

F. Summary of Proposed Methodologies

Provide a summary of each of the proposed methodologies, assumptions, models, criteria, etc., that will be used to answer ADA questions, particularly Question 12 (Vegetation and Wildlife) and Question 21 (Transportation). The methodologies, assumptions, etc., should be specific enough so that once agreement is reached among parties regarding these, everyone involved will have a clear understanding of what will be provided in the ADA. The intent of this agreement is to streamline the review period and decrease the number of insufficiency findings wherever possible. The regional planning council should be consulted prior to the preapplication conference to explain the methodologies acceptable to the region for ADA review.

The following section is not intended to answer questions of the Application for Development Approval in detail at the preapplication stage, but discuss the general planning and design concepts, methodologies, potential problems, resources, and best management practices that can be identified and utilized early in the DRI process.

Question 12 – Vegetation and Wildlife

In preparation for the flora and fauna survey, a GIS database search, map review, and field investigations were conducted for the site and surrounding areas. The U.S. Fish and Wildlife Service (FWS) (December 2000) and Florida Fish and Wildlife Conservation Commission (FWC), formerly Florida Game and Freshwater Fish Commission (FGFWFC, August 1997) official lists of species listed as threatened, endangered, or of special concern for St. Johns County were reviewed. The *Species and Natural Community Summary for St. Johns County*, and element occurrence records, prepared by FNAI, were also reviewed. Assessed species include those listed by FWC (Chapter 68A-27 F.A.C) and FWS (50 CFR 17.11-12).

Habitat Mapping

Existing land use/cover within the study area was mapped according to the vegetative structure and assigned FLUCFCS Codes. To aid in determining existing use/cover, the following remote sources were utilized:

- Digital orthophoto quads at 1 m² pixel resolution (source data: SJRMWD, 2000)
- Digital true color aerial photographs at 0.56 m² pixel resolution (source data: AerialsExpress, 2002)
- Digital land use/land cover maps, level three (source data: SJRWMD, 1995)
- Soil Survey of St. Johns County, Florida (source data: USDA-NRCS, 1983)

Using the above sources, a preliminary community map was developed. The study area was subsequently field-truthed and the results were compiled into a GIS coverage using ArcMap™.

Wildlife Surveys for Protected Species

The purpose of the protected species survey is to determine the occurrence or probability of occurrence of listed species on the subject site. All methodologies established for the purpose of this survey are based on the guidelines set forth in the FWC-Office of Environmental Services, *Wildlife Methodology Guidelines for Section 18 (D) of the Application for Development Approval* (January 1988), and supplemented with other peer reviewed technical reports and journal articles. To ensure sufficient coverage and sampling effort, the total area to be sampled will be based on the mapped wetland and upland acreages. All surveys will be conducted daily, at appropriate times, for a minimum of 5 days. All individuals involved in the handling and collection of all listed and common faunal species will work under a valid collectors permit as required by Chapter 39.9.002 (F.A.C.).

The results of all sampling efforts, including the number of individuals recorded and locations of individuals or colonies, will be mapped at a minimum scale of 1"=400'. Habitat factors that may influence the occurrence of listed species will be summarized. The results of survey and sampling efforts will be used to estimate the home range and distribution of listed species. Additionally, the total suitable habitat acreage and density of gopher tortoise populations and burrow commensal species, if applicable, will be determined for future permitting implications. A determination of permanent, transitory, or migratory utilization of the site by each species will be made using documented data and reasonable scientific judgment.

Upon determining the likelihood of occurrence of protected species on the site, the project will be evaluated to establish measures that will be taken to minimize impacts on an individual species and/or their habitat.

Wetland surveys

Wetland surveys will focus on the following species: wood stork (*Mycteria americana*), bald eagle (*Haliaeetus leucocephalus*), limpkin (*Aramus guarana*), little blue heron (*Egretta caerulea*), snowy egret (*Egretta thula*), and tricolored heron (*Egretta tricolor*). Non-forested and sparsely vegetated wetlands determined to be less than ten acres and solitary in nature will be visually and aurally spot surveyed. To ensure sufficient coverage of wetlands determined to be greater than ten acres or densely vegetated areas, visual and aural observations will be conducted along randomly established pedestrian transects. All observed nesting and roosting sites will be mapped using handheld Global Positioning System (GPS) units.

Upland surveys

Upland surveys will focus on the following species: Sherman's fox squirrel (*Sciurus niger shermani*), Florida sandhill crane (*Grus canadensis pratensis*), Florida black bear (*Ursus americanus floridanus*), Southeastern American kestrel (*Falco sparverius paulus*), and red-cockaded woodpecker (*Picoides borealis*). As indicated in the recommended methodologies, these species are inherently difficult to identify due to low populations and/or solitary behavior. Therefore, a minimum of one thousand five hundred feet (1500') per 100 acres of meandering pedestrian transects will be established and surveyed twice daily, morning and evening, for a minimum of 5 days, to identify signs or activity indicating the presence of these species. Spot survey stations will be established on the transects to further investigate for signs of individuals.

Small mammal sampling

If suitable habitat is identified, small mammal trapping, transect, and spot surveys will be used to sample for the Florida mouse (*Podomys floridanus*). Trap stations will be located in the immediate vicinity of stumps, fallen logs wildlife paths and gopher tortoise burrows. A minimum of 25 stations per 50 acres of suitable habitat will be surveyed by placing 2 traps within a 10' radius of each station. Each transect will be surveyed for four consecutive 24-hour periods to obtain the necessary 200 trap-nights per transect. Each trap will be checked twice daily, be shaded and contain bedding material to minimize dehydration and stress resulting from being captured. Each individual collected will be released upon identification. No mark/recapture surveys will be conducted. In addition, track stations will be established on groomed trail roads and wildlife corridors.

Herpetofaunal surveys

Due to the cryptic nature and seasonal activities of these species, a variety of survey methods will be used for a more intensive survey. The reptile sampling iteration will likely occur in the summer season; therefore, to reduce heat related stress and loss of captured animals, funnel traps will not be utilized. Pedestrian surveys will be conducted during morning to mid-afternoon hours, when the likelihood of locating basking reptiles is highest. In addition, a minimum of 25% of the identified active, inactive, and abandoned gopher tortoise burrows, if any are identified on the site, will be investigated using a video camera. All species identified during burrow investigations will be recorded.

Amphibian surveys will likely occur in late spring when these species are most vocal and most active. Therefore, to intensify efforts, several survey methods will be used. To census frogs, aural surveys will be conducted for a minimum of five days at intermittent wetlands randomly selected before each sampling event.

During each stop, observers will listen for five minutes and record each species heard. Sampling efforts for gopher frog populations will be intensified for burrows located within one-half mile of intermittent wetlands. Surveys will be conducted during evening hours and after rain events. In addition, spot surveys will be conducted in the morning for additional signs of amphibians, such as individuals present in the wetland and egg masses on vegetation. Care will be taken to prevent desiccation of captured species. Each will be released upon identification.

Question 21 – Transportation

Existing Conditions

Study Area. The roadway segments within five miles of the project boundaries are displayed on Map F. The study area limits will be adjusted based upon the extent of the substantially impacted segments defined as the roadway segments where the project traffic share is 5% or more of the maximum service volume of the adopted level of service.

Regional Roadways. The regionally significant roadways will be as defined in the Regional Transportation Component of the Northeast Florida Strategic Regional Policy Plan. The regionally significant roadways within five miles of the project limits are listed in Table F-1. Other roads designated in the Transportation Element of the St. Johns County Comprehensive Plan have been added to the study area network.

Level of Service Standards. The minimum level of service standards for the regional roadways within St. Johns County will be as defined in the St. Johns County Comprehensive Plan or as identified on the St. Johns County Transportation Analysis Spreadsheet.

Level of Service Measures. The existing level of service on impacted roadways will be measured in one of the following ways:

- (1) Generalized FDOT Peak Hour LOS Tables, 2002 version
- (2) Florida State Highway System LOS Report, FDOT District 2, July 2005
- (3) Highway Capacity Software (HCS) Multilane Highway, Two-Lane Highway, or Arterial Modules
- (4) HCS+ and Synchro Intersection Analysis Software

**Table F-1
Existing Link Conditions**

Link ID	Roadway	Termini	Regionally Significant	Area Type	Lanes	Functional Class	Ping. Area	LOS Std.	Pk. Hr. Service Volume
ST. JOHNS COUNTY LINKS									
4	A. Nease Rd./Vermont Blvd.	S.R. 207 to Co. Landfill Entrance	No	TR	2	Minor Collector	2S	D	1590
5	Allen Nease Rd.	Co. Landfill Entrance to C.R. 214	No	TR	2	Minor Collector	2S	D	1590
8	Cowpen Branch Rd.	C.R. 13 to S.R. 206	No	RU	2	Minor Collector	2S	C	740
13	C.R. 13	S.R. 207 (W) to S.R. 207 (E)	No	RD	2	Major Collector	2S	C	1100
14	C.R. 13	S.R. 207 to C.R. 13A	No	RU	2	Major Collector	2S	C	740
15	C.R. 13	C.R. 13A to C.R. 214	No	RU	2	Major Collector	2S	C	740
18	C.R. 13A	C.R. 13 to C.R. 305	No	RU	2	Major Collector	2S	C	740
19	C.R. 13A	C.R. 305 to C.R. 214	No	RU	2	Major Collector	2S	C	740
45	C.R. 214	C.R. 13A to Allen Nease Rd.	No	TR	2	Major Collector	2S	D	1590
46	C.R. 214	Allen Nease Rd. to	No	TR	2	Major	3S	D	1590

Elkton Development of Regional Impact

Link ID	Roadway	Termini	Regionally Significant	Area Type	Lanes	Functional Class	Plng. Area	LOS Std.	Pk. Hr. Service Volume
		Holmes Blvd.				Collector			
51	C.R. 305	S.R. 206 to S.R. 207	No	TR	2	Major Collector	2S	D	1590
52	C.R. 305	C.R. 13 to S.R. 207	No	RU	2	Major Collector	2S	C	740
53	C.R. 5A (Old Moultrie Rd.)	S.R. 5 (U.S. 1) to Kings Estate Rd.	No	UZ	2	Urban Collector	3S	D	1160
54.1	C.R. 5A (Old Moultrie Rd.)	Kings Estate Rd. to Lewis Point Rd.	No	UZ	2	Urban Collector	3S	D	2910
59	Kings Estate Rd./Hilltop Rd.	S.R. 207 to C.R. 5A	No	UZ	2	Urban Collector	3S	D	1110
99	S.R. 206	S.R. 207 to C.R. 305	Yes	RU	2	Minor Arterial	2S	C	740
100	S.R. 206	C.R. 305 to S.R. 9 (I-95)	Yes	TR	2	Minor Arterial	2S	D	1590
101	S.R. 206	S.R. 9 (I-95) to S.R. 5 (U.S. 1)	Yes	TR	2	Minor Arterial	3S	D	1590
102	S.R. 206	S.R. 5 (U.S. 1) to S.R. A1A	Yes	UZ	2	Minor Arterial	3S	D	1720
104	S.R. 207	Hastings City Limits (E) to S.R. 206	Yes	RD	4	Minor Arterial	2S	B	2800
105	S.R. 207	S.R. 206 to C.R. 13	Yes	RD	4	Minor Arterial	2S	B	2800
106	S.R. 207	C.R. 13 to C.R. 305	Yes	RU	4	Minor Arterial	2S	B	2800
107.1	S.R. 207	C.R. 305 to Vermont Blvd.	Yes	TR	4	Minor Arterial	2S	C	4190
107.2	S.R. 207	Vermont Blvd. to Cypress Links Blvd.	Yes	TR	4	Minor Arterial	2S	C	4190
107.3	S.R. 207	Cypress Links Blvd. to S.R. 9 (I-95)	Yes	TR	4	Minor Arterial	2S	C	4190
108	S.R. 207	S.R. 9 (I-95) to Wildwood Dr.	Yes	TR	4	Minor Arterial	3S	C	4370
109	S.R. 207	Wildwood Dr. to Holmes Blvd.	Yes	UZ	4	Minor Arterial	3S	D	4750
116	S.R. 5 (U.S. 1)	S.R. 9 (I-95) to S.R. 206	Yes	RU	4	Principal Arterial	3S	C	4000
117.1	S.R. 5 (U.S. 1)	S.R. 206 to Shores Blvd. (S)	Yes	TR	4	Principal Arterial	3S	D	5870
117.2	S.R. 5 (U.S. 1)	Shores Blvd. (S) to Wildwood Dr.	Yes	UZ	4	Principal Arterial	3S	D	6300
118	S.R. 5 (U.S. 1)	Wildwood Dr. to C.R. 5A	Yes	UZ	4	Principal Arterial	3S	E	4430
119	S.R. 5 (U.S. 1)	C.R. 5A to Lewis Point Rd.	Yes	UZ	4	Principal Arterial	3S	E	5710
128	S.R. 9 (I-95)	S.R. 5 (U.S. 1) to S.R. 206	Yes	RU	6	Freeway	3S	C	8150
129	S.R. 9 (I-95)	S.R. 206 to S.R. 207	Yes	TR	6	Freeway	3S	C	8150
130	S.R. 9 (I-95)	S.R. 207 to S.R. 16	Yes	TR	6	Freeway	3N	C	8150
148	St. Ambrose Church Rd.	C.R. 13A to S.R. 207	No	RU	2	Minor Collector	2S	C	740
150.1	Wildwood Dr.	S.R. 5 (U.S. 1) to Deerchase Dr.	No	UZ	2	Urban Collector	3S	D	1650
150.2	Wildwood Dr.	Deerchase Dr. to S.R. 207	No	UZ	2	Urban Collector	3S	D	1390

Prepared by Prosser Hallock, Inc., September 29, 2005

Critical Intersections. The critical intersections to be counted and analyzed for existing conditions and by proposed project phase will be the intersections of regional roadways where project traffic share is 5% or greater on one or more of the following adjoining roadway segments. It is anticipated that the following intersections will be evaluated:

- I-95 ramps and S.R. 207
- S.R. 207 and C.R. 305
- S.R. 206 and S.R. 207
- S.R. 206 and C.R. 305

Data Collection. Traffic data will be obtained from the following sources for use in the Level of Service analysis:

- FDOT Annual Average Daily Traffic Counts
- St. Johns County adjusted traffic count data
- Turning movement counts collected by the Applicant
- Traffic counts filed with recent LDTA Reports

Planned and Programmed Improvements. The projects described in the following sources will be identified as future planned and programmed improvements:

- FDOT Tentative Five-Year Work Program FY2005 through FY2010
- St. Johns County Five-Year Capital Improvement Program
- St. Johns County Transportation Element (2015 Comprehensive Plan)
- First Coast MPO Transportation Improvement Program FY 04/05 through FY08/09
- First Coast MPO 2030 Cost-Feasible Long Range Transportation Plan

Projects that are programmed within the first five years of the FDOT Work Program or the First Coast MPO Transportation Improvement Program will be considered as committed projects for the purposes of establishing existing roadway capacities.

Project Trip Generation

Trip Generation Estimates. The project trip generation will be estimated using trip generation equations, and average trip rates from the Institute of Transportation Engineers Trip Generation, Seventh Edition, or other trip rate data from other developments of similar size and scope. ITE Trip Generation data for the PM Peak Hour of the adjacent street for the proposed land use, Elementary School (ITE Code 520), is not available. The applicant has previously developed a trip generation rate for a similar sized elementary school site in St. Johns County and proposes to use the same rate in accordance with this study. Trip generation estimates will be produced for the project as provided in Table F-2.

Internal-External Traffic

Internal and Pass-By Trip Splits. A portion of the project traffic will remain internal to the project boundaries because the project contains a mix of complementary land uses. Internal capture of project-generated trips will be estimated using techniques defined in ITE, Trip Generation Handbook and by utilizing FDOT T.I.P.S. Software. The pass-by percentages for the commercial portions of the project will be based upon data from the Traffic Impact Study Methodology and Procedures of the St. Johns County Concurrency Management Ordinance.

Future Traffic Projections

Project Traffic Distribution. Project traffic distribution and assignment will be estimated using the recently released version of the Northeast Florida Regional Planning Model (NERPM). Traffic zones will be defined for the project, and a select zone analysis will be used to determine project traffic distribution and assignment.

Manual adjustments may be employed to accurately describe traffic assignment in the immediate vicinity of the site.

Total Traffic Projections. A comparative method will be used to prepare future traffic projections. The comparative analysis will employ two independent projection techniques: a NERPM model analysis and a growth-trend analysis. The results from both techniques will be compared for each roadway link to ensure reasonable future traffic volumes.

Capacity Analysis. Estimated level of service conditions for the project will be analyzed by the same methodologies used for the existing conditions analysis. The service volumes for selected roadway segments may be adjusted for future conditions due to changes in roadway characteristics such as signal spacing, functional class, and area type.

Project Traffic Contribution

Project Traffic Share. The project traffic share for each roadway segment will be calculated as the peak hour traffic contribution divided by the peak hour service volumes of the adopted level of service standard. For constrained and backlogged segments, the peak hour service volumes will be as defined in the FDOT Level of Service Manual.

Substantially Impacted Roadways. Roadway segments substantially impacted by the project will be those where the project traffic share is 5% or more of the adopted service volume.

Roadway Improvements

Future Roadway Improvements. Future improvements to maintain peak hour levels of service on impacted roadway segments will be identified. The needed improvements will be determined by project phase and discussion will be included on how the timing of the needed improvements is related to project development.

Conceptual Access Plan

Proposed Access Points. There are multiple primary access points proposed for the site. Currently, there are two access points to SR 207 and one to CR 305.

Other Transportation Modes

Mass Transportation Provisions. Currently, there is no mass transit system serving St. Johns County. However, if in the future, a system is in place, which would serve the project, provisions will be made to accommodate transit internal to the project. The Subject Property is unique in that it possesses substantial frontage abutting the Florida East Coast rail line and opportunities may exist for future provision of mass transit facilities.

Non-Vehicular Movement. The application will discuss pedestrian and bicycle features, and design issues that will encourage non-auto movements between residential and commercial areas within the project, and how these facilities will be linked to facilities on adjacent roadways.

**Table F-2
Trip Generation Estimates**

ITE Code	Land Use	Units	Fitted Curve Equation		Size (X)	Daily Trips	PM Peak Hour Trips (T)
			Daily ⁽¹⁾	PM Peak Hour ⁽¹⁾			
210	Single Family Detached	DU	$\text{Ln}(T) = 0.90 * \text{Ln}(X) + 0.53$	$\text{Ln}(T) = 0.92 * \text{Ln}(X) + 2.71$	2,600	20,831	2,012
220	Apartments	DU	$T = 6.01(X) + 150.35$	$T = 0.55(X) + 17.65$	400	2,554	238

230	Residential Condo/Townhouse	DU	$\text{Ln}(T) = 0.85 * \text{Ln}(X) + 2.55$	$\text{Ln}(T) = 0.82 * \text{Ln}(X) + 0.32$	600	2,944	261
820	Shopping Center	SF	$\text{Ln}(T) = 0.65 * \text{Ln}(X/1000) + 5.83$	$\text{Ln}(T) = 0.66 * \text{Ln}(X/1000) + 3.40$	140,000	8,451	782
710	General Office Building	SF	$\text{Ln}(T) = 0.77 * \text{Ln}(X/1000) + 3.65$	$T = 1.12(X/1000) + 78.81$	40,000	659	124
720	Medical-Dental Office Building	SF	$T = 40.89(X/1000) - 214.97$	$\text{Ln}(T) = 0.93 * \text{Ln}(X/1000) + 1.47$	40,000	1,421	134
110	Light Industrial	SF	$T = 7.47(X/1000) - 101.92$	$T = 0.98(X/1000)$	70,000	421	69
520	Elementary School	SF	$\text{Ln}(T) = 0.99 * \text{Ln}(X/1000) + 2.59$	$T = 1.54(X/1000)$	190,000	2,403	293
820	High School	SF	$T = 12.89(X/1000)$	$T = 0.97(X/1000)$	256,000	3,300	248
	Total					42,984	4,161

Prepared by Prosser Hallock, Inc., October 7, 2005

(1) Trip Generation, 7th Edition, Institute of Transportation Engineers.

Question 24 – Housing

The proposed development consists of multi-phases, beginning after the issuance of the Development Order. There will be approximately 3,600 residences, including a combination of single-family, townhome and apartment units. The plan calls for some residential to be constructed simultaneously with the retail, office, medical and industrial uses as to create convenient opportunities for residents, thereby reducing external traffic and promoting a sense of place.

The DRI Application for Development Approval will include a supply and demand analysis for various types of residential, including affordable housing as defined by Rule 9J-2, F.A.C. The study will conform to the East Central Florida Regional Planning Council's *Housing Demand, Supply and Need Methodology for Assessing the Affordable Housing Impact of Developments of Regional Impact*. The following standards shall be used in the survey:

- (1) Employment standards for major project employment categories will include:
 - 4.1 employees per 1,000 square feet of office space
 - 2.5 employees per 1,000 gross leased square feet of commercial retail space
 - 4.1 employees per 1,000 square feet of medical space.
 - 1.75 employees per 1,000 square feet of light industrial space
- (2) Adjustments will be made to employment to allow for the presence of part-time workers, including 75% of retail and 10% for other occupations. Two (2) part-time employees are equivalent to one (1) full full-time employee.
- (3) Wage data will be taken from credible sources like the U.S. Department of Labor, Florida Department of Labor and Employment Security, and the Wage and Benefits Survey for St. Johns County (St. Augustine and St. Johns County Chamber of Commerce, Economic Development Council). Wages will be proportionally spread around a median, between a low and a high figure, all determined by source data.
- (4) Household composition will be adjusted to determine multi-worker and single-worker households, and household wage data will be adjusted according to the ECFRPC methodology.
- (5) Available for sale housing will be determined through use of the St. Johns and Duval County Property Appraiser database. Available rental housing will be determined through use of Census 2000 data.

Affordability ranges shall be based upon the median household income for the Jacksonville Metropolitan Statistical Area, the applicant assumes the following affordability ranges. The MSA includes Nassau, Duval, St. Johns and Clay counties.

- Median Income \$56,600 (Source: Florida Housing Finance Corporation, 3/15/04)
- Very Low Income (Less than 50%) Less than \$28,300
- Low Income (50 to 80%) \$28,300 to \$45,280
- Moderate Income (80 to 120%) \$45,281 to \$67,920