the northern and central portions of Rye Road. Commercial and residential areas occur along the southern portion of Rye Road.

Uplands account for approximately 80 percent of the Rye Road Alternative Study Area. Of this percentage, developed lands (including residential areas, golf courses, parks, and roadways) make up 28.4 percent of the study area. Agriculture lands make up the largest area (32.0 percent of the study area). Undeveloped uplands, including open land (non-agricultural) and forested areas, account for 19.4 percent of the study area. Brazilian pepper is prevalent in many of the upland communities present in this alternative.

Freshwater wetlands and other surface waters make up 20.2 percent of the Rye Road Alternative Study Area and are discussed in Section 3.3.2.

Land use/vegetative cover maps of the Rye Road Alternative Study Area are provided in the BA in Appendix E of this FEIS.

Potential land use/vegetative cover impacts resulting from implementation of each alternative are discussed in Section 4.3.1.

3.3.2 WETLANDS

Pursuant to Executive Order 11990, *Protection of Wetlands*, federal actions should avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. In accordance with this order, an assessment of wetlands and other surface waters, which may be affected by implementation of either the Fort Hamer Alternative or Rye Road Alternative, has been undertaken.

Wetlands are defined by the U.S. Army Corps of Engineers (USACE) (Federal Register, 1982) and the EPA (Federal Register, 1980) as:

> *"Those areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bog, and similar areas."*

This section provides a summary of the surface waters, including wetlands, found within the study areas of the two build alternatives. The study area of each build alternative is defined as the area contained within a 0.5-mile buffer of the alternative's centerline. Maps and descriptions of the surface waters and wetlands found within each build alternative are provided in the Wetlands Evaluation Report (WER) contained in Appendix D of this FEIS.

Fort Hamer Alternative

The Fort Hamer Alternative is laterally bisected by the Manatee River, which flows east to west at this location. Within this area, the Manatee River has a relatively slow current, tidally influenced, and broad (approximately 2,100 feet). The mean high water and mean low water elevations of the river at the Fort Hamer Park boat ramp at the southern terminus of Fort Hamer Road are +0.53 feet and -1.21 feet NAVD 88 (North Atlantic Vertical Datum), respectively. Black needle rush (*Juncus roemerianus*) dominated salt marsh occurs on both sides of the main channel. These marshes are interspersed with long, narrow depositional formations supporting mangroves, stream swamp, and mixed wetland forested habitats.

Within the study area, natural wetland systems north of the river include a large freshwater marsh on the west side of Fort Hamer Road and a large stream swamp east of Fort Hamer Road. The freshwater marsh is ringed by a narrow band of mixed wetland hardwoods which, in turn, are surrounded by residential developments and stormwater ponds. These wetlands drain south through the large freshwater marsh and eventually to the Manatee River via a small creek located along the western boundary of Fort Hamer Park. The stream swamp east of Fort Hamer Road is bordered by a residential development to the north and vacant land (former agricultural fields) to the south. This swamp drains east to Gamble Creek, a large tributary to the Manatee River.

Few natural wetland systems remain on the south side of the Manatee River within the Fort Hamer Alternative Study Area. Narrow, mixed forested wetlands that drain to the Manatee River are located within the Waterlefe subdivision adjacent to the river and in a low-density residential area on both sides of Upper Manatee River Road. Several other small, isolated wetlands are scattered throughout the study area south of the river. Numerous excavated stormwater ponds and golf course ponds are located throughout the western half of the study area on both sides of the river.

Rye Road Alternative

Between SR 64 and Upper Manatee River Road, Rye Road crosses five small tributaries of Mill Creek, which flows from south to north to the Manatee River. These tributaries contain seasonal or intermittent flows and are typically bordered by red maple (*Acer rubrum*), pop ash (*Fraxinus caroliniana*), and laurel oak (*Quercus laurifolia*).

Rye Road crosses the Manatee River immediately north of its intersection with Upper Manatee River Road. At this location, the river is relatively narrow (approximately 73 feet wide) and shallow with a moderately swift current. Streams and lake swamps (bottomland) surround each side of this river crossing and consist predominately of red maple, sweetbay (*Magnolia virginiana*), laurel oak, swamp dogwood (*Cornus foemina*), water oak (*Quercus nigra*), pop ash, and cabbage palm.

Golf Course Road crosses Gamble Creek approximately 900 feet east of Jim Davis Road (Appendix J-2, Sheet No. 13). Gamble Creek flows north to south into the Manatee River. At this crossing, this channelized stream has a moderately swift current and shallow water depth. Adjacent land use types consist of abandoned citrus groves, improved pasture, and upland live oak forests.

Natural wetland systems within the Rye Road Alternative Study Area include several channelized creeks surrounded by forested wetlands/floodplains. Dominant vegetation within these forested wetlands consists of red maple, laurel oak, cabbage palm, and sweetbay. Most of these forested floodplain forests are bordered by either residential areas and/or agriculture fields. All eventually flow to the Manatee River either directly or via connected creeks.

In the southern portion of the Rye Road Alternative Study Area, isolated freshwater marshes are dominated by torpedo grass (*Panicum repens*), pickerelweed (*Pontederia cordata*), and primrose willow (*Ludwigia peruviana*).

Throughout the Rye Road Alternative Study Area, several isolated reservoirs are present that serve as either livestock ponds, stormwater management facilities for residential subdivisions/golf courses, or have been excavated by private landowners.

Potential wetland impacts resulting from implementation of each alternative are discussed in Section 4.3.2.

3.3.3 ESSENTIAL FISH HABITAT

3.3.3.1 Introduction

The *Magnuson-Stevens Fishery Conservation and Management Act*, as amended through October 11, 1996 (MSFCMA), requires the regional Fishery Management Councils and the Secretary of Commerce to describe and identify Essential Fish Habitat (EFH) for species under federal Fishery Management Plans. EFH is defined in the MSFCMA as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The term "fish" includes finfish, crabs, shrimp, and lobsters in the Gulf of Mexico region. On April 23, 1997 (62 FR 19723), the National Marine Fishery Service (NMFS) issued proposed regulations containing guidelines for the description and identification of EFH in fishery management plans, adverse impacts on EFH, and actions to conserve and enhance EFH. These rules were revised and finalized on January 22, 2002 (67 FR 2343). The regulations also provide a process for NMFS to coordinate and consult with federal and state agencies on activities that may adversely affect EFH. The purpose of the rule is to assist in describing and identifying EFH, minimize adverse effects on EFH, and identify other actions to conserve and enhance EFH. The purpose of the coordination and consultation provisions is to specify procedures for adequate consultation with NMFS on activities that may adversely affect EFH.

3.3.3.2 Previous EFH Consultation (Pre-USCG as Lead)

In August 1999, as part of the NEPA documentation for the Federal Highway Administration (FHWA)/FDOT Fort Hamer Bridge project, the NMFS provided information that specific wetlands in the project area were identified as EFH. In August 2001, in their response to the draft WER for the FDOT project, the NMFS noted that the WER adequately described the fishery resources and habitats in the project area and adequately described the potential adverse impacts associated with the Proposed Action. The NMFS also noted that the WER identified indirect impacts (i.e., shading) to vegetative communities but that the FDOT anticipated providing mitigation only for the direct impacts (i.e., filling) to wetlands. In their Preliminary EFH Conservation Recommendation, the NMFS stated that compensatory mitigation should be provided for lost and reduced wetland functions resulting from direct and indirect project impacts such as filling, dredging, and shading. Copies of correspondence from the NMFS for the FHWA/FDOT Fort Hamer Bridge project are provided in the WER in Appendix D of this FEIS.

3.3.3.3 Current EFH Coordination (USCG as Lead)

In July 2010, the USCG provided the NMFS with a Notice of Intent (NOI) to prepare the EIS for the proposed Fort Hamer Bridge (Federal Register, 2010). In addition, NMFS was invited by a letter dated July 20, 2010, to be a cooperating agency with the USCG for the EIS preparation. The NMFS responded that they were unable to be a cooperating agency, but would participate in meetings, field investigations, and review of project documents. The Draft EIS (DEIS) for the proposed action was released for public review on July 5, 2013. A copy of the WER was provided as Appendix D of the DEIS. On July 24, 2013, the USCG initiated MSFCMA consultation with the NMFS.

On August 8, 2013 the NMFS responded with comments on the DEIS and WER and requested additional information for NMFS' review. In emails dated August 27 and 29, 2013, the NMFS requested additional information regarding project-related impacts to estuarine resources. In a letter dated September 18, 2013, the USCG provided responses to the NMFS' comments. On October 2, 2013 the NMFS requested additional information regarding project impacts and construction methodology. A response to this request was provided to NMFS on October 9, 2013. On December 16, 2013, the NMFS issued a concurrence letter to the USCG, thus concluding MSFCMA consultation. Copies of correspondence with the NMFS are included in Appendix A.

During project permitting, the NMFS will serve as a commenting agency to the USACE during their review of the Department of the Army Section 404 permit application and to the USCG during their review of the Coast Guard Bridge permit application.

3.3.3.4 Existing EFH Resources

The Gulf of Mexico Fisheries Management Council (GMFMC) separates EFH into marine and estuarine components. In marine waters of the Gulf of Mexico, EFH is defined as all marine waters and substrates (mud, sand, shell, rock, hardbottom, and associated biological communities) from the shoreline to the seaward limit of the Exclusive Economic Zone. For the estuarine component, EFH is defined as all estuarine waters and substrates (mud, sand, shell, rock, and associated biological communities), including the sub-tidal vegetation (seagrasses and algae) and adjacent inter-tidal vegetation (marshes and mangroves) (GMFMC, 1998). Thus, all

tidal waters and substrates within the Manatee River and adjoining wetlands, including inter-tidal zones, are considered estuarine EFH by the GMFMC.

All tidal waters and adjoining wetlands within the Fort Hamer Alternative are considered EFH. The surface waters of the Manatee River and adjoining wetlands within the Rye Road Alternative are not considered EFH. Although water elevation changes may be perceptible at the Rye Road Bridge, the Manatee River within the Rye Road Alternative is not subject to regular ebb and flood tidal fluctuations. Any perceived water elevation change is due to tailwater effects (decrease in current) caused by downstream tidal fluctuations. Although no EFH is present within the Rye Road Alternative, the Rye Road Bridge is located upstream of EFH identified by the NMFS as important nursery and foraging habitat for a number of economically important fish species.

The GMFMC has identified and described EFH for 55 representative managed species and the coral complex. Species' accounts of each of the 55 representative managed species and the coral complex were reviewed to assess the potential occurrence of these species within the Fort Hamer Alternative during any stage of their life cycle. **Table 3-18** lists the GMFMC managed species with potential to occur in the Fort Hamer Alternative Study Area. Of the 55 representative fish, shrimp, and crab species listed by the GMFMC, three are considered to have a high potential to occur within the study area. These are the pink shrimp (*Penaeus duorarum*), red drum (*Sciaenops ocellatus*), and gray snapper (*Lutjanus griseus*). The remaining 52 representative species and the coral complex are considered to have a low to no potential to occur within the Fort Hamer Alternative Study Area. The WER in Appendix D of this FEIS provides a description of the EFH in the Fort Hamer Alternative Study Area.

TABLE 3-18
GULF OF MEXICO EFH – MANAGED SPECIES[1]
POTENTIAL OCCURRENCE WITHIN THE FORT HAMER ALTERNATIVE STUDY AREA

Fishery Management Plan	Species	Potential Occurrence Within Study Area[2]	Comments
Shrimp	Pink shrimp (*F. duorarum*)	High	Occurs throughout Tampa Bay/Boca Ciega Bay
Red Drum	*Sciaenops ocellatus*	High	Occurs throughout Tampa Bay and the Manatee River
Coastal Migratory Pelagic Resources	Spanish mackerel (*S. maculatus*)	Low	An off-shore or near shore species; juveniles may inhabit estuarine areas but are not estuarine-dependent.
	Cobia (*Rachycentron canadum*)	Low	An off-shore/deepwater species; juveniles may inhabit estuarine areas but are not estuarine-dependent.
Stone Crab	Florida stone crab (*Menippe mercenaria*)	Low	Prefers higher salinities.
	Gulf stone crab (*M. adina*)	Low	Prefers higher salinities.
Reef Fish	Gag grouper (*M. microlepis*)	Low	Prefers higher salinities.
	Gray snapper (*L. griseus*)	High	Postlarvae and juvenile found in most estuarine habitats.

[1] GMFMC, 1998.
[2] Table shows only those managed species with a potential to occur within the study area. Ratings are None, Low, and High and are based on habitat suitability and species' range. See Table 14 in Appendix D for a description of each rating.

None of the 55 representative managed species and coral complex has the potential to occur within the Rye Road Alternative Study Area due to its freshwater component (i.e., lack of saltwater and estuarine habitats).

Potential EFH impacts resulting from implementation of each alternative are discussed in Section 4.3.3.

3.3.4 WILDLIFE

This section discusses the general wildlife known or expected to occur within the Fort Hamer Alternative and Rye Road Alternative study areas. Potential impacts to wildlife resulting from implementation of each alternative are discussed in Section 4.3.4.

3.3.4.1 Mammals

Both the Fort Hamer Alternative and the Rye Road Alternative study areas are expected to contain similar terrestrial mammal species. Larger mammal species expected to occur sporadically within both build alternatives are the white-tailed deer (*Odecoileus virginianus*) and feral hog (*Sus scrofa*). Smaller mammals commonly occurring within the two build alternatives include various mice, bats, rabbits (*Sylvilagus* spp.), eastern gray squirrel (*Sciurus carolinensis*), river otter (*Lutra canadensis*), Virginia opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), gray fox (*Urocyon cinereoargenteus*), and bobcat (*Lynx rufus*). These species are typical of those found in similar areas of central Florida.

One marine mammal, the bottle-nosed dolphin (*Tursiops truncatus*), was observed at the mouth of Gamble Creek during field reviews of the Fort Hamer Alternative Study Area. Another marine mammal, the West Indian manatee (*Manatus trichechus*), which is federally- and state-listed as endangered, is known to inhabit the Manatee River within the Fort Hamer Alternative Study Area. Neither dolphins nor manatees are expected to occur within the Rye Road Alternative due to prohibitively shallow water depths. The FWS has designated critical habitat for the manatee in the Manatee River from its confluence with Tampa Bay upstream to the Manatee River Dam. Because of its endangered listing by the FWS and presence of designated critical habitat within both build alternatives, consultation with the FWS is required pursuant to Section 7 of the *Endangered Species Act of 1973*, as amended (ESA). Additional information regarding threatened and endangered species and consultation with the FWS is provided in Section 3.3.5 below and in the BA contained in Appendix E of this FEIS.

3.3.4.2 Migratory Birds

A variety of habitats are available in both build alternatives for numerous migratory bird species. Common wading and shorebirds expected to occur within both build alternatives include the great blue heron (*Ardea herodias*), white egret (*Ardea alba*), and white ibis (*Eudocimus alba*). Waterfowl observed in the Fort Hamer Alternative Study Area during field reviews include the common moorhen (*Gallinula chloropus*) and various duck species. The mosaic of habitats in both build alternatives provide suitable nesting and foraging opportunities for a number of other bird species such as the wild turkey (*Meleagris gallopavo*), northern mocking-bird (*Mimus*

polyglottos), mourning dove (*Zenaida macroura*), blue jay (*Cyanocitta cristata*), red-bellied woodpecker (*Melanerpes carolinus*), pileated woodpecker (*Dryocopus pileatus*), and other various warbler and sparrow species.

Several raptor species were either observed during field reviews of the two build alternatives or are expected to use foraging and nesting habitats within forested areas available in both build alternatives. The raptor species observed and/or anticipated to occur within both build alternatives include the black vulture (*Coragyps atratus*), turkey vulture (*Cathartes aura*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), osprey (*Pandion haliaetus*), northern harrier (*Circus cyaneus*), southeastern American kestrel (*Falco sparverius paulus*), and swallow-tailed kite (*Elanoides forficatus*). A bald eagle (*Haliaeetus leucocephalus*) nest is documented 0.52 mile west of the proposed Fort Hamer Alternative bridge location. Various owl species may also be present within the forested areas of both build alternatives.

The Manatee County Audubon Society owns and operates the 30-acre Felts Audubon Preserve, located approximately 7 miles northwest of the Fort Hamer Alternative in Palmetto, Florida. According to the Society website, members have documented more than 160 avian species at the Preserve (Audubon Society, 2013). A copy of this checklist is provided in **Table 3-19**. Due to regional proximity and availability of habitats, almost all of the bird species documented at the Felts Audubon Preserve could also occur within the study areas of both the Fort Hamer Alternative and Rye Road Alternative.

3.3.4.3 Reptiles and Amphibians

Several species of reptiles and amphibians were observed in both build alternatives during field reviews. These include the American alligator (*Alligator mississippiensis*), black racer (*Coluber constrictor*), water moccasin (*Agkistrodon piscivorus),* softshell turtle (*Apalone ferox*), brown anole (*Anolis sagrei*), common toad (*Bufo terrestris*), and green tree frog (*Hyla cinerea*).

3.3.4.4 Fish

Some of the common fish species observed during field reviews of the Fort Hamer Alternative include mosquito fish (Gambusia holbrooki), tilapia (Tilapia spp.), bluegill (Lepomis macrochirus), largemouth bass (*Micropterus salmoides*), mullet (*Mugil cephalus*), sheepshead minnows (*Cyprinodon variegatus*), and sailfin mollies (*Poecilia latipinna*). Fiddler crabs (*Uca* spp.) and mollusk shells were also observed along the shoreline of the Manatee River within the Fort Hamer Alternative.

Fewer fish species are expected within the Rye Road Alternative due to its lack of estuarine components and small size of the river at the Rye Road Bridge. Mosquito fish, bluegill, and largemouth bass are common to this portion of the Manatee River.

TABLE 3-19
FELTS AUDUBON PRESERVE BIRD SPECIES

FELTS AUDUBON PRESERVE BIRD SPECIES **DATE _____**

(164 species seen as of January 2013)

p = Spring = March, April, May
s = Summer = June, July, August
f = fall = Sept., Oct., Nov.
w = winter = Dec., Jan., Feb.

c = common (usually seen)
u = uncommon (sometimes seen)
r = rare (seldom seen)
a = abundant m= migrant

OBSEREVER'S NAME_____ **time of day** _____

Species	p	s	f	w
Loons/Grebes				
Common Loon				r
Pied-billed Grebe	u		u	u
Pelicans				
American White Pelican				r
Brown Pelican				r
Cormorant/Anhinga				
Double Crested Cormorant	c	c	c	c
Anhinga	c	c	c	c
Bitterns/Herons/Waders				
American Bittern			r	
Great Blue Heron	c	c	c	c
Great Egret	c	c	c	c
Snowy Egret	u	u	u	r
Little Blue Heron	c	c	c	c
Tricolored Heron	u	u	u	c
Cattle Egret	c	c	c	c
Green Heron	r	r	r	r
Black-crowned Night Heron	r	r	r	r
White Ibis	a	a	a	c
Glossy Ibis	u	u	u	u
Roseate Spoonbill	r	u	r	r
Wood Stork	c	c	c	r
Vultures				
Black Vulture	c	c	c	c
Turkey Vulture	c	c	c	a
Geese/Ducks				
Black-bellied Whistling Duck	r	u	u	r
Wood Duck	u	u	u	c
Mottled Duck	c	c	c	c
Blue-winged Teal	c			c
Green-winged Teal			u	
Mallard	r	r	r	r
Muscovy Duck			r	
Hooded Merganser				r
Raptors				
Osprey	u	u	u	u
Swallow-tailed Kite	r	r		u
Bald Eagle	u	u	u	u
Northern Harrier	r		r	u
Sharp-shinned Hawk				u
Cooper's Hawk	u	u	u	u

Species	p	s	f	w
Raptors continued				
Red-shouldered Hawk	c	c	c	c
Broad-winged Hawk			r	
Red-tailed Hawk		r		
American Kestrel	u		c	c
Merlin			r	
Peregrine Falcon				r
Rails				
Common Gallinule (Moorhen)	u	u	u	u
Cranes				
Sandhill Crane	u	u	u	u
Plovers/Stilts/Sandpipers/Snipe				
Killdeer	r	r	r	r
Black-necked Stilt	r	r	r	r
Greater Yellowlegs	m		m	r
Lesser Yellowlegs				r
Solitary Sandpiper	m		m	
Wilson's Snipe				r
Gulls				
Laughing Gull	c	c	c	c
Ring-billed Gull				r
Herring				r
Terns/Skimmer				
Least Tern	r			
Black Skimmer		r		
Pigeons/Doves				
Rock Pigeon	r	r	r	r
Eurasian Collared Dove	u	u	u	u
Mourning Dove	a	a	a	a
Common Ground Dove		r	r	r
Parakeets/Cuckoos				
Nanday (Black-hooded) Parakeet		r	r	r
Monk Parakeet	r			
Yellow-billed Cuckoo	m		m	
Owls				
Eastern Screech Owl		r	r	
Great Horned Owl	u	u	u	u
Barred Owl	r	r	r	r

Species	p	s	f	w
Swift/Nighthawk				
Chimney Swift		u	u	
Common Nighthawk		u		
Hummingbirds				
Ruby-throated Hummingbird		u	u	u
Rufous/Allen's Hummingbird			r	
Kingfisher				
Belted Kingfisher	u		u	u
Woodpeckers				
Red-headed Woodpecker	r	r	r	r
Red-bellied Woodpecker	a	a	a	a
Yellow-bellied Sapsucker	m		m	
Downy Woodpecker	c	c	c	c
Northern Flicker	r	r	r	r
Pileated Woodpecker	c	c	c	c
Flycatchers				
Eastern Wood-pewee		u	u	u
Acadian Flycatcher	r		r	
Least Flycatcher			r	
Eastern Phoebe	m		m	u
Great Crested Flycatcher	u	u		r
Eastern Kingbird		r		
Scissor-tailed Flycatcher	m		m	
Shrike				
Loggerhead Shrike	u	u	u	u
Vireos				
White-eyed Vireo	m		m	r
Yellow-throated Vireo		m		
Blue-headed Vireo	m		m	r
Philadelphia Vireo			m	
Red-eyed Vireo	m		m	
Jays/Crows				
Blue Jay	a	a	a	a
Florida Scrub Jay	r			
American Crow	c	c	c	c
Fish Crow	c	c	c	c
Martin/Swallows				
Purple Martin	u			u
Tree Swallow	c		c	u
Northern Rough-winged Swallow			r	
Barn Swallow			r	

Continued on next page

TABLE 3-19 (CONTINUED)
FELTS AUDUBON PRESERVE BIRD SPECIES

FELTS AUDUBON PRESERVE BIRD SPECIES

p = Spring = March, April, May
s = Summer = June, July, August
f = fall = Sept., Oct., Nov.
w = winter = Dec., Jan., Feb.

c = common (usually seen)
u = uncommon (sometimes seen)
r = rare (seldom seen)
a = abundant m= migrant

Species	p	s	f	w
Titmouse/Nuthatch				
Tufted Titmouse	c	c	c	c
Wrens				
Carolina Wren	c	c	c	c
House Wren	m		m	r
Marsh Wren			r	
Kinglets/Gnatcatcher				
Ruby-crowned Kinglet				r
Blue-gray Gnatcatcher	c	u	c	c
Thrushes				
Veery			r	
Eastern Bluebird	c	c	u	c
Swainson's Thrush			m	
Gray-cheeked Thrush			r	
American Robin				u
Mimids/Starlings/Waxwing				
Gray Catbird	c		c	c
Northern Mockingbird	a	a	a	a
Brown Thrasher	r	r	r	r
European Starling	c	c	c	c
Cedar Waxwing	m		m	r
Warblers				
Golden-winged Warbler	r			
Tennessee Warbler			r	
Orange-crowned Warbler	m		m	r
Northern Parula	m		m	u
Yellow Warbler			r	
Chestnut-sided Warbler	m			
Magnolia Warbler	m			
Cape May Warbler	m			
Black-throated Blue Warbler	m			
Yellow-rumped Warbler	c			c
Blackburnian Warbler	m			
Yellow-throated Warbler	m			u
Pine Warbler	m		m	u
Prairie Warbler	m		m	r
Palm Warbler	a		a	a
Bay-breasted Warbler	m			
Blackpoll Warbler	m			
Black-and-white Warbler	m		m	u
American Redstart	m		m	
Prothonotary Warbler	m			

Species	p	s	f	w
Warblers continued				
Worm-eating Warbler	m			
Ovenbird	r		r	
Louisiana Waterthrush	r			
Northern Waterthrush	r			
Kentucky Warbler	m		m	
Connecticut Warbler			r	
Common Yellowthroat	m		m	u
Hooded Warbler	m		m	r
Tanagers/Towhees				
Summer Tanager			u	
Scarlet Tanager				r
Sparrows				
Swamp Sparrow	r			
Chipping Sparrow	u	c		r
Field Sparrow				r
White-throated Sparrow				r
Savannah Sparrow	r	r		
Grasshopper				r
White-crowned				r
Lincoln's				r
Cardinals/Grosbeaks/Buntings				
Northern Cardinal	a	a	a	a
Rose-breasted Grosbeak	m		m	
Blue Grosbeak	m			
Indigo Bunting	m		m	u
Painted Bunting	m		m	u
Icterids/Orioles				
Red-winged Blackbird	c	c	c	c
Common Grackle	a	a	a	a
Boat-tailed Grackle	c	c	c	c
Brown-headed Cowbird		u	u	r
Orchard Oriole	m			
Baltimore Oriole	m		m	
Finches/Siskin				
House Finch			r	u
Pine Siskin	r			
American Goldfinch	c			c

Species	p	s	f	w
Species seen not on list				

COMMENTS:

IF YOU WISH TO BE CONTACTED
Phone #

Email address:

Source: Audubon Society, 2013.

3.3.4.5 Invasive Plants

Pedestrian surveys revealed several invasive plant species in both build alternatives with Brazilian pepper being the most common. Brazilian pepper is present in most of the upland and wetland transitional habitats in both build alternatives. Other invasive species common in the build alternatives include cogon grass (*Imperata cylindrical*), lead tree (*Leucaena leucocephala*), caesarweed (*Urena lobata*), alligator weed (*Alternanthera philoxeroides*), para grass (*Urochloa mutica*), and hydrilla (*Hydrilla* spp.).

3.3.5 THREATENED AND ENDANGERED SPECIES

Each study area was evaluated for potential occurrences of federally- and state-listed plant and animal species in accordance with Section 7 of the ESA, and Chapters 5B-40 and 68A-27 Florida Administrative Code (F.A.C.). The evaluation included coordination with the FWS, the NMFS, and the Florida Fish and Wildlife Conservation Commission (FWC).

Agency coordination of the project was initiated on July 9, 2010 with the publication of the NOI to prepare an EIS in the Federal Register (Federal Register, 2010). On July 10, 2010 the USCG invited the FWS and NMFS to participate as cooperating agencies for the EIS. Both the FWS and NMFS declined to be a cooperating agency (the USACE, EPA, and FHWA were also invited to be cooperating agencies; however, only the USACE accepted the invitation). In addition, letters were sent to the FWS, FWC, and Florida Natural Areas Inventory (FNAI) requesting information on documented occurrences of listed species within 1 mile of each build alternative and wood stork rookeries located within 15 miles of each build alternative. Copies of all correspondence with federal and state agencies and FNAI are included in Appendix A-4 of this FEIS.

Development of a BA is required as part of this FEIS due to the presence of listed species and designated critical habitat within both build alternatives. A copy of the BA prepared for this FEIS is contained in Appendix E. The BA describes the habitats and listed species potentially present within each build alternative and the effects that implementation of each build alternative would have on listed species and critical habitat. Both the FWS and NMFS will review the BA as part of the ESA Section 7 process for federally-listed species, will comment on its contents and findings, and will issue a concurrence statement on the effect determinations. The FWC will review the BA regarding state-listed species and will comment on its contents and findings.

The assessment of the potential presence of listed species within each build alternative was initiated with a review of all listed species previously documented in Manatee County by the FNAI. Field reviews of the build alternatives were conducted in 2010 and 2011 to assess existing habitats and to record observations of listed species. A determination of the potential presence of listed species within each build alternative was then made based on the following:

- Geographic range of each species. Species accounts of each species were reviewed to assess whether its historic or current documented range overlapped the study area of either build alternative.

- Presence of suitable habitat. The habitat requirements of each species were reviewed and compared against the results of the habitat mapping of the study areas. Consideration was given to nesting, denning, and foraging habitat requirements for each species.

- Documented occurrences. The known presence of species within the study areas was documented based on the FNAI Element Occurrence Report, agency correspondence, and field reviews. (A copy of the FNAI Element Occurrence Report is contained in the BA in Appendix E of this FEIS.)

Table 3-20 presents a summary listing of the federally- and state-listed species potentially occurring within the Fort Hamer Alternative and Rye Road Alternative study areas. Additional information regarding habitat requirements and the presence of each species within the study areas is provided in the BA in Appendix E.

Impacts to threatened and endangered species are discussed in Section 4.3.5.

3.3.6 AQUATIC PRESERVES

The State of Florida has designated aquatic preserves through F.S. 258.37-39. There are no designated aquatic preserves within the Fort Hamer Alternative or Rye Road Alternative study areas.

3.3.7 WATER QUALITY

F.S. 403.021 declares that the public policy of the State of Florida is to conserve the waters of the state to protect, maintain, and improve the quality thereof for public water supplies, for the propagation of wildlife, fish, and other aquatic life and for domestic, agricultural, industrial, recreational, and other beneficial uses. It also prohibits the discharge of wastes into Florida waters without treatment necessary to protect those beneficial uses of the waters. In order to carry out this policy, all surface waters of the state have been classified (as listed by Rule 62-302.400 F.A.C.) according to designated uses as follows:

Class I	Potable water supplies.
Class II	Shellfish propagation or harvesting.
Class III	Fish Consumption; recreation, propagation, and maintenance of a healthy well-balanced population of fish and wildlife.
Class III-Limited	Fish Consumption; recreation or limited recreation; and/or propagation and maintenance of a healthy, well-balanced population of fish and wildlife.
Class IV	Agricultural water supplies.
Class V	Navigation, utility, and industrial use.

TABLE 3-20
LISTED SPECIES POTENTIALLY PRESENT WITHIN BOTH BUILD ALTERNATIVES

Scientific Name	Common Name	Federal Status [1]	State Status [2]	Habitat	Potentially Present in Study Area	
					Fort Hamer	Rye Road
Plants						
Acrostichum aureum	Golden leather fern	NL	T	Brackish and freshwater marshes	Yes	Yes
Calopogon multiflorus	Many-flowered grass pink	NL	E	Wet prairies and savannahs	Yes	No
Chrysopsis floridana	Florida goldenaster	E	E	Scrub and sandhill	No	Yes
Eragrostis pectinacea var. tracyi	Sanibel lovegrass	NL	E	Disturbed sites such as roadsides, railroad embankments, gardens, and cultivated fields	Yes	Yes
Glandularia (Verbena) tampensis	Tampa vervain	NL	E	Live oak-cabbage palm hammocks and pine-palmetto flatwoods	Yes	Yes
Gossypium hirsutum	Wild cotton	NL	E	Disturbed sites such as roadsides, railroad embankments, gardens, and cultivated fields	Yes	Yes
Matelea floridana	Florida spiny-pod	NL	E	Upland hardwood forests	Yes	Yes
Pteroglassaspis (Eulpohia) ecristata	Giant orchid	NL	T	Sandy pinelands and fields	Yes	Yes
Rhynchospora megaplumosa	Large-plumed beaksedge	NL	E	Sands and sandy peats of pine flatwoods scrub and flatwoods-sand-scrub transition	No	Yes
Fish						
Rivulus marmoratus	Mangrove rivulus	NL	SSC	Primarily coastal brackish and saltwater areas; usually collected from mangrove or high salt marsh habitats	Yes	No
Pristis pectinata	Smalltooth sawfish	E	FE	Shallow coastal waters, estuaries, and river mouths over muddy or sandy bottoms.	Yes	No
Amphibians						
Rana capito	Gopher frog	NL	SSC	Sandhill communities, sand pine scrub, xeric oak hammocks, dry prairies, pine flatwoods	Yes	Yes
Reptiles						
Alligator mississippiensis	American alligator	T(S/A) [3]	FT(S/A)	Rivers, swamps, lake bayous, ponds, marshes	Yes	Yes
Drymarchon carais couperi	Eastern indigo snake	T	FT	Mesic flatwoods, upland pine forest, sandhill scrub	Yes	Yes
Gopherus polyphemus	Gopher tortoise	NL	T	Sandhill, scrubby flatwoods, xeric hammock, fields and fencelines	Yes	Yes

Continued on next page

TABLE 3-20 (CONTINUED)
LISTED SPECIES POTENTIALLY PRESENT WITHIN BOTH BUILD ALTERNATIVES

Scientific Name	Common Name	Federal Status [1]	State Status [2]	Habitat	Potentially Present in Study Area	
					Fort Hamer	Rye Road
Pituophis melanoleucus mugitis	Pine snake	NL	SSC	Sandhill, scrubby flatwoods, xeric hammock	Yes	Yes
Birds						***Continued on next page***
Aphelocoma coerulescens	Florida scrub jay	T	FT	Fire-dominated, low-growing oak scrub on well-drained sandy soils	No	Yes
Aramus guarauna	Limpkin	NL	SSC	Mangroves, freshwater marshes, swamps, springs, ditches and swales, and pond and river margins	Yes	Yes
Athene cunicularia floridana	Florida burrowing owl	NL	SSC	Very open areas such as prairies, sandhills, and farm land	Yes	Yes
Caracara cheriway	Crested caracara	T	FT	Open grassland habitats and improved pastures with cabbage palms. Nesting generally occurs in cabbage palms	Yes	Yes
Egretta caerulea	Little blue heron	NL	SSC	Mangroves, freshwater marshes, swamps, springs and spring runs, swales, pond and river margins	Yes	Yes
Egretta rufescens	Reddish egret	NL	SSC	Mangroves, freshwater marshes, swamps, springs and spring runs, swales, pond and river margins	Yes	Yes
Egretta thula	Snowy egret	NL	SSC	Mangroves, freshwater marshes, swamps, springs and spring runs, swales, pond and river margins	Yes	Yes
Egretta tricolor	Tricolored heron	NL	SSC	Mangroves, freshwater marshes, swamps, springs and spring runs, swales, pond and river margins	Yes	Yes
Eudocimus albus	White ibis	NL	SSC	Mangroves, freshwater marshes, swamps, springs and spring runs, swales, pond and river margins, often feeds on residential lawns	Yes	Yes
Falco sparverius paulus	Southeastern American kestrel	NL	T	Open areas with long-leaf pine, small turkey and live oaks	Yes	Yes
Grus Canadensis pratensis	Florida sandhill crane	NL	T	Dry prairies, freshwater marshes, and wet prairies	Yes	Yes
Haliaeetus leucocephalus	Bald eagle	NL [4]	NL [4]	Nests in tall trees, forages near larger bodies of water	Yes	Yes
Mycteria americana	Wood stork	E	FE	Nests in inundated forested wetlands. Forages in freshwater marshes, swamps, flooded pastures, roadside ditches and stormwater ponds	Yes	Yes
Pelecanus occidentalis	Brown pelican	NL	SSC	Mainly coastal, feeding in shallow estuarine waters, and (less often) far offshore	Yes	No

Continued on next page

TABLE 3-20 (CONTINUED)
LISTED SPECIES POTENTIALLY PRESENT WITHIN BOTH BUILD ALTERNATIVES

Scientific Name	Common Name	Federal Status [1]	State Status [2]	Habitat	Potentially Present in Study Area	
					Fort Hamer	Rye Road
Platalea ajaja	Roseate spoonbill	NL	SSC	Coastal mangrove islands, shallow water of variable salinity including marine tidal flats and ponds, coastal marshes, mangrove-dominated inlets and pools, and freshwater sloughs and marshes	Yes	No
Mammals						
Podomys floridanus	Florida mouse	NL	SSC	Sand pine scrub, pine flatwoods, sandhill communities, longleaf-xeric oak	No	Yes
Sciurus niger shermani	Sherman's fox squirrel	NL	SSC	Mature, fire-maintained longleaf pine-turkey oak habitats, pine flatwoods	Yes	Yes
Trichechus manatus	West Indian manatee	E	FE	Coastal waters, bays, rivers	Yes	No

Notes: E = endangered, F = federally, T = threatened, SSC = species of special concern, T(S/A) = threatened due to similarity of appearance to another species, NL = not listed.

[1] FWS, 2013.

[2] Plant species FDACS, 2007. Animal species FWC, 2013.

[3] The alligator is federally-listed as "threatened due to similarity of appearance." Alligators are common in coastal Florida, and in many parts of their range the alligator is not actually endangered or threatened. Similarity of appearance to a listed species is a regulatory designation used to facilitate the enforcement of the Endangered Species Act. It is used when a species is so similar to a listed species that enforcement personnel would have substantial difficulty in attempting to differentiate between the listed and unlisted species. The American alligator has this designation due to its similarity of appearance to the endangered American Crocodile (*Crocodylus acutus*) and other rare crocodilians." The final rule (52 FR 21059) for the American alligator designation removes federal agency responsibilities for the alligator under Section 7 of the Endangered Species Act.

[4] The bald eagle is neither federally- nor state-listed; however, this species is federally-protected by the *Bald and Golden Eagle Protection Act* and the *Migratory Bird Treaty Act* (MBTA). The bald eagle is also managed in Florida by the FWC's bald eagle rule (68A-16.002, F.A.C.).

Water quality classifications are arranged in order of the degree of protection required with Class I water generally having the most stringent water quality criteria and Class V having the least. Classes I, II, and III share water quality criteria established to protect recreation and the propagation and maintenance of a healthy, well-balanced population of fish and wildlife. Class III-Limited waters are restricted to waters with human-induced physical or habitat conditions that prevent attainment of Class III uses.

Waters of the Manatee River, downstream of the CR 675/Rye Road Bridge (both Fort Hamer Alternative and Rye Road Alternative), are designated Class II surface waters by the state. The Manatee River is not listed as impaired and has no total maximum daily limits (TMDLs).

The water quality requirements, as defined in Chapter 40D.4 F.A.C. and the Southwest Florida Water Management District (SWFWMD) Permit Information Manual (PIM) are used to quantify stormwater treatment volumes, wet detention, on-line, and off-line ponds.

Potential water quality impacts resulting from implementation of each alternative are discussed in Section 4.3.7.

3.3.8 OUTSTANDING FLORIDA WATERS

The State of Florida has designated specific water bodies as Outstanding Florida Waters (OFW) pursuant to Rule 62-30.700 F.A.C. No designated OFWs occur within the Fort Hamer Alternative or Rye Road Alternative study areas.

3.3.9 WILD AND SCENIC RIVERS

Congress has designated specific rivers in the U.S. as Wild and Scenic Rivers pursuant to the *Wild and Scenic Rivers Act* [16 United States Code (U.S.C.) 1271-1287]. No designated Wild and Scenic Rivers occur within the Fort Hamer Alternative or Rye Road Alternative study areas. Only two Wild and Scenic Rivers are designated in Florida: the Loxahatchee River in Palm Beach and Martin counties and the Wekiva River in Orange, Lake, and Seminole counties.

3.3.10 GROUNDWATER

The EPA defines a sole source aquifer as an underground water source that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer (EPA, 2013). The Sole Source Aquifer Program is authorized by Section 1424(e) of the *Safe Drinking Water Act of 1974*. Designation of an aquifer as a sole source aquifer provides EPA with the authority to review federal financially assisted projects. This project does not involve federal funding and is 100 percent locally funded. The project area is not located within a designated sole source aquifer or its respective recharge or streamflow zone.

3.3.11 FLOODPLAINS AND FLOODWAYS

Both the Fort Hamer Alternative and Rye Road Alternative encroach upon Federal Emergency Management Agency (FEMA)-designated Zone AE and Zone X500 flood zones (FEMA, 1992), as described below. Potential impacts to floodplains and floodways resulting from the implementation of each alternative are discussed in Section 4.3.11.

Fort Hamer Alternative

Within the Fort Hamer Alternative, the existing Upper Manatee River Road and Fort Hamer Road encroach upon Zone X500 and Zone AE of the Manatee River (See **Figure 3-23**). The shaded portions of Zone X500 depict the area between the limits of the 100-year and 500-year floods. The unshaded portions of Zone X represent the areas above the 500-year flood level.

Zone AE is defined as areas inundated by the 100-year flood and where the base flood elevations have been determined. Within the Fort Hamer Alternative construction limits, only 0.5 acre occurs between the 100-year and 500-year flood levels, and 2.7 acres are located within the 100-year flood zone. The base floodplain elevation within the Fort Hamer Alternative for the Manatee River is elevation 10 feet NGVD 29 (North Geodetic Vertical Datum of 1929).

Along Upper Manatee River Road, the encroachment into the floodplain is located on the south side of the Manatee River. Along Fort Hamer Road, the encroachment into the floodplain is located on the north side of the Manatee River.

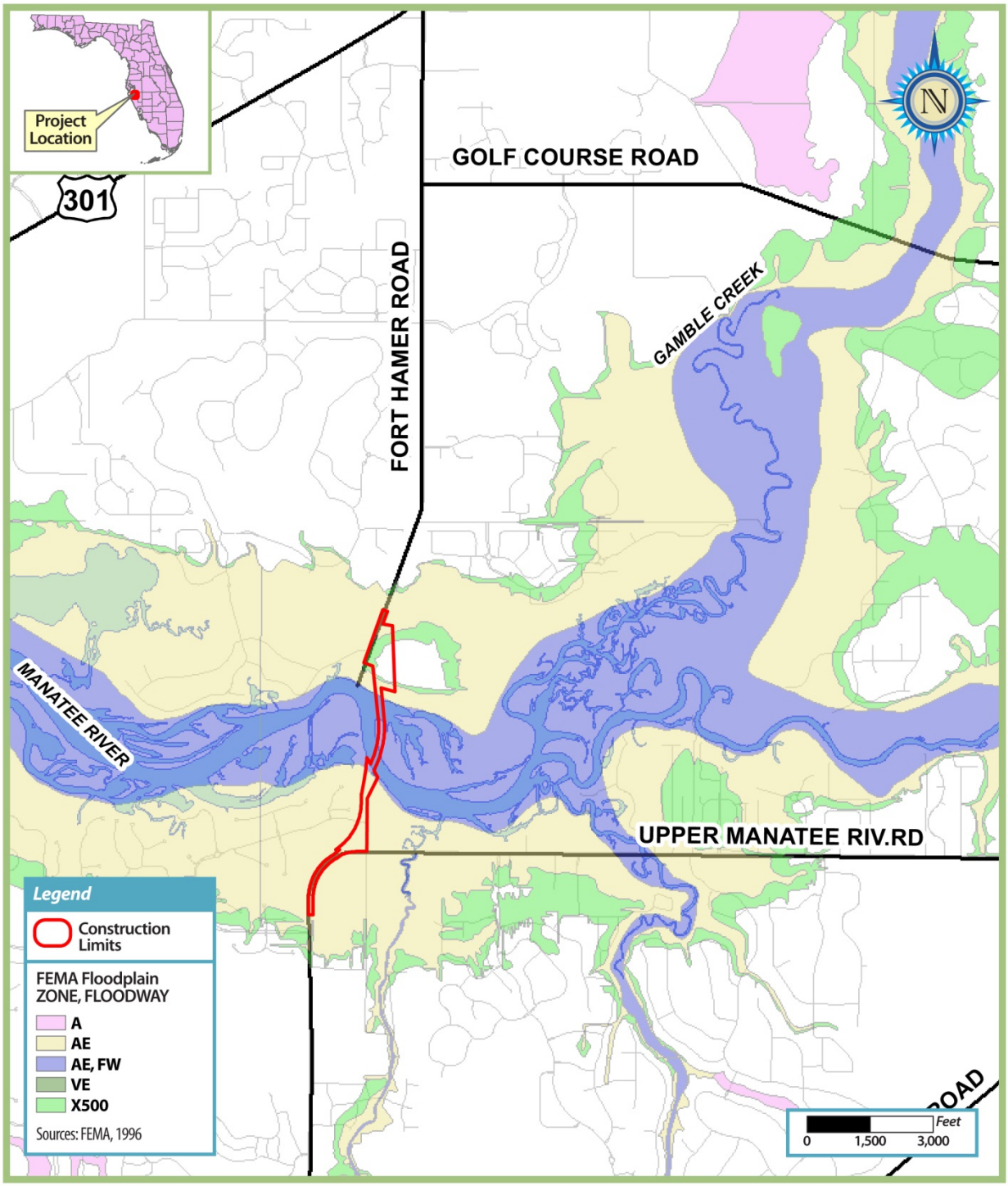
Rye Road Alternative

Within the Rye Road Alternative, existing Rye Road and Golf Course Road encroach upon Zone X500 and Zone AE of the Manatee River, Gamble Creek, and Mill Creek (**Figure 3-24**). The shaded portions of Zone X500 depict the area between the limits of the 100-year and 500-year floods. The unshaded portions of Zone X represent the areas above the 500-year flood level. Zone AE is defined as areas inundated by the 100-year flood and where the base flood elevations have been determined. Within the Rye Road Alternative, 1.4 acres are located between the 100-year and 500-year flood levels, and 5.1 acres are located within the 100-year flood zone. The base floodplain elevation within the Rye Road Alternative for the Manatee River is 22 feet NGVD, for Gamble Creek is 17 feet NGVD, and for Mill Creek is 23 feet NGVD.

3.3.12 COASTAL ZONE CONSISTENCY

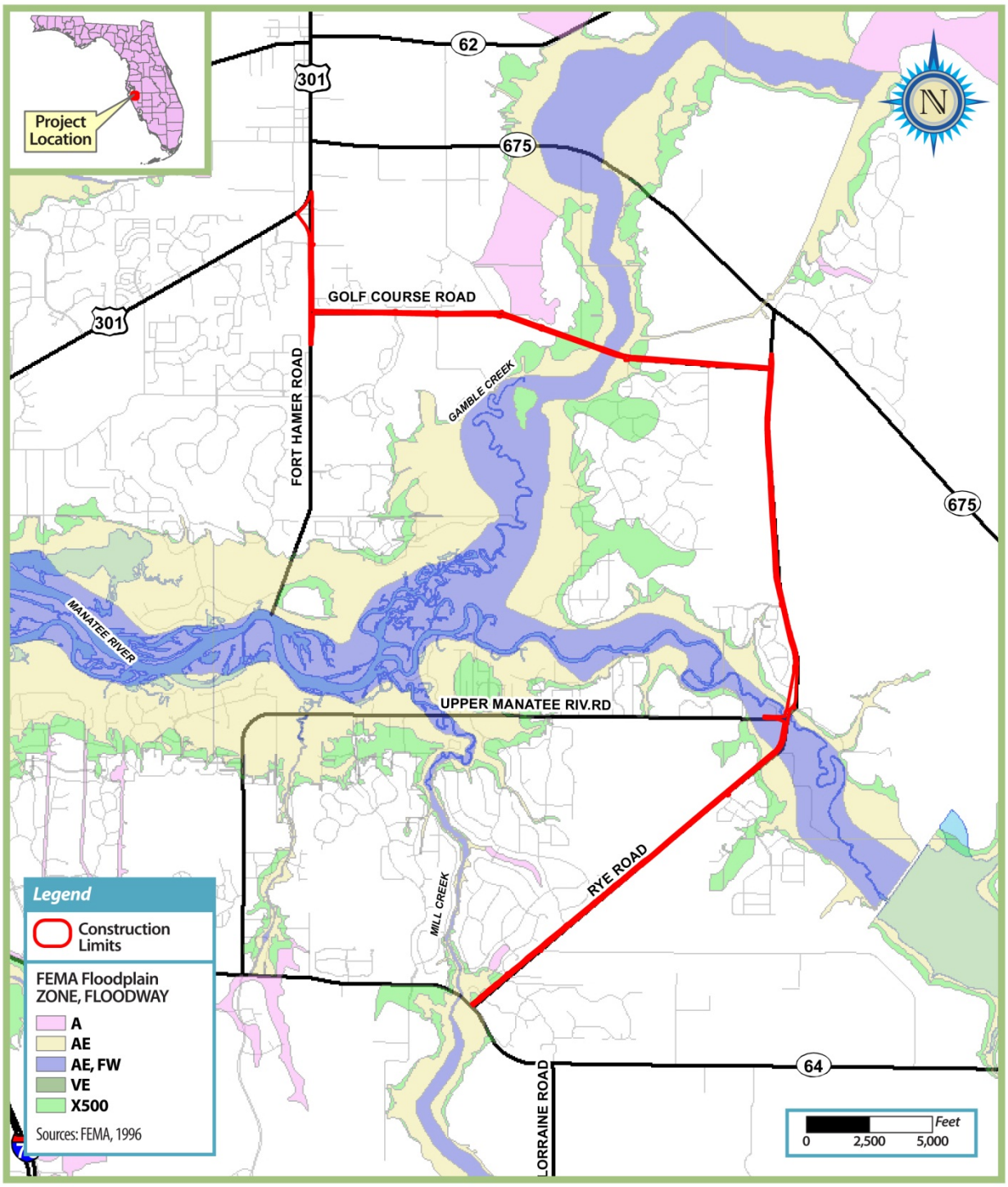
In 1978, the Florida Legislature adopted the *Florida Coastal Management Act*, codified as Chapter 380, F.S. Part II. This legislation authorized the development of the Florida Coastal Management Program (FCMP) and its submittal to the federal government. In 1981, the FCMP was approved by the Secretary of the U.S. Department of Commerce National Oceanic and Atmospheric Administration (NOAA). The Florida Department of Environmental Protection (FDEP) is designated as the lead agency for the FCMP pursuant to the *Coastal Zone Management Act of 1972* (CZMA). FDEP's Office of Intergovernmental Programs is charged with overseeing the state's coastal management program.

FIGURE 3-23
FEMA FLOODPLAIN MAP – FORT HAMER ALTERNATIVE



The definitions of the flood zones can be found at: https://msc.fema.gov/webapp/wcs/stores/servlet/info?storeId=10001&catalogId=10001&langId=-1&content=floodZones&title=FEMA%2520Flood%2520Zone%2520Designations.

FIGURE 3-24
FEMA FLOODPLAIN MAP – RYE ROAD ALTERNATIVE



The definitions of the flood zones can be found at: https://msc.fema.gov/webapp/wcs/stores/servlet/info?storeId=10001&catalogId=10001&langId=-1&content=floodZones&title=FEMA%2520Flood%2520Zone%2520Designations.

Applicants for federal permits (such as a USCG Bridge Permit) must certify that the Proposed Action is consistent with the federally-approved state coastal zone management program and give the state an opportunity to review the certification. If the state objects, the federal agency cannot issue the permit. By state regulation an application for an Environmental Resource Permit (ERP) from the SWFWMD constitutes certification and issuance of the ERP would consist of state concurrence with consistency. The SWFWMD has jurisdiction over the area of the Proposed Action.

3.3.13 COASTAL BARRIER ISLAND RESOURCES

Coastal barrier islands and resources are designated by Congress pursuant to the *Coastal Barrier Resources Act* (16 U.S.C. 3501 et. seq.) No designated coastal barrier resources occur within the Fort Hamer Alternative or Rye Road Alternative study areas.

3.3.14 FARMLANDS

In 1981, Congress passed the *Agriculture and Food Act of 1981* [Public Law (PL) 97-98], which contained the *Farmland Protection Policy Act* (FPPA) subtitle I of Tile XV, Section 1539-1549. The FPPA is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. For the purpose of FPPA, farmland includes designated prime farmland, unique farmland, and land of statewide or local importance. No FPPA-designated farmland occurs with the Fort Hamer Alternative or Rye Road Alternative study areas.

3.3.15 VISUAL AND AESTHETICS

The project area, including the area traversed by the two build alternatives, supports a relatively flat topography intersected by steep-banked streams and the Manatee River. This area of the county is undergoing extensive development that is transforming the existing landscape from a primarily rural area to a landscape supporting mostly master planned, gated residential communities.

Currently, only one bridge (the Rye Road Bridge) crosses the approximate 10.5-mile segment of the Manatee River east of I-75 and west of the Lake Manatee Dam. There are no designated or planned scenic overlooks within either build alternative; however, many vantage points along the river offer boaters undisturbed views of natural habitats. Occasional home sites and associated docks are also visible along the river.

Several master planned residential developments occupy the north and south banks of the river adjacent to the Fort Hamer Alternative. The Waterlefe development located south of the river and west of the proposed structure is a 622-acre, 18-hole golf course community that contains 660 residential units with boating access to the Manatee River. A second master planned development, River Wilderness, is located north of the Manatee River and west of the proposed Fort Hamer Bridge location. Rive Isle, a community within the River Wilderness development,

is proximate to the proposed Fort Hamer Bridge site. Of the 178 Rive Isle home sites, 39 homes front the Manatee River. Although infrastructure for the development is complete, as of January 2012, only 15 homes had been constructed on the 178 available home sites within the community.

The Rye Road Alternative is bounded to the east by the Rye Preserve. The area west of the existing Rye Road Bridge is occupied by a small extension of the Rye Preserve and the River's Reach development. River's Reach is a 249-acre development planned to support 326 residential units.

Several planned developments are located within the Fort Hamer and Rye Road study areas. **Figures 3-25a and 3-25b** show the location of the residential and mixed use developments that have been approved by the Manatee County Board of County Commissioners. **Table 3-21** provides a summary of the number of housing units approved within each of the developments, and lists the number of Certificates of Occupancy (COOs) issued as of February 15, 2013. Based on the comparison of approved units to COOs issued, 9,410 approved housing units have yet to be constructed in the area of the project.

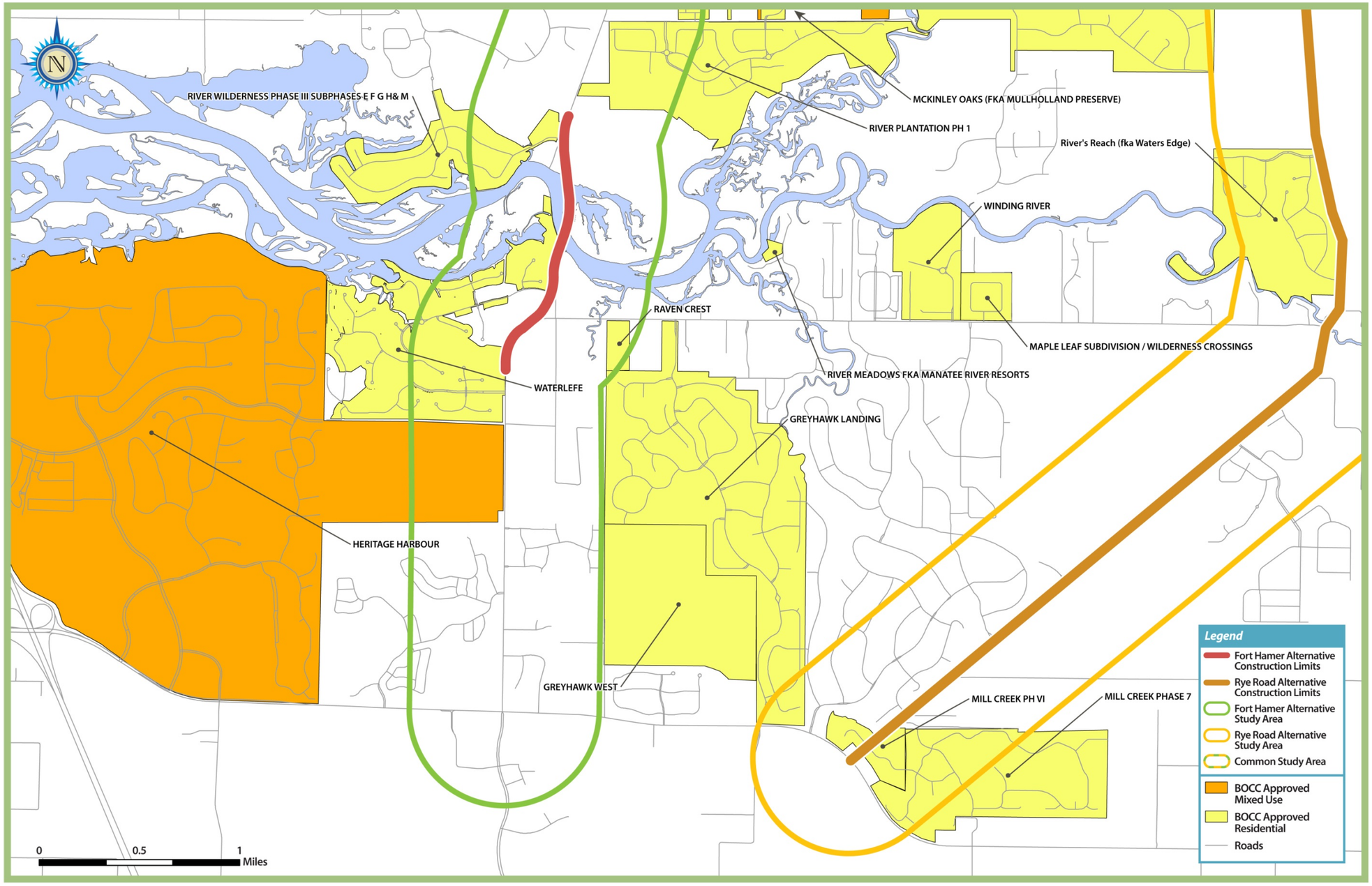
Visual and aesthetic impacts resulting from implementation of each alternative are discussed in Section 4.3.15.

3.4 PHYSICAL CHARACTERISTICS

For purposes of this FEIS, physical characteristics are defined as those concerns that span the human and built environment. These include noise, air quality, construction, contamination, scenic highways, and navigation.

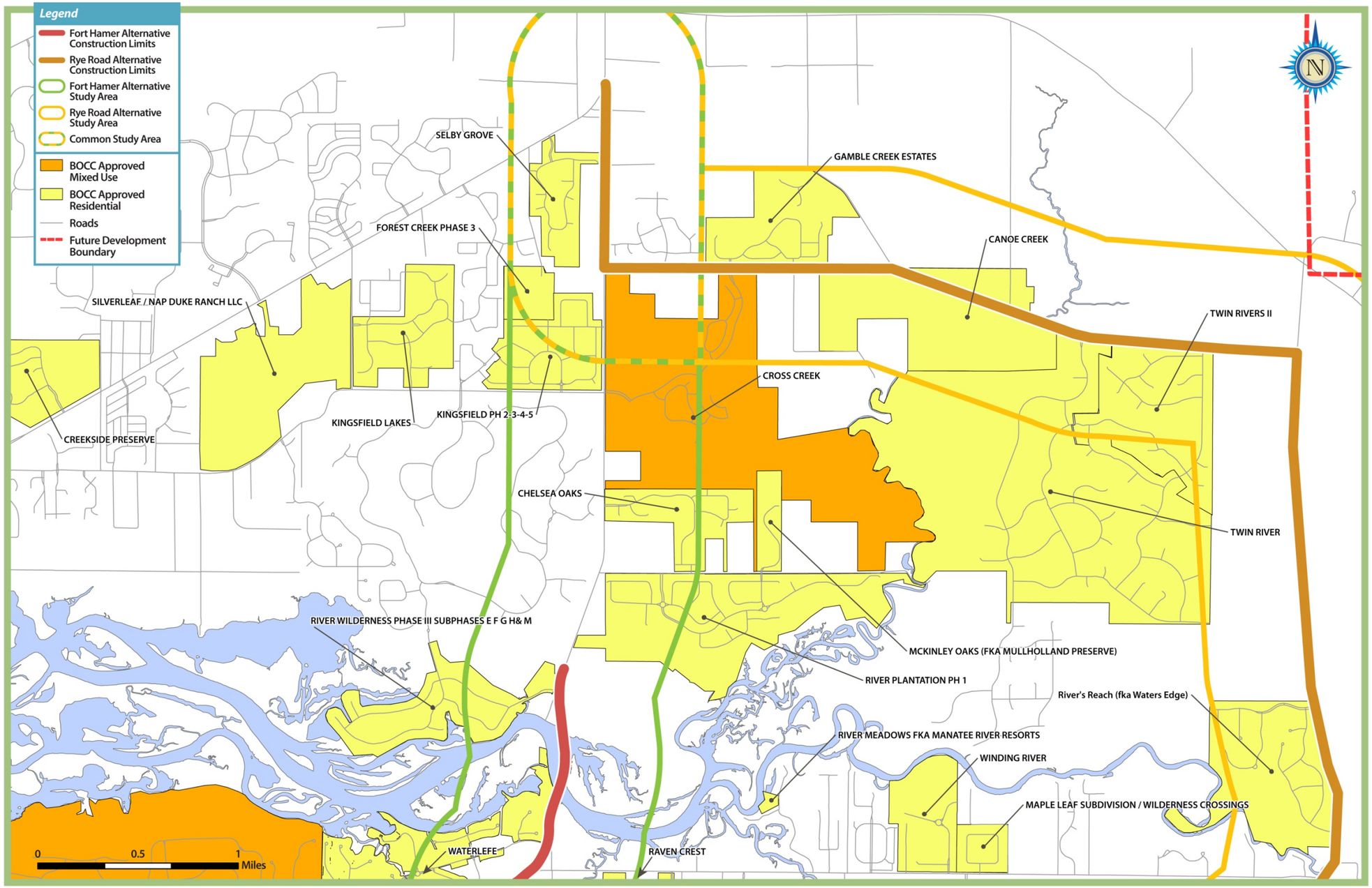
3.4.1 NOISE

Land uses within the Fort Hamer Alternative and Rye Road Alternative study areas include residences, schools, churches, recreation areas, and parks. These types of uses are considered incompatible with highway noise levels above 66 decibels (dB) on the A-weighted scale [dB(A)]. To assess highway noise levels within each study area for the two build alternatives, a traffic noise analysis was prepared in accordance with Title 23 Code of Federal Regulations (CFR) Part 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise*. This subsection discusses existing noise levels within each study area and summarizes the methodology used to assess those noise levels. The potential noise impacts resulting from implementation of either build alternative are presented in Section 4.4.1. Details of the noise assessment are provided in the Noise Study Report (NSR) contained in Appendix F.



Source: Manatee County, 2012e.

FIGURE 3-25a
EXISTING AND PENDING DEVELOPMENTS – SOUTH



Source: Manatee County, 2012e.

FIGURE 3-25b
EXISTING AND PENDING DEVELOPMENTS – NORTH

TABLE 3-21
APPROVED DEVELOPMENT WITHIN THE FORT HAMER AND RYE ROAD STUDY AREAS

Project Name	BOCC Approved Housing Units	COOs Issued as of 2/15/2013
Canoe Creek	896	0
Chelsea Oaks	215	210
Creekside Oaks Phase II, III, IV (Aka Creekside Preserve)	244	218
Cross Creek	1282	6
Forest Creek	493	279
Gamble Creek Estates	165	74
Greyhawk Landing	789	785
Greyhawk West	501	0
Heritage Harbour	5000	1785
Kingsfield Lakes	347	339
Kingsfield Phase 2, 3, 4, 5	477	377
Mckinley Oaks (Fka Mullholland Preserve)	36	1
Mill Creek	941	677
Montecino Condominiums / Emercor Holdings LLC	46	0
Raven Crest	31	0
River Meadows Fka Manatee River Resorts	3	0
River Plantation Ph 1	493	317
River Wilderness	965	481
River's Reach	326	28
River Woods	260	246
Selby Grove	174	171
Silverleaf / Nap Duke Ranch LLC	732	0
Timberly Phases I, II	220	69
Twin River	550	186
Twin Rivers II	400	84
Waterlefe (Fka Wading Bird)	623	616
Wilderness Crossing (Fka Maple Leaf)	68	0
Winding River	97	15

NOTE: COOs issued prior to June 1991 are not reflected on this spreadsheet. Total number of COOs units may actually be higher that indicated above.
Source: Manatee County Planning Department, February 2013.

3.4.1.1 Methodology

Existing and future traffic noise levels along each build alternative were predicted using the FHWA's computer model for highway traffic noise prediction and analysis – the Traffic Noise Model (TNM-Version 2.5). The TNM propagates sound energy, in one-third octave bands, between highways and nearby receptors. The TNM takes into account the intervening ground's acoustical characteristics/topography and other natural and manmade features.

The existing and forecast future traffic data used in the TNM to predict noise levels within the Fort Hamer Alternative and Rye Road Alternative study areas were compiled for the project and are included in Appendix F. The design year for future traffic data is 2035. Because noise levels are lower when traffic volumes are low (LOS A or B) or when traffic is so congested that movement is slow (LOS D, E, or F), the maximum hourly noise level occurs between these two conditions (LOS definitions are provided in Section 3.1.3). Therefore, traffic volumes used in

the analysis reflect the demand volume or the design LOS C volumes, whichever is less. Vehicle speeds are based on posted speed limits.

In addition to the required federal regulations, this evaluation also uses methodologies established by the FDOT as documented in the FDOT's *Project Development and Environment (PD&E) Manual*, Part 2, Chapter 17 (May 24, 2011). Predicted noise levels are expressed in dB(A). This scale most closely approximates the response characteristics of the human ear to traffic noise. All noise levels are reported as equivalent levels ($L_{eq(h)}$), which is the equivalent steady-state sound level that contains the same acoustic energy as a time-varying sound level over a period of one hour.

Field measurements are taken for the purpose of ensuring the accuracy of the model in predicting existing and future noise levels. Field measurements were conducted in accordance with the FHWA's Measurement of Highway-Related Noise and were obtained using a Metrosonics dB-3100 dosimeter. The dosimeter was calibrated before and after each monitoring period with a Metrosonics cl-304 Calibrator. Validation field measurements were taken along the Fort Hamer Alternative on October 7, 2010, and along the Rye Road Alternative on April 14, 2011. Two sets of measurements were taken at each validation site for a period of 30 minutes each (three repetitions of 10 minutes each). Where possible, one set of measurements was taken in the morning and one in the afternoon. Measurement locations were as follows:

Fort Hamer Alternative

- West side of Upper Manatee River Road north of the Waterlefe subdivision entrance and
- West side of Fort Hamer Road north of the entrance to River Wilderness subdivision.

Rye Road Alternative

- West side of Rye Road north of 3rd Drive East and
- North side of Golf Course Road west of Spencer Parrish Road.

Existing noise levels at selected noise-sensitive sites within each study area were modeled using the TNM. The computer model was validated using measured noise levels at locations adjacent to the study areas. Details of this validation process are presented in the NSR contained in Appendix F.

3.4.1.2 Noise-Sensitive Sites

Noise-sensitive sites are properties where frequent human use occurs and where a lowered noise level would be of benefit. To evaluate traffic noise, the FHWA established the Noise Abatement Criteria (NAC). As shown in **Table 3-22**, the criteria vary according to a property's activity category.

TABLE 3-22
FHWA NOISE ABATEMENT CRITERIA

Activity Category	Description	$L_{eq(h)}$[1]
A	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.	57 dB(A) (Exterior)
B[2]	Residential	67 dB(A) (Exterior)
C[2]	Active sports areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreational areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.	67 dB(A) (Exterior)
D	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.	52 dB(A) (Interior)
E[2]	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.	72 dB(A) (Exterior)
F	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.	N/A
G	Undeveloped lands that are not permitted.	N/A

Based on Table 1 of 23 CFR Part 772.
[1] The $L_{eq(h)}$ Activity Criteria values are for impact determination only and are not design standards for noise abatement measures. $L_{eq(h)}$ is expressed in dB(A).
[2] Includes undeveloped lands permitted for this activity category.
Note: A substantial noise increase occurs when the existing noise level is predicted to be exceeded by 15 dB(A) or more as a result of the transportation improvement project. When this occurs, the requirement for abatement consideration would be followed.

When predicted traffic noise levels "approach" or exceed the NAC, or when predicted noise levels increase substantially, the FHWA requires that noise abatement measures be considered. The term "approach" is considered to mean within 1 dB(A) of the NAC. These criteria were used to determine impacted receptors. For a substantial increase to occur, noise levels must increase 15 or more dB(A) above existing as a direct result of the transportation improvement project.

All modeled noise-sensitive sites were considered as Activity Category B or C, and as such, exterior noise levels were evaluated.

3.4.1.3 Existing Noise Levels

Within the Fort Hamer Alternative, existing exterior traffic noise levels are predicted to range from 37.5 to 54.5 dB(A). Since a portion of this alternative is on new alignment, between Receptors 13W and 35W near Winding Stream Way and at Receptor 4E, the field-measured background noise level of 44.5 dB(A) was used to represent existing and No-Build Alternative noise levels for these receptor sites. The results of this analysis indicate that existing traffic noise levels do not approach, meet, or exceed the NAC at any of the noise-sensitive receptors within the Fort Hamer Alternative Study Area.

Within the Rye Road Alternative Study Area, existing exterior traffic noise levels are predicted to range from 40.8 to 61.5 dB(A). The results of this analysis indicate that existing traffic noise levels did not approach, meet, or exceed the NAC at any of the noise-sensitive receptors within the Rye Road Alternative Study Area.

3.4.2 AIR QUALITY

An Air Quality Memorandum was prepared for this study and is provided in Appendix G. Manatee County, the EPA, and FDEP share the responsibility of protecting air quality within the project area. Manatee County is an area currently designated as attainment for all of the National Ambient Air Quality Standards (NAAQS) under the criteria provided in the *Clean Air Act* (CAA). No air quality monitoring stations are currently located within the project area. Air quality impacts are discussed in Section 4.4.2.

3.4.3 CONSTRUCTION

As previously discussed in Section 2.5.2 and listed in Table 2-10, Manatee County currently is designing and constructing roadway and safety improvements along the Fort Hamer Alternative corridor. There are currently no roadway design or construction activities planned and/or funded for the Rye Road Alternative corridor.

Construction of single-family homes in the study areas for both the Fort Hamer Alternative and Rye Road Alternative is occurring at present and is expected to continue. As discussed in Section 3.3.15, housing construction is expected to increase in the Rive Isle development in the Fort Hamer Alternative and in the River's Reach Development along the Rye Road Alternative. Construction impacts are discussed in Section 4.4.3.

3.4.4 CONTAMINATION

A Contamination Screening Evaluation Report (CSER) was prepared as part of this FEIS and is provided in Appendix H. The purpose of the evaluation was to identify properties or businesses that use, store, or distribute petroleum products, hazardous materials, or hazardous wastes that are located adjacent to the Fort Hamer and Rye Road Alternatives.

There is no single comprehensive source of information available that identifies known or potential sources of environmental contamination adjacent to either build alternative. Therefore, to identify and evaluate sites containing hazardous materials, petroleum products, or other sources of potential environmental contamination in these areas, the following tasks were conducted:

- Review of historical aerial photographs of the project area for indications of properties or businesses that might have been involved with potential environmental contamination.
- Review of readily available USGS topographic maps of the project area.
- Review of city directories and Sanborn Insurance Maps was attempted; however, none were available for the project area.

- Review of the FDEP OCULUS database and Manatee County Environmental Management (MCEMD) cleanup and inspection files for those sites adjacent to each build alternative that have reported environmental contamination or have a potential to have an impact on a proposed alternative.

- In the field surveys were conducted from accessible ROWs adjacent to the build alternatives and documented with site photographs.

- Review of Government Databases Computer Search provided by Environmental Data Management, Inc. (EDM). This screening tool maps the locations of sites with known or potential environmental liabilities based on information contained in various federal and state government databases.

Preliminary reviews of these data sources identified over 50 potentially contaminated sites adjacent to the build alternatives. The majority of these sites were removed from further consideration based on their distance from the proposed limits of construction of each of the build alternatives. The remaining identified sites (one for the Fort Hamer Alternative and 15 for the Rye Road Alternative) were then assigned a degree of risk for potential contamination impact on the environment: "No," "Low," "Medium," or "High." These risk ratings are based on the following criteria outlined in Part 2, Chapter 22 of the FDOT PD&E Guidelines (FDOT, 2013):

- "No" – After a review of all available information, there is nothing to indicate contamination would be a problem. It is possible that potential contaminates could have been handled on the parcel; however, all information (FDEP reports, monitoring wells, water and soil samples, etc.) indicates problems should not be expected.

- "Low" – The former or current operation has a hazardous waste generator ID number or deals with potential contaminants. However, based on all available information, there is no reason to believe there would be any involvement with contamination. This is the lowest possible rating a gasoline station operating within current regulation could receive.

- "Medium" – After a review of all available information (reports, Notice of Violation, consent orders, etc.), indicators were found that identified known soil and/or water contamination. It may mean that the problem does not need remediation, is being remediated (i.e., air stripping of groundwater, etc.), or that continued monitoring is required. A recommendation is made for each parcel within this category as to its acceptability for use within the Proposed Action, what action might be required if the parcel is acquired, and the possible alternative, if there is a need to avoid this parcel.

- "High" – After a review of all available information, there is a potential for contamination problems on the parcel. Further assessment would be required after alternative selection to determine the actual presence and/or levels of contamination and the need for remedial action. A recommendation must be included for what further assessment is required. Conducting the actual sites

assessment is not expected to begin until the alternative alignment is defined. However, circumstances may require screening assessment (i.e., collecting soil or water samples for laboratory analysis that may be necessary to determine the presence and/or levels of contamination) to begin earlier. Parcels that were previously used as gasoline stations and have not been evaluated or assessed would receive this rating.

Fort Hamer Alternative

One site has been identified within the construction limits of the Fort Hamer Alternative as having the potential for hazardous materials and/or petroleum contamination as defined by regulatory agencies, see **Table 3-23**. This site is the former golf cart/mower maintenance and storage area associate with the Waterlefe Golf Course on Upper Manatee River Road. The site is within the Manatee County ROW for the Fort Hamer Alternative.

TABLE 3-23
SUMMARY OF POTENTIALLY CONTAMINATED SITES
FORT HAMER ALTERNATIVE

Site No.	Site Name Description Address	Facility ID No.	Comments	Concern	Location	Risk Rating [1]
5	Bay Colony Gateway, Inc. Property 11225 Upper Manatee River Road Manatee County	Not Found	Former golf cart and mower maintenance and storage area	Gasoline Waste Oils Batteries Pesticides	Within ROW	Medium

[1] Risk rating based on criteria contained in Part 2, Chapter 22 of the FDOT PD&E Guidelines (FDOT, 2013).

Site No. 5 (Waterlefe Golf Course fka Bay Colony Gateway, Inc. Property - 11225 Upper Manatee River Road) - This site is a former storage and maintenance area for golf carts and lawn mowers located within the proposed roadway improvement area. This facility is not registered with FDEP but typically could have been involved with petroleum products, solvents, and batteries. Based on historical aerial review and in-the-field observations, this maintenance area was probably temporary and was in existence for no more than 2 to 3 years. No violations were found associated with this site. Based on this information, the risk rating is "Medium" for the Fort Hamer Alternative.

Rye Road Alternative

A total of 15 sites have been identified along the Rye Road Alternative with the potential to contain hazardous materials and/or petroleum contamination as defined by regulatory agencies. Of these 15 sites, one site was identified with a "Medium" risk for potential contamination impact to the Rye Road Alternative and 14 sites with "Low" risk potentials. In addition, one site was identified with "No" risk potential to impact the Rye Road Alternative. A summary of these potential contamination sites is provided in **Table 3-24**.

TABLE 3-24
SUMMARY OF POTENTIALLY CONTAMINATED SITES
RYE ROAD ALTERNATIVE

Site#	Site Name Description Address	Facility ID No.	Comments	Concern	Location	Risk Rating[1]
1	Taniguchi Yukinori Property 1450 Brambling Court Bradenton	9807716 LUST	Existing residential development, DNR-10/05, Score-5, CU work status-active, Emergency response spill site.	Diesel	West 1,500 feet from ROW	No
2	Coddington Backhoe Service 14109 Rye Road East Bradenton	8839641 TANKS	Former equipment maintenance facility. One 500-gallon diesel AST reported as in service on the FDEP storage tanks database but not listed on the active site database, address not found in field or property appraisers. The MCEMD indicated that the tank is not regulated and there were no files available for review. Review of historical aerial photographs suggests a likely location 120 feet to the east of the existing Rye Road ROW.	Diesel Solvents Waste Oils	East 120 feet from ROW	Low
3	L & B Hydroseeding 14119 Rye Road Bradenton	8839613 TANKS	Former agricultural supply facility and possible, one 300-gallon diesel AST reported as in service on the FDEP storage tanks database but not listed on the active site database, address not found in field or property appraisers. The MCEMD indicated that the tank is not regulated and there were no files available for review. Review of historical aerial photographs suggests a likely location 120 feet to the east of the existing Rye Road ROW.	Diesel	East 120 feet from ROW	Low
4	Manatee County Rye Road Booster Pump 14695 Waterline Road Bradenton	9807894 TANKS	Active water pump emergency generator, one 3,000-gallon diesel AST installed in 2005 currently in service, AST observed 80 ft from ROW in field.	Diesel	Adjacent to SE of ROW	Low
5	River's Reach Associates LLC a.k.a. Sonshine Ranch a.k.a. Bluebird Ranch 1501 (1531) North Rye Road Parrish	8838907 LUST TANKS	Former cattle ranch, Currently being developed as residential, one 560-gallon diesel AST removed in 1993, one 500-gallon diesel AST removed in 1991, several unregistered USTs noted in FDEP OCULUS database, two UST locations noted with soil and/or groundwater impacts during closure, one to distant to be of concern, one within 100 feet of proposed corridor, DNR-02/93, IRA-1993, CAR-1994, groundwater gradient to west and project ROW, MOP-1995, SA-2001, NFA-2001. Former tank locations could not be determined during field review.	Diesel	Within ROW UST East 100 feet from ROW	Low

Continued on next page

TABLE 3-24 (CONTINUED)
SUMMARY OF POTENTIALLY CONTAMINATED SITES
RYE ROAD ALTERNATIVE

Site#	Site Name Description Address	Facility ID No.	Comments	Concern	Location	Risk Rating[1]
6	Wilderness Estates on Gamble Creek 14855 Golf Course Road Parrish	8626214 TANKS	Formerly Calgene Fresh Golf Course Farm, former citrus grove with five diesel ASTs registered and reported removed between 1991 and 1999. Former AST locations could not be determined during field review.	Diesel Herbicides Pesticides Metals	Adjacent to ROW South an d North	Low
7	Gamble Creek LC Property Golf Course Road west of Rye Road Parrish	9805383 TANKS	Currently Twin Rivers subdivision, former cattle ranch agricultural fields. Two 500-gallon diesel ASTs removed in 2001, AST locations over 1,700 feet south of the project corridor, tanks not regulated, no file at MCEMD.	Diesel	Adjacent to ROW South 1,700 feet	Low
8	Cross Creek Homes Formerly Fort Hamer Farms and Rawl's Custom Cutting and Wrapping 4402 Fort Hamer Road Parrish	8623998 TANKS	Currently Cross Creek Homes (under development), former cattle ranch residences and structures removed, one 500-gallon diesel AST recently removed, former AST location could not be determined in field review, tank not regulated, no file at MCEMD.	Diesel	South 2,000 feet from ROW	Low
9	Mellon Holdings Palmetto Pines Golf Course 14355 Golf Course Road Parrish	8734011 TANKS	Existing golf cart storage and golf shop adjacent to project ROW, maintenance area 1,700 feet to the south. One 500-gallon leaded gas UST removed in 1990, one 550-gallon leaded gas AST removed in 1990, one 250-gallon gas AST currently in service, one 1,000-gallon diesel AST currently in service.	Diesel Leaded Gas Batteries Herbicides Pesticides Metals	Adjacent to ROW South and North	Low
10	Rutland Ranch Rye Road & CR 675 South Myakka City	9202926 TANKS	Appears to be a nature reserve managed by SWFWMD, former cattle ranch. Four diesel pump generator ASTs registered as installed in 1991 and removed in 1999, two ASTs over 0.7 miles to the east, one 1.2 miles to the west and one AST location could not be determined.	Diesel	East and West of ROW	Low
11	Gamble Creek Estates LLC (Gamble Creek Beefmasters) Golf Course Road at Gamble Creek Road Parrish	8624403 TANKS	Currently a residential subdivision under development, former cattle ranch, one 4,000-gallon leaded gasoline UST installed 1981 and removed in 1988. Former AST location could not be determined during field review.	Leaded Gas	South 2,700 feet from ROW	Low
12	Southern Broadcast Corp WWSB 17020 SR 675 Myakka City	9601127 TANKS	Active transmission tower w/backup generator. One 800-gallon diesel AST removed in 2000, one 2,000-gallon diesel AST installed in 2000 and currently in service, AST observed in field.	Diesel	Northeast 800 feet from ROW	Low

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TABLE 3-24 (CONTINUED)
SUMMARY OF POTENTIALLY CONTAMINATED SITES
RYE ROAD ALTERNATIVE

Site#	Site Name Description Address	Facility ID No.	Comments	Concern	Location	Risk Rating[1]
FR-1	Braden River Fire Station No. 3 150 Rye Road Bradenton	Not Found	Active fire station, no fleet fueling observed. Backup emergency generator (with an integral tank within the pedestal) observed at west corner of the fire station structure 30 ft from ROW.	Diesel	Adjacent to NW of ROW	Low
FR-2	River's Reach Associates LLC 1400 block of North Rye Road Parrish	Not Found	Former citrus grove, proposed for development as residential. Possible AST and staging area within ROW noted on historical aerial photography. No access to site during field review.	Diesel Herbicides Pesticides Metals	Within Proposed ROW	Medium
FR-3	ECO Corporation 13620 Golf Course Road Parrish	Not Found	Former nursery. Appears as a nursery in historical aerials. Fleet fueling AST was observed during field review 60 ft north of the existing Golf Course Road ROW.	Gasoline Diesel Herbicides Pesticides	Adjacent to North of ROW	Low

[1] Risk rating based on criteria contained in Part 2, Chapter 22 of the FDOT PD&E Guidelines (FDOT, 2013).
AST – Aboveground Storage Tank
CU - Cleanup or Cleanup Status
IRA - Initial Remedial Action
MCEMD - Manatee County Environmental Management Department
NFA - No Further Action
TANKS - Registered Tanks
CAR - Contamination Assessment Report
DNR - Discharge Notification Report
LUST - Leaking Underground Storage Tanks
MOP - Monitoring Only Plan
SA - Site Assessment
UST - Underground Storage Tank

Site No. 2 (Coddington Backhoe Service - 14109 Rye Road) - The site address could not be found in the Manatee County Property Appraisers website or in the field. The historical address is located within a residential area. The site contact telephone number is currently in use by another party. Historical aerials suggest that the facility was located at the southeast corner of Rye Road and 15th Drive East. Structures at this location are located 120 feet to the east of the existing ROW. This facility is registered with FDEP (ID# 8839641) as having had one 500-gallon non-retail vehicular diesel above ground storage tank (AST) currently in service. The AST was not observed in the field review. The MCEMD indicates that the AST is unregulated and that no files are available for the facility. The FDEP active tanks list does not contain the site. Based on this information and the site's distance from the ROW and the likely inactive status, the risk rating is "Low" for the Rye Road Alternative.

Site No. 3 (L & B Hydroseeding - 14119 Rye Road) - The site address could not be found in the Manatee County Property Appraisers website or in the field. The historical address is located within a residential area of the project area and may be at the same location as Site No. 2. The site contact telephone number is currently inactive. Historical aerials suggest that the facility was located at the southeast corner of Rye Road and 15th Drive East. Structures at this location are located 120 feet to the east of the existing ROW. This facility is registered with FDEP (ID# 8839613) as having had one 300-gallon non-retail vehicular diesel AST currently in service. The AST was not observed in the field review. The MCEMD indicates that the AST is

unregulated and that no files are available for the facility. The FDEP active tanks list does not contain the site. Based on this information and the site's distance from the ROW and the likely inactive status, the risk rating is "Low" for the Rye Road Alternative.

Site No. 4 (Manatee County Booster Pump - 14695 Waterline Road) - This site is an existing wastewater pump facility located adjacent and east of the existing ROW. This facility is registered with FDEP (ID# 9807894) as having had one 3,000-gallon diesel AST installed in 2005 and currently in service. The AST fuels a backup emergency generator associated with the facility's waste water pumps. The double walled AST is located approximately 80 feet east of this alternative. No violations were found associated with this site. Based on the age and type of fueling system, the risk rating is "Low" for the Rye Road Alternative.

Site No. 5 (Sonshine Ranch a.k.a. Bluebird Ranch - 1501 Rye Road) - This site is a former cattle ranch currently under redevelopment as residential (River's Reach Associates, LLC at 1531 Rye Road). This facility is registered with FDEP (ID# 8838907) as having one 560-gallon diesel AST removed in 1993 and one 500-gallon diesel AST removed in 1991. The ASTs were associated with well pump generators. The actual locations of the former ASTs could not be determined and were not observed in the field.

Based on assessment reports downloaded from the FDEP OCULUS website, the ranch historically contained several diesel underground storage tanks (USTs) associated with well pump generators. During closure assessment activities, two of the locations were discovered to contain impacted soil and/or groundwater, which resulted in the submittal of a Discharge Notification Form (DNF) in 1993. One of the USTs was located approximately 0.5 mile to the west of this alternative and is not a source of potential concern to the project.

One 500-gallon UST, located approximately 50 feet west of Rye Road is also located approximately 100 feet east of this alternative. The diesel UST, reportedly used to fuel a well pump generator, was removed in 1991. The former UST location could not be determined in the September 2006 field review. During a 1993 closure assessment/initial remedial action (RA) soil and groundwater impacts were discovered. In addition, 140 tons of impacted soil were removed and thermally treated off-site. The site was approved for a one year monitoring only plan in 1994. Only one round of groundwater sampling was conducted in June 1994. The groundwater samples collected from the source well and one down gradient well were detected to contain ethyl-benzene and total volatile organic aromatics at concentrations above the guidance concentrations that were in place at the time. The surficial groundwater flow direction was shown to be to the west and toward the Rye Road Alternative.

The site was reassessed in 2001, at which time only trace levels of ethyl-benzene, total xylenes, and napthalenes were detected in the source well. No further action (NFA) was proposed and the FDEP approved a Site Rehabilitation Completion Order (SRCO) for the facility in 2001. Based on this information, the risk rating is "Low" for the Rye Road Alternative.

Site No. 6 (Wilderness Estates on Gamble Creek - 14855 Golf Course Road) - This site is an existing inactive citrus grove. This facility is registered with FDEP (ID# 8626214) as having five diesel ASTs removed in 1991, 1994, and 1999. The ASTs were associated with well pump generators. The former AST/well locations could not be determined in the September 2006 field review. However, historical aerial photographs suggest that the pump houses were located between 250 and 850 feet from this alternative. Because Gamble Creek bisects the grove, these locations are likely cross gradient to the existing Golf Course Road ROW. No reported discharges or violations were found associated with this site. Based on this information and the fact that the assumed locations of the ASTs are at least 250 feet from the existing ROW, the risk rating is "Low" for the Rye Road Alternative.

Site No. 7 (Gamble Creek LC Property - Golf Course Road at Twin River Trail) - This site is a former agricultural facility and currently the Twin Rivers Residential subdivision. This facility is registered with FDEP (ID# 9805383) as having two 500-gallon diesel ASTs removed in 2001. Maps depict the AST locations as over 1,700 feet to the south of the existing Golf Course Road ROW. Based on this distance, the risk rating is "Low" for the Rye Road Alternative.

Site No. 8 (Fort Hamer Farms a.k.a. Rawl's Custom Cutting and Wrapping - 4402 Fort Hamer Road) - This site is a former agricultural facility and currently being redeveloped as the Cross Creek Residential subdivision. This facility is registered with FDEP (ID# 8623998) as having one 550-gallon diesel AST removed in 2006. The former AST was located over 2,000 feet to the south of the existing Golf Course Road ROW. No reported discharges or violations were found associated with this site. Based on distance, the risk rating is "Low" for the Rye Road Alternative.

Site No. 9 (Palmetto Pines Golf Course Maintenance Facility - 14355 Golf Course Road) - This site is an existing golf course office/pro-shop and golf cart staging/recharging facility located within 100 feet north of the existing Golf Course Road ROW. This facility has one fueling UST and three ASTs registered with FDEP (ID# 8734011). Two leaded gasoline tanks (AST and UST) were removed in 1990. One gasoline and one diesel AST remain in service. The tanks are/were located 1,700 feet south of the existing Golf Course Road ROW. The golf course maintenance facility is also located in this area. No violations were found associated with this site. Based on distance the risk rating is "Low" for the Rye Road Alternative.

Site No. 10 (Rutland Ranch - Rye Road and CR 675) - This site is a former cattle ranch and agricultural facility. Former citrus groves within the ranch on the west side of Rye Road and along Golf Course Road are currently rural residential. Pastureland and fields to the west of Rye Road are generally under development with residential subdivisions or remain undeveloped. Former pastureland and fields of the ranch to the east of Rye Road are currently managed by SWFWMD. This ranch is registered with FDEP (ID# 9202926) as having four diesel ASTs installed in 1991 and removed in 1999. The ASTs were associated with well pump generators. The former AST/well locations could not be determined in the September 2006 field review. However, a review of MCEMD files identified the location of three of the ASTs, all of which are

over 0.75 miles from the existing Rye Road ROW. No reported discharges or violations were found associated with this site. Based on this information, the risk rating is "Low" for the Rye Road Alternative.

Site No. 11 (Gamble Creek Beefmasters - Golf Course Road at Gamble Creek Road) - This site includes pasturelands on the north and south sides of Golf Course Road. Land to the north, historically containing the facility's stock yard, is currently under redevelopment as a residential subdivision (Gamble Creek Estates, LLC). Lands to the south contain rural residences and pasturelands. This ranch is registered with FDEP (ID# 8624403) as having one 4,000-gallon leaded gasoline UST installed in 1981 and removed in 1988. A review of MCEMD files suggests the location of the former UST was 2,700 feet south of the existing Golf Course Road ROW. No reported discharges or violations were found associated with this site. Based on this information, the risk rating is "Low" for the Rye Road Alternative.

Site No. 12 (Southern Broadcast Corporation WWSB - 17020 SR 675) - This site is an existing transmission tower located 800 feet northeast of the existing Rye Road ROW. This facility is registered with FDEP (ID# 9601127) as having one 800-gallon diesel AST installed in 1996 which was replaced with a 2,000-gallon AST in 2000. The AST currently in service is used to fuel an emergency backup generator. No violations were found associated with this site. Based on distance the risk rating is "Low" for the Rye Road Alternative.

Site FR-1 (Manatee County Braden River Fire Station No. 3 - 150 Rye Road) - This site is an existing fire station with an emergency backup generator located approximately 130 feet to the west of the existing Rye Road ROW. The diesel powered generator has an integral tank within the pedestal. The AST capacity is likely less than 500 gallons and not required to be registered with FDEP. Based on this information, the risk rating is "Low" for the Rye Road Alternative.

Site FR-2 (River's Reach Associates - 1400 block of North Rye Road) - This site is a recently decommissioned citrus grove. The proposed alternative bisects the property and former citrus grove from north to south. The site has no tanks registered with FDEP. However, unregulated tanks were likely present in the past. The grove was not accessible during the field review. Historical photography (between 1940 and 1973) suggests that a former staging area may have existed near the northern end of the property within 50 feet or possibly within the proposed ROW. A 1998 aerial photograph depicts a possible surface water or well pump house and AST at the southern end of the property. The structure is within 50 feet or possibly within the proposed ROW. Based on this information, the risk rating is "Medium" for the Rye Road Alternative.

Site FR-3 (ECO Corporation - 13620 Golf Course Road) - This site is a former nursery. During the field review, a fueling AST was observed approximately 60 feet to the north of the existing Golf Course Road ROW. The AST capacity is likely less than 500 gallons and not required to be registered with FDEP. Based on this information, the risk rating is "Low" for the Rye Road Alternative.

Potential impacts of these sites resulting from the implementation of each alternative are discussed in Section 4.4.1.

3.4.5 SCENIC HIGHWAYS

As defined by F.S. 335.093, there are no designated scenic highways located within either the Fort Hamer Alternative or Rye Road Alternative study areas.

3.4.6 NAVIGATION

The USCG has jurisdiction over navigable waterways in the United States. Therefore, the ability to construct any structure over or within a navigable waterway, and that may impede the safe passage of vessels on such waterway, is regulated by the USCG. Whenever a new or replacement structure (such as a bridge) is proposed over a navigable waterway, the USCG often will use the results of a Bridge Questionnaire to define the minimum vertical and horizontal clearances for the structure.

As part of the FHWA-led study, a vessel survey was conducted over 3 days during the Memorial Day weekend in 1999. The results of that survey identified that a proposed vertical clearance of 26 feet would accommodate 100 percent of all vessels utilizing the Manatee River at this location. However, due to the length of time since that survey, and shift in lead federal agency to USCG, a second vessel survey was conducted in April 2011. Over 500 property owners with direct access to the Manatee River from the Rye Road Bridge west to approximately 0.5 mile west of the proposed Fort Hamer crossing were sent a vessel questionnaire. Three respondents noted that they had vessels in excess of 26 feet in height. Subsequently, representative from USCG, Manatee County, and the consultant toured this section of the Manatee River in December 2011. The three vessels noted were located; however, one (a small sailboat) was sunk in place at the owner's dock. The second consisted of a houseboat with a flagpole that exceeded 26 feet in height; however, it was noted that the houseboat required less than 26 feet of vertical clearance if the flagpole was lowered. The third vessel was a sailboat with a permanently mounted mast exceeding 26 feet in height. The results of both vessel surveys are provided in Appendix A-2.

The Manatee River at the location of the existing Rye Road Bridge is considered a navigable waterway; however, the shallow water depths at this location preclude all vessels except canoes, kayaks, and similar vessels.

The Manatee River is listed by the USACE as a Federal Project Channel and was authorized by House Document 117/58/2 on March 3, 1905 to be dredged up to 4 feet deep and 75 feet wide from Rocky Bluff (approximately I-75) upstream to the communities of Mitchellville/Rye. The upstream limit of the federal project was established at Mitchellville Bridge on July 27, 1916. No subsequent channel maintenance has been noted on this reach since that time (1916).

Potential impacts to navigation as a result of the implementation of each alternative are discussed in Section 4.4.6.

3.5 OTHER ACTIONS

The CEQ regulations (40 CFR Sections 1500-1508) implementing the procedural provisions of NEPA, as amended (42 U.S.C. Section 4321 et. seq.) requires that the effects of the Proposed Action be compared with the cumulative effects of other past, present, and reasonably foreseeable future actions. More specifically, the CEQ regulations define cumulative effects as:

> *"…the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions (40 CFR Section 1508.7)."*

This section summarizes those past, present, and reasonably foreseeable future actions within the project area that, when added to the Proposed Action, may contribute to an overall cumulative effect on the environment. The cumulative effects analysis of these actions is discussed in Section 4.6 of this FEIS.

Prior to settlement, uplands within the project area likely consisted of a mosaic of hardwood hammocks, upland scrub vegetation, and pine flatwoods. With settlement, much of these areas were gradually cleared for the production of crops and pasture, chiefly for cattle. Most of these operations remained as relatively small, family farms; however, larger commercial farming ventures have occurred in the project area. For example, a commercial tomato farming operation once existed at the location of the future Hidden Harbour Park on the north side of the river. As discussed previously in Section 3.1.2.1, these farming operations have steadily given way to residential development, especially in the past 15 years. Most of the land that remains undeveloped has been zoned as residential and is expected to become developed over the coming decades. Recent improvements include development of the collegiate rowing center at Fort Hamer Park (2011), construction of the Annie Lucy Williams Elementary School on Fort Hamer Road (2007), and improvements of the Rye Road Bridge (2008). Permits for the installation of a 30-inch water main beneath the Manatee River between Upper Manatee River Road and Fort Hamer Road were recently obtained by Manatee County and construction is expected to begin within the year.

The Manatee River within the project area remains within its natural channel and has not been dredged or channelized. Wetlands along the river remain largely intact, although private residential development with associated docking structures and golf course development has encroached upon these wetlands in various places. Regardless of the implementation of either Build Alternative, there is little reason to expect future dredging or channelization of the river as there is no water-dependent industry or commercial navigation needs within this stretch of the river, nor are these needs expected to arise in the future. Periodic development of shoreline homesites and associated small docks is expected to occur along the river.

Several transportation improvement projects are reasonably foreseeable within the project area. Details of these projects were previously shown in Table 2-10 and generally include the widening of Upper Manatee River Road (from SR 64 to the proposed Fort Hamer Bridge location), Fort Hamer Road, and US 301. A new sidewalk is scheduled to be installed along Fort Hamer Road in 2012-2013 and various intersection improvements along US 301 are in various stages of planning and design.