

ENVIRONMENTAL SERVICES, INC.  
124 N. Nova Road, PMB 129  
Ormond Beach, FL 32174

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www.environmentalservicesinc.com

4 December 2014

Mr. Clint Smith  
Tomoka Holdings, LLC  
145 City Place, Suite 300  
Palm Coast, Florida 32164

**RE: Biological Assessment  
North US Highway 1 – Ormond Crossing Phase B FEMA Permit  
Ormond Beach, Volusia County, Florida  
ESI Project Number EV10069.03**

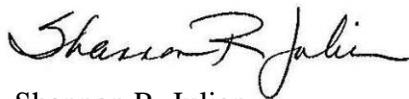
Dear Mr. Smith:

Pursuant to your request, Environmental Services, Inc. (ESI) has completed a biological assessment for the above referenced property. A copy of our report is enclosed and is provided to comply with FEMA informational requirements.

We appreciate the opportunity to assist you on this project, and we hope that the information provided in this report is useful in meeting your goals and objectives. Should you have questions or need additional information or services, please call me.

Sincerely yours,

ENVIRONMENTAL SERVICES, INC.



Shannon R. Julien  
Vice President/Senior Manager

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**BIOLOGICAL ASSESSMENT  
APPROXIMATE 103.70 ACRE PARCEL  
ORMOND CROSSING PHASE B FEMA PERMIT  
NORTH US HWY 1 ORMOND BEACH, VOLUSIA COUNTY, FLORIDA**

**December 2014**

**I. INTRODUCTION**

Environmental Services, Inc. (ESI) conducted a site-specific biological assessment of the approximate 103.70 acre parcel of land to be known as Ormond Crossing Phase B located south of North US Highway 1, west of Interstate 95, east of undeveloped silvicultural land and north of agricultural/silvicultural lands within Ormond Beach, Volusia County, Florida. Our investigation was conducted to determine the nature and extent of jurisdictional wetlands pursuant to the current methodologies of the following agencies:

- Florida Department of Environmental Protection (FDEP). (Chapters 373 and 403, F.S.; and Chapter 62-340, F.A.C).
- St. Johns River Water Management District (SJRWMD). (Section 40C-4, F.A.C).
- U.S. Army Corps of Engineers (ACOE). (33 C.F.R. 320 through 330).

In addition, we reviewed the site for listed endangered, threatened, and species of special concern. Our preliminary investigation included a review of the relevant maps for the area, including the United States Geological Survey (U.S.G.S.) topographic sheets, the National Wetlands Inventory (NWI) map, the *Soil Survey of Volusia County, Florida* (U.S. Department of Agriculture, Soil Conservation Service, 1980), and aerial photographs of the project vicinity. This was followed by a historic permit review and on-site field review of the areas within the boundaries of the property.

**II. SITE DESCRIPTION**

**A. Location and Site Conditions**

The overall project area comprises approximately 103.70 acres. The parcel is bordered on the north by US Highway 1, east, west and south by undeveloped agricultural/silvicultural land. More specifically, the property is located in Section(s): 26 and 35, Township 13 South, and Range 31 East in Volusia County, Florida with parcel identification number(s) of: 26-13-31-00-00-0100 and 35-13-31-00-00-0010 (Figure 1).

**B. Topography**

The U.S. Geological Survey map for this area identifies the site as having topography of 27 to 31 feet NGVD. Site specific topographic information was not available at the time of the site visit.

## C. Soils

The *Soil Survey of Volusia County, Florida*, indicates the presence of four soil types within the property. A description of each soil type, as mapped, is listed below (Figure 2).

1. Basinger Fine Sand, depressional (8). This poorly drained, nearly level sandy soil is mainly in depressions and in a few poorly defined drainage ways in the flatwoods and sandhills. Slopes are smooth to concave, and are mostly less than one-half percent but range from zero to two percent. The water table is above the surface for several months in most years. The rest of the time it is within 30 inches except during very dry periods. This soil has a low potential for community development due to the high water table and lack of suitable drainage outlets. This is considered a hydric soil associated with wetlands.

2. Cassia Fine Sand (13). This is a nearly level to gently sloping, somewhat poorly drained sandy soil in slightly elevated positions in the flatwoods or in low positions on the sandhills. Slopes are smooth to gently undulating with a gradient of zero to two percent. The water table is between depths of 15 and 40 inches for about six months during most years. It recedes to below 40 inches in the dry season. There is medium potential for community development. This is considered a non-hydric soil consistent with uplands.

3. Myakka Fine Sand (32). This nearly level, poorly drained soil is found in the flatwoods. The water table is within 12 inches of the surface from June to November and commonly within 40 inches of the surface the rest of the year except during extended droughts. The potential is low to medium for community development. This is considered a hydric soil 85 percent of the time when located in flatwoods and is typically consistent with wetlands.

4. Samsula Muck (56). This very poorly drained, nearly level, organic soil occurs in broad low flats, small depressions, freshwater marshes, and swamps. Slopes are less than two percent. The water table is at or above the soil surface, except during extended periods of drought. The potential is very low for community development. This is considered a hydric soil associated with wetlands.

## D. Hydrology

Three ditches exist on site. One borders the east and the west side of the project area and one runs horizontal through the northern parcel of the site. These man-made surface waters appear to flow in a north to south direction, eventually out falling to the east.

## E. Flood Zone

The FEMA (Federal Emergency Management Administration) web site was searched for known flood zones or other hazards for the property. Small portions in the north section

of the property are located in Flood Zone A which is within the 100 year flood zone. All remaining areas are located in Flood Zone X which is outside of the 100-year flood zone. Development within a flood zone will require special planning on behalf of the engineer to provide compensating storage, maintain hydrologic conditions, and prevent adverse impacts to neighboring properties. When the design has been completed and approved by the St. Johns River Water Management District (SJRWMD), floodplain impacts will be compensated for, thereby maintaining flood storage volumes for the area.

## **F. Vegetative Communities**

Five communities occur within the boundaries of the site. These communities were characterized using the *Florida Land Use, Cover and Forms Classification System* (FLUCFCS) (Florida Department of Transportation State Topographic Bureau Thematic Mapping Section Procedure No. 550-010-001-a) and are summarized below:

1. Coniferous Plantation (FLUCFCS 441). These areas are bedded and planted rows of slash pine (*Pinus elliottii*) currently under silviculture management. This habitat is dominated by slash pine with a sparse understory of gallberry (*Ilex glabra*), saw palmetto (*Serenoa repens*), bracken fern (*Pteridium aquilinum*) and wiregrass (*Aristida spp.*).

2. Coniferous Planation, Wet (FLUCFCS 441w). These areas are bedded and planted rows of slash pine currently under silviculture management that are slightly lower in the landscape. This habitat is similar to the Coniferous Plantation but is distinguished by having a presence of organic soils and sparse wetland vegetative components. Understory vegetation consists of chain fern (*Woodwardia virginiana*), St. John's wort (*Hypericum fasciculatum*), and other wetland grasses and forbs.

3. Ditch (FLUCFCS 510). Two large north to south flowing ditches cross the western and eastern extremity of the property and run south. One ditch flows east to west through the northern section of the parcel. These ditches are largely devoid of vegetation.

4. Hydric Pine Savanah (FLUCFCS 626). This community is an open forest with a sparse canopy of slash pine and a groundcover dominated by wet grasses, forbs, and wetland shrubs. The dominant groundcover vegetation is broomsedge (*Andropogon virginicus*), with St. John's wort, scattered wax myrtle (*Myrica cerifera*), and meadow beauty (*Rhexia spp.*).

5. Wetland Forested Mixed (FLUCFCS 630). This wetland community is comprised of a mix of conifer and hardwood species in which neither type achieve a 66 percent dominance. This community contains a mixture of slash pine, laurel oak (*Quercus laurifolia*), red maple (*Acer rubrum*), loblolly bay (*Gordonia lasianthus*), dahoon holly (*Ilex cassine*), and occasional cypress (*Taxodium distichum*). The understory contains chain fern, St. John's wort, and in deeper areas pickerelweed (*Pontederia cordata*) and arrowhead (*Sagittaria spp.*).

### **III. ENDANGERED AND THREATENED SPECIES**

Prior to the field review, a list of state and federally-listed plant and wildlife species potentially occurring in Volusia County was developed and then reviewed to identify the habitats used by each species. The literature consulted included lists supplied by the Florida Fish and Wildlife Conservation Commission (FWC) and U.S. Fish and Wildlife Service (FWS), the Florida Natural Areas Inventory (FNAI), along with technical publications and field guides. Based on this information, and knowledge of the specific habitat requirements for the individual listed species, the probability of each species occurrence on the site was considered.

Biologists with ESI surveyed the property on 14 November 2014 by walking the property and inspecting all vegetative community types for any signs of wildlife. The greatest emphasis was placed on those community types that may provide appropriate habitat for listed wildlife species. If there was no potential for a listed species to utilize this site, it will not be covered in this report. During the site review, an inspection was conducted to determine the presence and/or absence of threatened and/or endangered species and/or their associated corridors. The various community types were identified during these pedestrian surveys, dominant plant species were recorded, and assessments were made as to the suitability of each community type to support listed or regulated plant and wildlife species. Parameters assessed to determine the potential suitability for a community to support listed or regulated species, included quality and availability of necessary components for burrowing/nesting, foraging, and cover, including the presence and extent of disturbance to the habitat. In addition, any evidence that might indicate use of the site or residence on the site by potential plant and/or wildlife species was noted.

A synopsis of the listed species considered and the survey results are presented below.

#### **A. Bald Eagle (*Haliaeetus leucocephalus*) Threatened**

Bald eagles can utilize a variety of habitats ranging from salt marshes to hardwood swamps. While these habitats do not occur within the project area they are present in the vicinity. Eagles prefer to nest near large water bodies in large living pine trees. According to the FWC Bald Eagle Nest Location Map, no nests occur within 2.21 miles of this site. The pines located on-site were investigated and at no time during the field investigation were bald eagles or evidence of nesting observed. Therefore, the development should have no impact on bald eagles.

#### **B. Gopher Tortoise (*Gopherus polyphemus*) Threatened**

Small pockets of gopher tortoise habitat are associated with this area but no evidence of tortoises or tortoise burrows were observed. Therefore, impacts to gopher tortoises, commensals or their habitat will not occur. Prior to construction activities, and additional species specific gopher tortoise survey will be conducted to ensure tortoises have not moved into areas containing suitable habitat.

**C. Pine Snake (*Pituophis melanoleucus mugitus*) Species of Special Concern, Indigo Snake (*Drymarchon corais couperi*) Threatened, Gopher Frog (*Rana capito*) Species of Special Concern, and Florida Mouse (*Podomys floridanus*) Species of Special Concern**

None of these species were observed on the property. These animals often occur as commensals in gopher tortoise burrows and may also use the burrows of pocket gophers (*Geomys pinetes*), especially pine snakes. No pocket gopher burrows or gopher tortoise burrows were observed on the property. Therefore, impacts to these species are not anticipated.

**D. Southeastern American Kestrel (*Falco sparverius paulus*) Threatened**

The most commonly seen southeastern American kestrels in Volusia County are migratory and do not remain for the nesting season (mid-March to early June). Southeastern American kestrels are cavity nesters that utilize snags and feed in pastures, fields, and open woodlands. No southeastern American kestrels or evidence of nesting was observed on-site. Therefore, the development should have no impact on bald eagles.

**E. Sherman's Fox Squirrel (*Sciurus niger shermani*) Species of Special Concern**

Sherman's fox squirrels typically occur in sandhill, pine and turkey oak communities that are fire maintained. Pine (planted and regenerating) habitat occurs on site and evidence of fox squirrels was observed in the southeast section of the project boundary during the wildlife survey. While impacts to this species are anticipated, the property is currently utilized for silviculture and therefore exempt from permitting when land management techniques are employed. If the site is harvested prior to development, no permits from FWC will be required.

**F. Wood Stork (*Mycteria americana*) Endangered, Other Wading Birds - Variable**

Wading birds require marsh habitats or open water with shallow marsh fringes for foraging and nesting. Marsh habitat is not located within the project boundary but does exist in the vicinity. No wood storks or other wading birds were observed on the project site or in the project vicinity. No known rookeries occur on site or in the immediate project vicinity. Therefore development should not impact the wood stork or other protected wading bird species, other than to impact intermittent foraging areas.

**G. Florida Scrub Jay (*Aphelocoma coerulescens*) Threatened**

The Florida scrub-jay inhabits scrubby flatwoods and scrub habitat typically associated with sandhills. While scrub jays are known to occur in portions of Volusia County, no scrub jay habitat is associated with this property and no evidence of scrub jays were observed. Therefore, impacts to scrub jays or their habitat will not occur.

## **H. Florida Sandhill Crane (*Grus canadensis pratensis*) Threatened**

The Florida sandhill crane prefers prairies, freshwater marshes, and grassy areas such as pastures. No evidence of this species was visually observed within the project vicinity, nor were nests located. Therefore, impacts to this species should be minimal.

## **I. Florida Black Bear (*Ursus americanus floridanus*) Threatened**

The Florida black bear requires large undeveloped forested areas with many kinds of vegetative communities. Dense vegetation is required for resting and denning. Silviculture practices over the years have impacted the available habitat leaving little dense forest. The undisturbed Lake Swamp Mitigation Bank to the west of the project site provides suitable habitat for black bears which may allow for anticipated usage through the project site during seasonal migrations. However, barriers such as major roadways and highways will limit black bear use on the property. While impacts to black bear habitat may occur, the area for development is outside of the core habitat zones.

Protected species surveys were completed in conformance with guidelines established by the FWS, FWC, and the Florida Department of Agriculture and Consumer Services (FDACS). In sum, one species of special concern, Sherman's Fox Squirrel, was observed just southeast of the site. While no permits are required, this species will be considered during the detailed site design phase. No protected plant species were found within the project area, likely due to ongoing silvicultural and management activities.

No other protected species were observed during the site surveys. Non-protected wildlife species observed or evidence of use by such species include; white tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), armadillo (*Dasypus novemcinctus*), black racer (*Coluber constrictor*), blue jay (*Cyanocitta cristata*), northern cardinal (*Cardinalis cardinalis*), grey squirrel (*Sciurus carolinensis*), Morning dove (*Zenaida macroura*) turkey vulture (*Cathartes aura*), brown anole (*Anolis sagrei*) and green tree frog (*Hyla cinerea*).

## **IV. ARCHEAEOLOGY**

The Florida Master Site File determined that no historical or archaeological sites were recorded for the Ormond Crossings area. A cultural resource assessment was conducted and while four new archaeological sites were found, none were determined to be eligible for inclusion on the National Register of Historic Places. The sites found include the National Gardens Hunt Camp (8VO7588), Ormond Crossings Homestead (8VO7589), Ormond Crossings Dump (8VO7590), and Hull Swamp (8VO7591). The Division of Historical Resources concurred with the survey results and submitted reports describing the locations and no further work was recommended (DHR Project File No. 2005-5553).

## **V. PROPOSED SITE CONDITIONS**

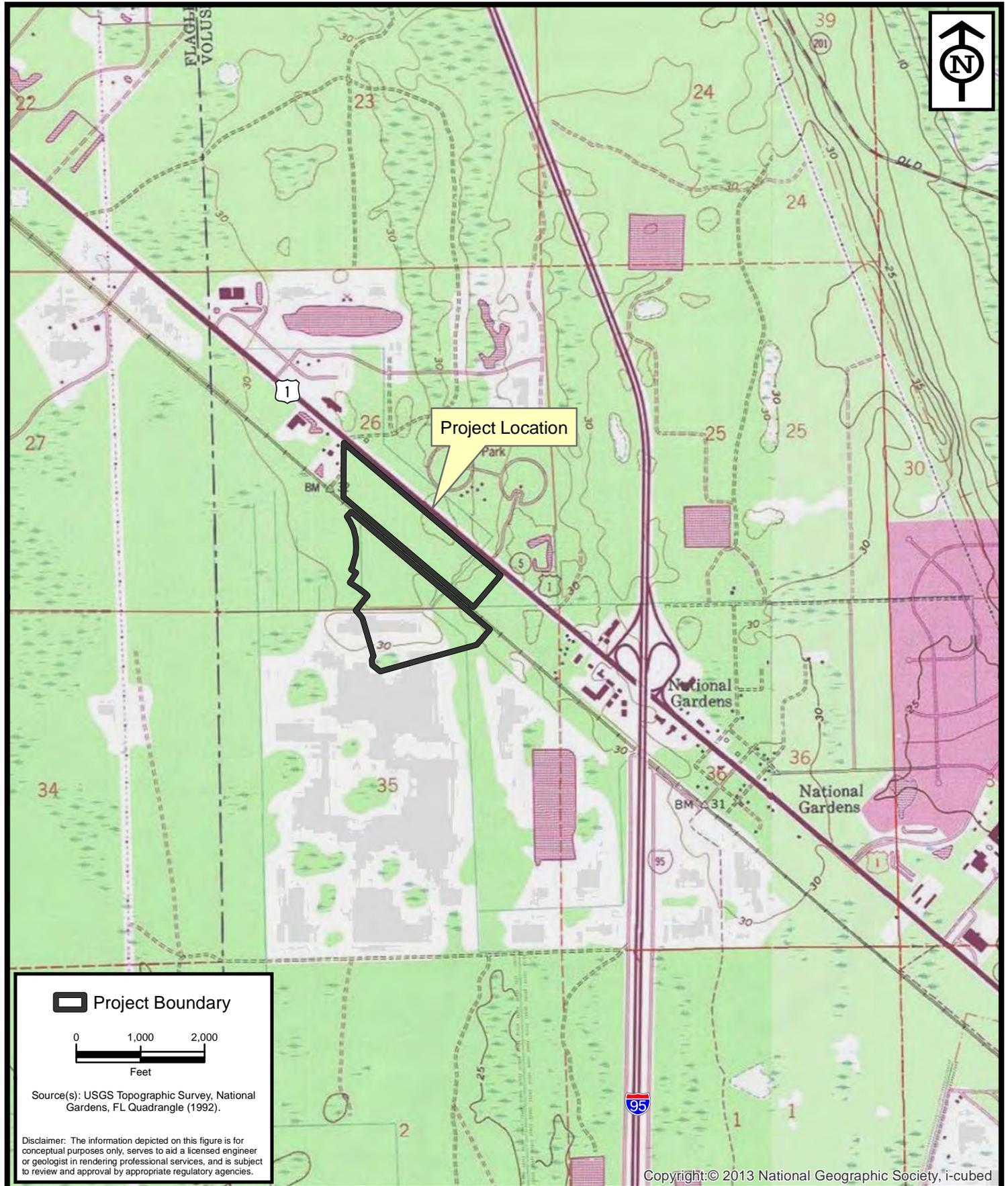
The proposed project is part of a larger development to be known as Ormond Crossings. This project will contain mixed residential, commercial and institutional development. For Ormond Crossings Phase B, the northern parcel will contain commercial development as it is located along a major highway (U.S. 1). This portion will also contain an entrance road and railroad crossing to access the southern parcel. The southern parcel will consist of multi-family and single family residential units, open space, and associated infrastructure. Wetland and floodplain impacts are proposed, however mitigation and offsetting compensating storage will be provided in order to minimize long term environmental impacts. Best Management Practices, Low Impact Development Techniques and approved erosion control plans will be utilized. Local approvals have already been obtained.

## **VI. CONCLUSION**

During the site-specific survey of the approximate 103.70 acre parcel located south of North US Highway 1 and west of Tymber Creek Road, Ormond Beach, Volusia County, Florida, it was determined that the site is comprised of upland and wetland communities. The Ormond Crossings project site was delineated for wetlands, reviewed, approved and a Formal Jurisdictional Determination (permit) issued by SJRWMD. Wetland and floodplain impacts will likely occur, however these will be mitigated using an adjacent and regionally significant mitigation bank credits and compensating storage.

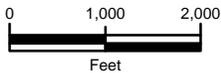
The habitats on-site are common in the landscape of Volusia County. The property does not contain critical habitats as outlined by the Florida Natural Areas Inventory and has largely been disturbed by silvicultural activities. Minor impacts to protected species could occur. At the time of the site inspection one Species of Special Concern (Sherman's fox squirrel) was observed in the general vicinity east of the project area near a large borrow pit/lake. The site contains suitable habitat for gopher tortoises, and proper surveys and relocation permits will be obtained prior to construction to avoid impacts to these species. There is one bald eagle nest within 2.21 mile of the site; however, this nest is located at a sufficient distance that it will not be disturbed by the project. Overall, the project should have minimal impacts on protected species. No protected plant species were found on-site.

No impacts to historical resources will occur. Therefore, the overall nature of the project will have minimal impacts on environmental, natural and/or historic resources. Hence ESI has concluded that a "no significant impact determination" is warranted.



Project Location

 Project Boundary



Source(s): USGS Topographic Survey, National Gardens, FL Quadrangle (1992).

Disclaimer: The information depicted on this figure is for conceptual purposes only, serves to aid a licensed engineer or geologist in rendering professional services, and is subject to review and approval by appropriate regulatory agencies.

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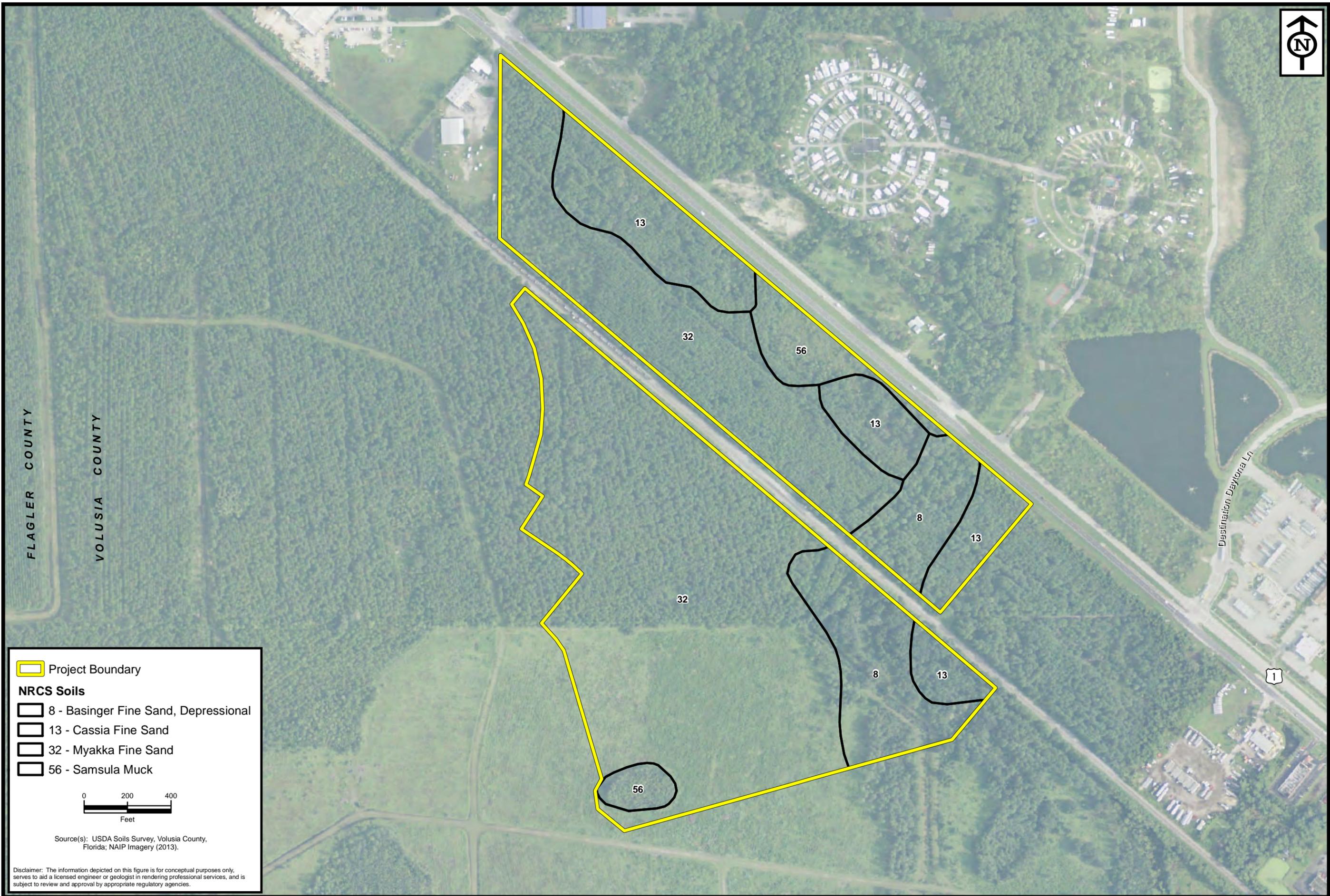
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Project Location  
**Ormond Crossings FEMA Permit**  
Volusia County, Florida

Project:	EV10069.00
Date:	Nov. 2014
Drwn/Chkd:	MR/JRN
Figure:	1



FLAGLER COUNTY  
VOLUSIA COUNTY



**Project Boundary**

**NRCS Soils**

- 8 - Basinger Fine Sand, Depressional
- 13 - Cassia Fine Sand
- 32 - Myakka Fine Sand
- 56 - Samsula Muck

0 200 400  
Feet

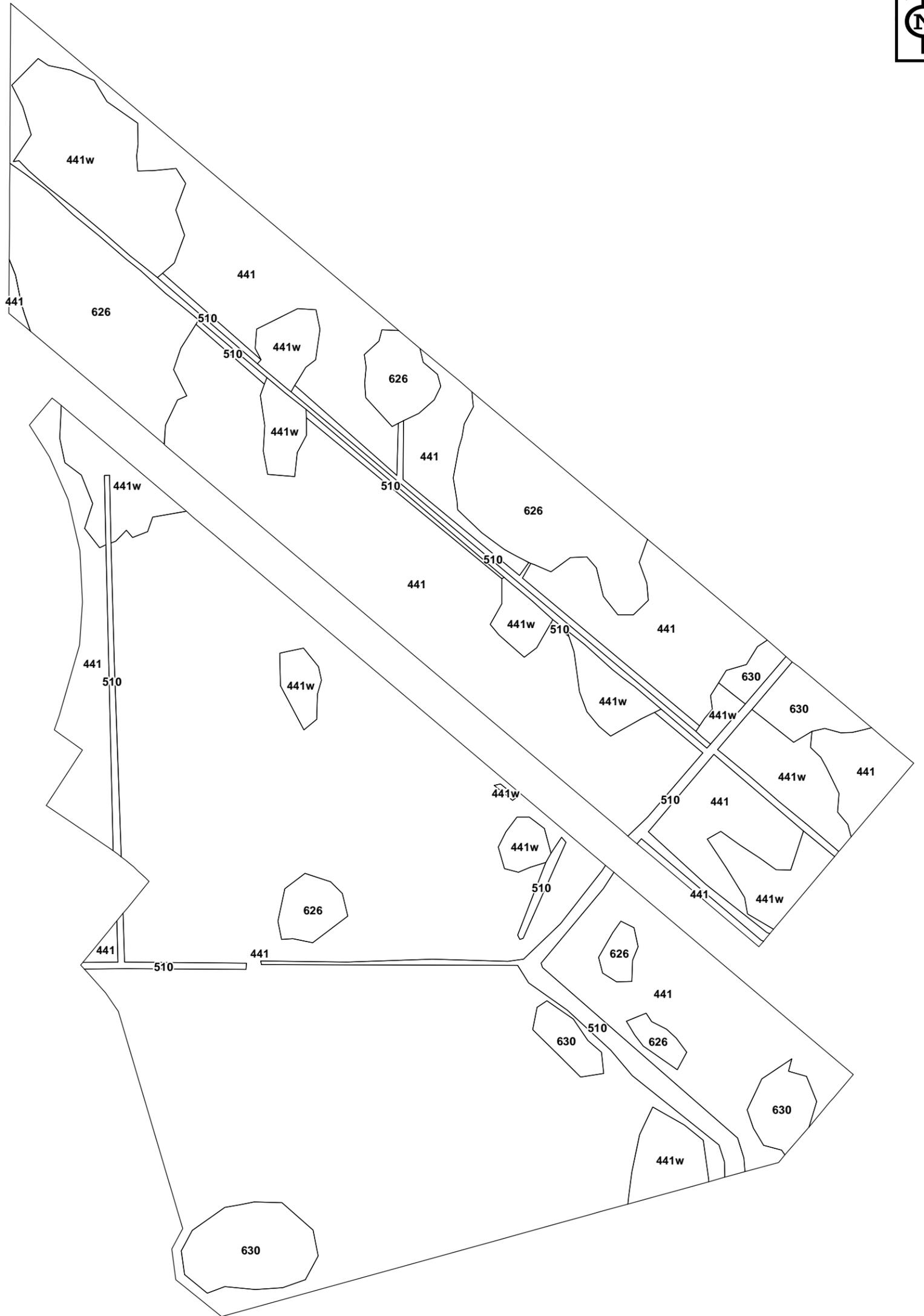
Source(s): USDA Soils Survey, Volusia County, Florida; NAIP Imagery (2013).

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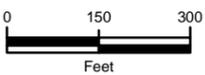
Project: EV10069.03  
Date: Nov. 2014  
Dwn/Chkd: JRN/SRJ  
Figure: 2

NRCS Soils  
**Ormond Crossings FEMA Permit**  
Volusia County, Florida

**ENVIRONMENTAL SERVICES, INC.**  
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- Project Boundary (103.70 ac.±)
- FLUCFCS**
- 441 - Coniferous Plantation (75.60 ac.±)
- 441w - Coniferous Plantation, wet (10.74 ac.±)
- 510 - Streams and Waterways (4.03 ac.±)
- 626 - Hdryic Pine Savanna (9.48 ac.±)
- 630 - Wetland Forested Mixed (3.85 ac.±)



Source(s): Florida Land Use, Cover and Forms Classification System (FDOT).

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Existing Site Conditions

## Ormond Crossings FEMA Permit

Volusia County, Florida

Project:	EV10069.03
Date:	Nov. 2014
Drwn/Chkd:	MR/JRN
Figure:	<b>3</b>