

# CULTURAL RESOURCE ASSESSMENT SURVEY OF THE PROGRESS ENERGY FLORIDA BLOWDOWN PIPELINE PREFERRED RIGHT-OF-WAY CITRUS COUNTY, FLORIDA



A BALANCED SOLUTION  
FOR THE FUTURE

# **FINAL REPORT**

## **CULTURAL RESOURCE ASSESSMENT SURVEY OF THE PROGRESS ENERGY FLORIDA BLOWDOWN PIPELINE PREFERRED RIGHT-OF-WAY CITRUS COUNTY, FLORIDA**

**MASTER CONTRACT # 442498-003**

**SEARCH PROJECT # 2606-11002P**

**PREPARED FOR**

**PROGRESS ENERGY FLORIDA, INC.**

**BY**

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A handwritten signature in black ink, appearing to read "Michael Arbuthnot", is written over a horizontal line.

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## **EXECUTIVE SUMMARY**

In August 2011 Southeastern Archaeological Research, Inc. (SEARCH) completed a cultural resource assessment survey on the Progress Energy Florida Blowdown Pipeline (BDP) preferred right-of-way (ROW) in Citrus County, Florida. The study was completed under Master Contract No. 442498, Work Authorization No. 003, as part of the Levy Nuclear Plant project, and meets the requirements of Condition C.VI.A of the Conditions of Certification (PA08-51C) for the project. The survey was conducted to identify any archaeological sites, historic structures, or Traditional Cultural Properties (TCPs) within the approximately 5.6-mile ROW and to evaluate their potential for listing in the National Register of Historic Places.

The project was completed in accordance with a Work Plan that was approved by Florida's Deputy State Historic Preservation Officer on June 7, 2011. This survey was conducted over the course of two weeks from August 2 to August 5 and from August 8 to August 12, 2011. The survey consisted of pedestrian inspection and excavation of 207 shovel tests, none of which yielded cultural material. Pedestrian inspection revealed that soils within the BDP preferred ROW have been heavily disturbed from historic land modifications, including the construction of the Cross Florida Barge Canal, mining, and timber-related activities. No archaeological sites or historic structures were identified, and a desktop study did not reveal any TCPs within the project area.

## **ACKNOWLEDGMENTS**

SEARCH would like to express appreciation to the individuals and organizations that contributed to the completion of this project. Special thanks go to Laura Kammerer, the Deputy State Historic Preservation Officer, for her consultation and help in development of the Work Plan. In addition, Amy Dierolf with Progress Energy Florida provided general project oversight and guidance, and also coordinated site access.

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## INTRODUCTION

This report presents the results of a cultural resource assessment survey of the Progress Energy Florida (PEF) Blowdown Pipeline (BDP) preferred Right-of-way (ROW) in Citrus County, Florida (**Figure 1**). The survey was completed under Master Contract No. 442498, Work Authorization No. 003, as part of the Levy Nuclear Plant (LNP) project, and meets the requirements of Condition C.VI.A of the Conditions of Certification (PA08-51C) for the project. The purpose of the project was to identify any archaeological sites, historic structures, or Traditional Cultural Properties (TCPs) within the approximately 5.6-mile ROW and to evaluate their potential for listing in the National Register of Historic Places (NRHP). The study was designed to comply with Section 106 of the National Historic Preservation Act of 1966, as amended (Public Law 89-665) and its implementing regulations (36 CFR Part 800), as amended. A Rule 1A-32 Archaeological Research Permit (No. 1011.080) also was required for this survey because two segments of the ROW intersect portions of the Marjorie Harris Carr Cross Florida Greenway State Recreation and Conservation Area. A copy of the permit is included as **Appendix A**.

Southeastern Archaeological Research, Inc. (SEARCH) conducted the field survey on August 2 through August 5 and on August 8 through August 12, 2011. The survey was supervised by a professional archaeologist who meets the Secretary of the Interior's Standards and Guidelines (48 FR 44716 [September 29, 1983]). Michael Arbuthnot, MS, RPA, served as Principal Investigator, and fieldwork was conducted by Josh Torres, Chris Altes, Spencer Prentice, Keith Pickles, and Dennis Wardlaw. The survey was completed in accordance with a Work Plan (SEARCH 2011a) that was approved by Florida's Deputy State Historic Preservation Officer (SHPO) in a letter dated June 7, 2011 (**Appendix B**). The project approach exceeds requirements found in the FDHR's *Cultural Resource Management Standards & Operations Manual, Module Three: Guidelines for Use by Historic Preservation Professionals* and Rule Chapter 1A-46, Florida Administrative Code.

In consultation with the Florida Division of Historical Resources (FDHR), the Area of Potential Effect (APE) for this project was defined as the footprint of the ROW (Kammerer, personal communication 2011). The survey consisted of pedestrian inspection and excavation of 207 shovel tests, none of which yielded cultural material. Background research and field investigation revealed that soils within the BDP preferred ROW have been heavily disturbed by historic land modifications, including the construction of the Cross Florida Barge Canal, mining, and timber-related activities. No archaeological sites or historic structures were identified, and a desktop study did not reveal any TCPs within the APE. Any unanticipated discoveries found during construction will be treated in accordance with PEF's official Unanticipated Discoveries (Accidental Finds) Plan on file at FDHR (SEARCH 2011b).

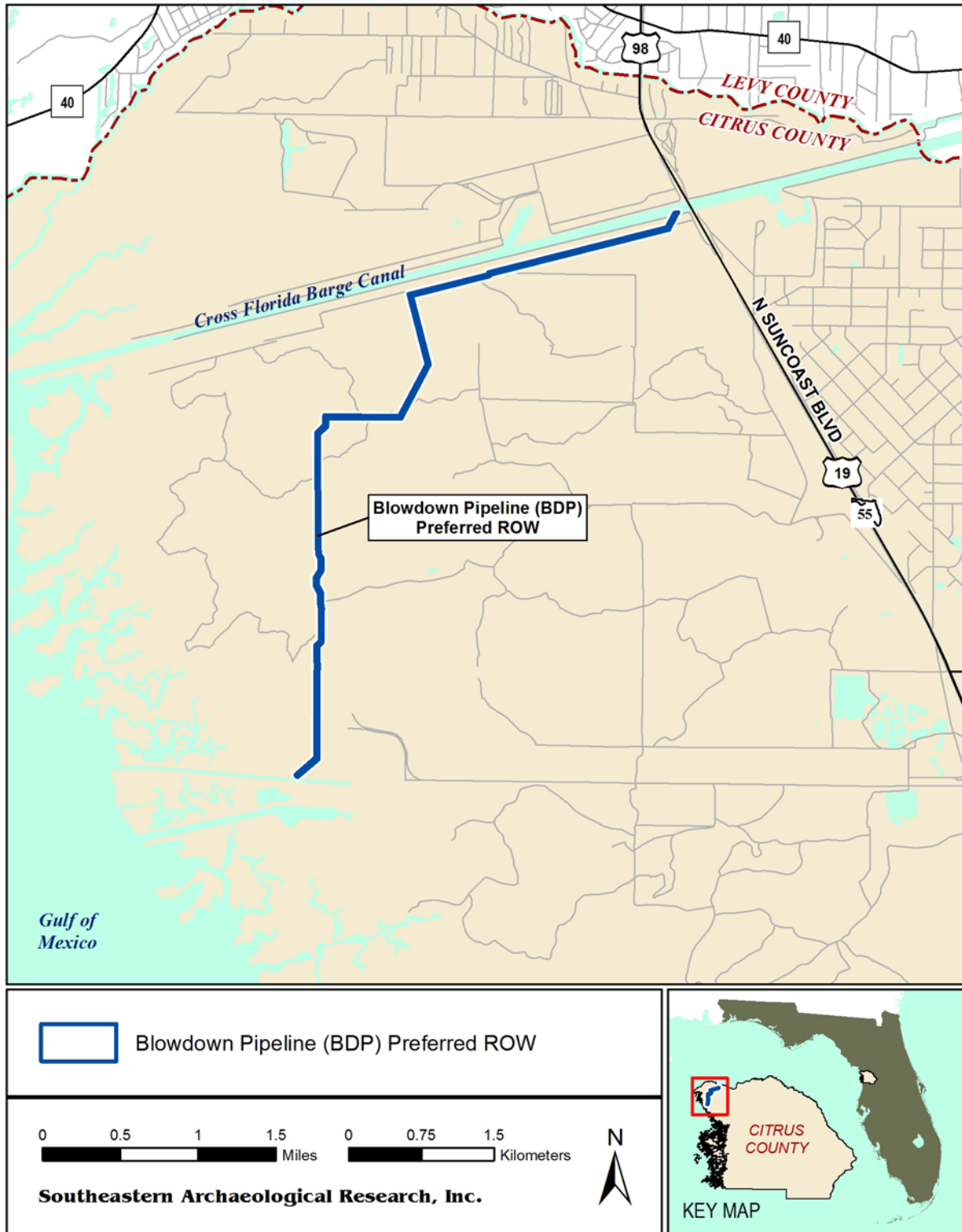


Figure 1. Location of the BDP preferred ROW in Citrus County, Florida.

## ENVIRONMENTAL OVERVIEW

### PROJECT LOCATION AND MODERN ENVIRONMENT

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The BDP preferred ROW is approximately 5.6 miles in length running from the northeastern corner of Section 29, Township 17 South, Range 16 East to the southwestern corner of Section 11, Township 17 South, Range 16 East in northern Citrus County (**Figure 2**). The ROW measures approximately 100 feet in width for its duration, totaling 67.7 acres. The preferred ROW is located approximately 2 miles east of the Gulf of Mexico immediately south of the Cross Florida Barge Canal and 820 feet southwest of US 19.

The environment associated with the BDP preferred ROW is flatwoods and coastal swamps. Land use in proximity to the preferred ROW consists of mining, silviculture, agriculture, and conservation. Residential settlement in the surrounding region consists of very low-density and dispersed single-family homes and farmsteads. The only residential development in the immediate vicinity is Crystal Manor, which is located on the east side of US 19. The majority of the project APE is within a rock sand quarry owned by Holcim, Inc.; however, the northern terminus of the preferred ROW is within the Marjorie Harris Carr Cross Florida Greenway State Recreation and Conservation Area, and the southern terminus is within the PEF Crystal River Energy Complex (CREC) (**Figure 3**). The CREC is a large power station complex that includes nuclear and coal plants. A Rule 1A-32 Archaeological Research Permit (No. 1011.080) was obtained prior to conducting survey on the state-owned greenway property (see **Appendix A**).

Most of the northern segment of the BDP preferred ROW follows a large, roughly east-west berm that parallels the Cross Florida Barge Canal in property own by Holcim, Inc. The berm is an accumulation of dredge spoil deposited during the mechanical excavation of the canal. Turning south, the preferred ROW parallels the eastern edge of an access road associated with the quarry's conveyor system until it bisects several large water-filled quarries. South of the quarries the preferred ROW briefly intersects the Marjorie Harris Carr Cross Florida Greenway State Recreation and Conservation Area before entering the CREC property.

The majority of the project area has been extensively modified by quarrying and land-clearing activities. Undisturbed areas within the BDP preferred ROW include discrete areas comprised of native flatwoods vegetation. The preferred ROW also skirts several wetlands that appear to be largely unmodified.

Soils within the preferred ROW are consistent with coastal settings in this region. The topography is generally flat and ranges from 5 feet above mean sea level (amsl) to 15 feet amsl along its northeastern end. The majority of the land consists of poorly drained soils (47.7 acres, 70.5 percent) comprising Hallandale, Myakka, and Boca soils. These soils are nearly level and underlain by a limestone substratum (**Figure 4**). Specific soil map units, characteristics, and acreage are shown in **Table 1**.

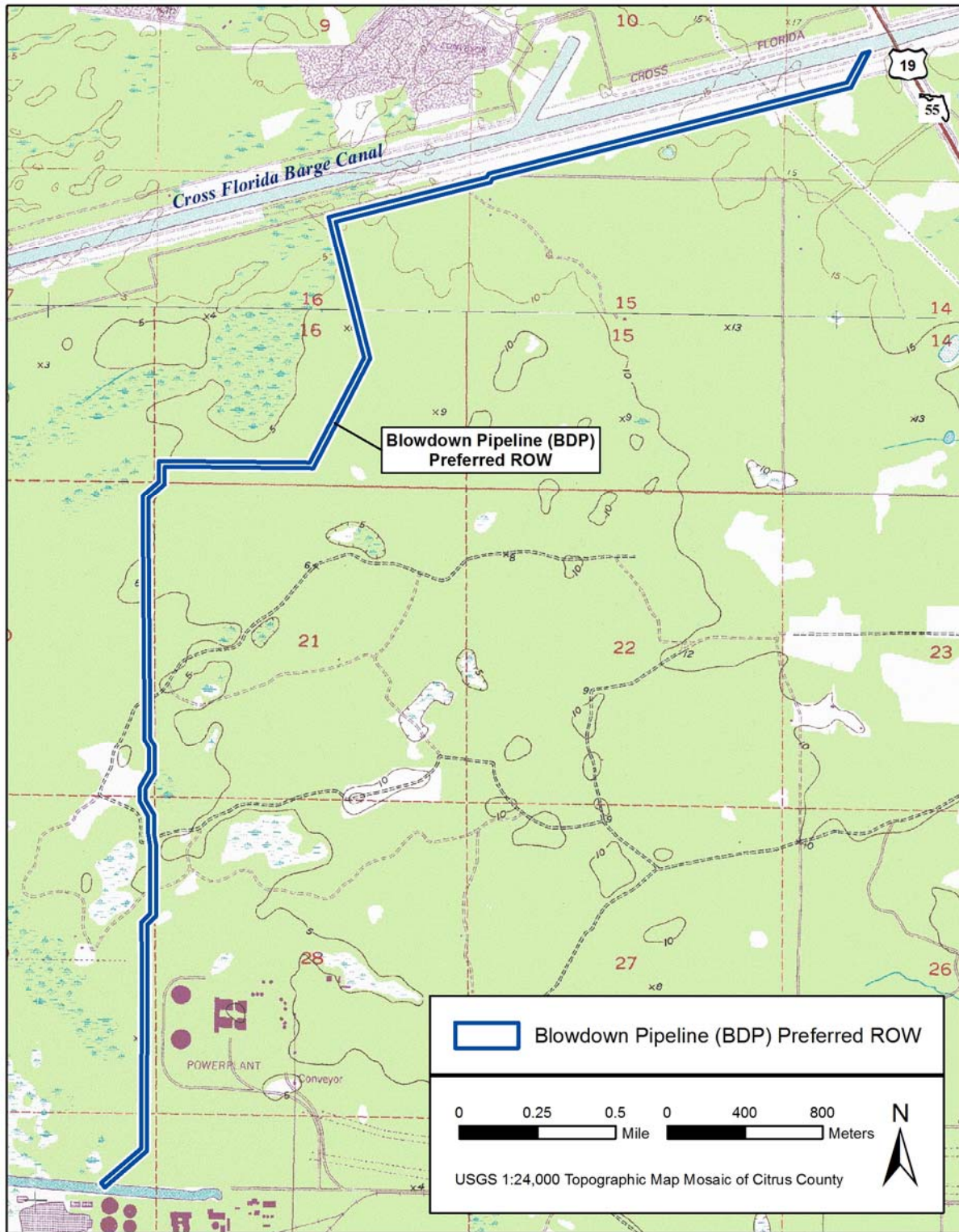


Figure 2. USGS topographic map of the BDP preferred ROW.

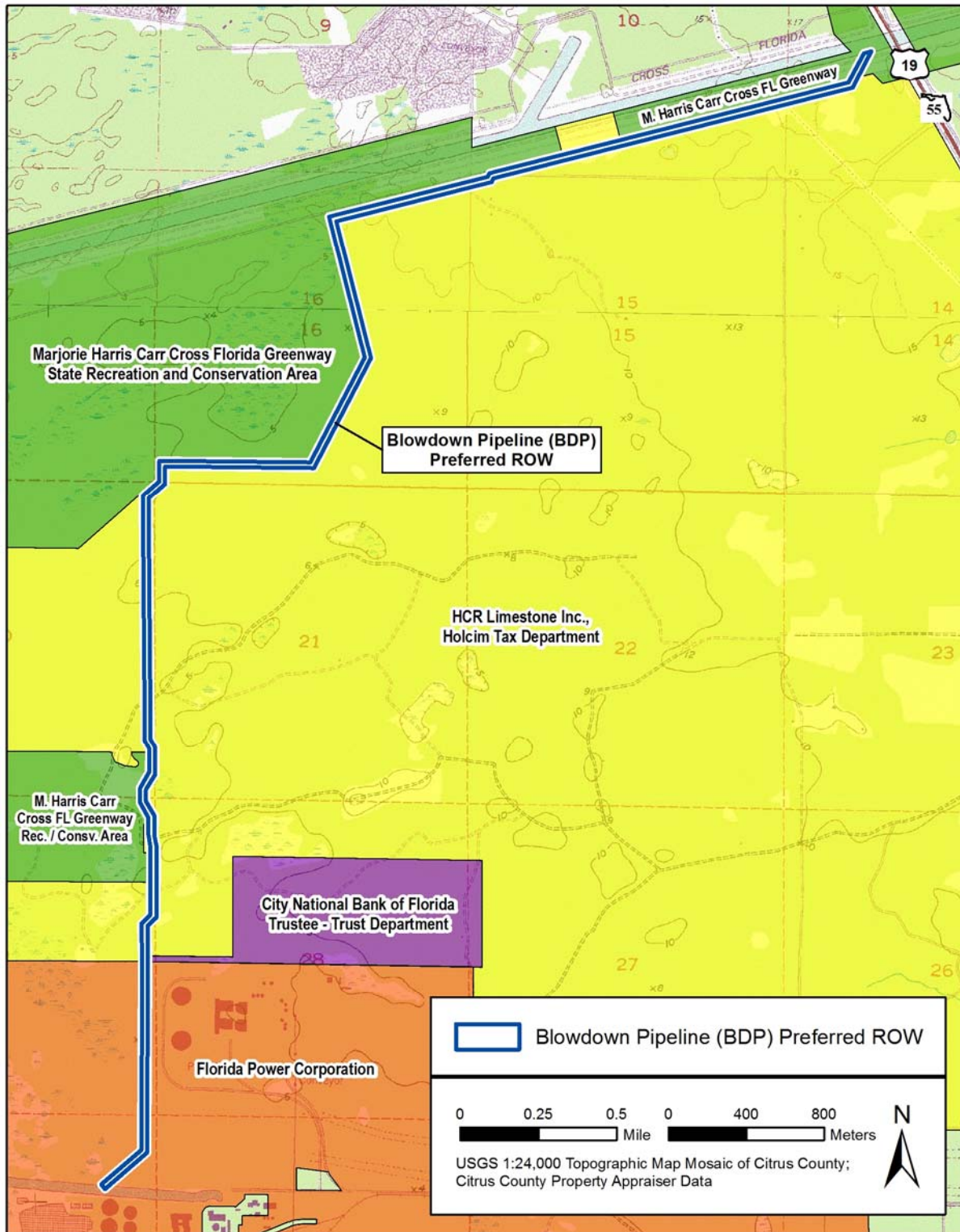


Figure 3. Property ownership in and around the BDP preferred ROW.

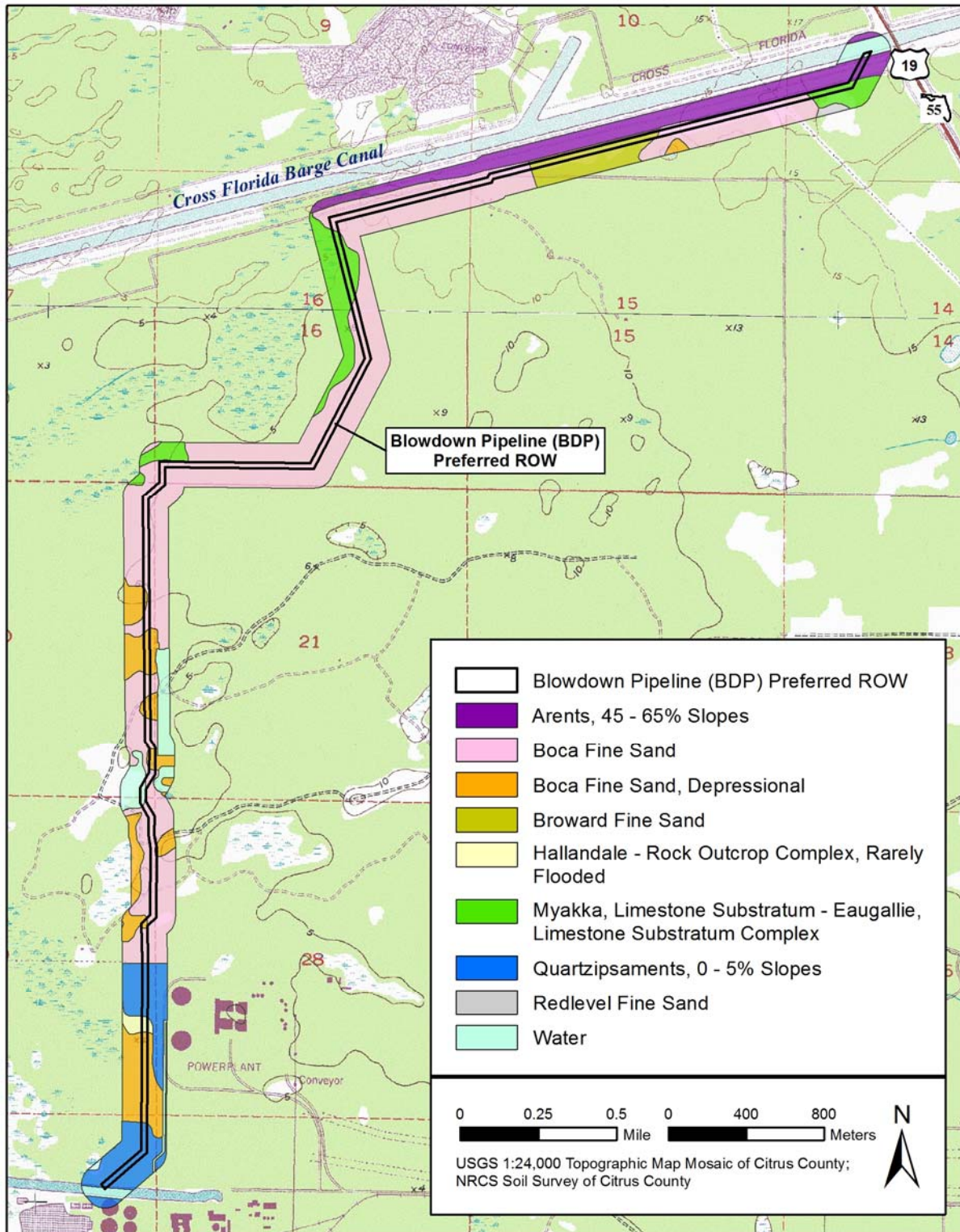


Figure 4. USDA-NRCS soil map units within the BDP preferred ROW.

**Table 1. Soil Drainage for the BDP Preferred ROW.**

Soil Name	Soil Description	Drainage Characteristic	Acres	% of Area
Arents	Sand, 45 to 65% slopes	Well drained	1.1	1.6%
Quartzipsaments	Sand, 0-5% slopes	Well drained	5.2	7.7%
<b>Total Well Drained</b>			<b>6.8</b>	<b>9.3%</b>
Broward	Fine sand	Somewhat poorly drained	5.1	7.5%
<b>Total Somewhat Poorly Drained</b>			<b>5.1</b>	<b>7.5%</b>
Myakka	Fine sand, limestone substratum	Poorly drained	4.8	7.1%
Boca	Fine sand	Poorly drained	42.3	62.5%
Hallandale	Rock outcrop, rarely flooded	Poorly drained	0.6	0.9%
<b>Total Poorly Drained</b>			<b>47.7</b>	<b>70.5%</b>
Boca	Fine sand, depressional	Very poorly drained	7.7	11.4%
Water	Water	Water	0.9	1.3%
<b>TOTAL</b>			<b>67.7</b>	<b>100.0%</b>

Well-drained soils comprise a very small portion of the preferred ROW (6.8 acres, 9.3 percent), with somewhat poorly drained soils encompassing slightly more area (5.1 acres, 7.5 percent). The well-drained soils are associated with the berm along the Cross Florida Barge Canal and include highly disturbed and redeposited sands (Arents) from dredging and canal maintenance. Very poorly drained soils (7.7 acres, 11.4 percent) and areas of standing water (0.9 acres, 1.3 percent) comprise the balance of soils within the BDP preferred ROW.

The project area is located in the Swamps and Flats province of the Ocala Uplift District physiographic region (Brooks 1981). The dominant vegetation along the BDP preferred ROW is associated with flatwoods and wetland environments, which are characterized in the area by pine, saw palmetto, cypress, bay, and sweet gum. The understory varies and is characterized by scrub palmetto in the dryer portions of the project area and gallberry in the wetter zones (Figure 5). Turkey, deer, pig, alligator, vultures, various hawks, and numerous small birds were observed along the BDP preferred ROW during the archaeological survey.



**Figure 5. Representative photograph of vegetation within the BDP preferred ROW.**



## **PALEOENVIRONMENT**

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Florida was much cooler and drier than today between 18,000 to 12,000 years before present (BP), but the following three millennia saw the region rapidly become warmer and wetter. By no later than 9000 BP, the warmer climates of the Holocene began to prevail. These changes were more drastic in northern Florida and southern Georgia than in southern Florida, where the “peninsular effect” and a more tropically influenced climate tempered the effects of the continental glaciers that were melting far to the north (Watts 1969, 1971, 1975, 1980).

Melting of the continental ice sheets led to a major global rise in sea level (summarized for long time scales by Rohling et al. 1998) that started from a low stand of 390 feet below the current mean sea level at 18,000 BP. The rise was slow while glacial conditions prevailed at high latitudes, but became rapid in the late Pleistocene and very early Holocene. By 6000 to 5000 BP, sea level had risen to only 10 to 20 feet lower than at present. As a generalization, the climate, water levels, and plant communities of Florida and southern Georgia attained essentially modern conditions by 4000 BP during the Late Archaic period and have been fairly stable through all phases of habitation by ceramic-using cultures.

## HISTORICAL OVERVIEW

This historical overview presents a summary of the peopling of Florida from 12,000 BP until the present, with special emphasis on the native cultures and historic activities along the North Peninsular Gulf Coast of Florida.

### NATIVE AMERICAN CULTURE HISTORY

The following overview of the Native American culture history of the North Peninsular Gulf Coast region of Florida consists of a three-part chronology, with each period based on distinct cultural and technological characteristics recognized by archaeologists. From oldest to most recent, the three major temporal periods include Paleoindian, Archaic, and Ceramic. These periods, along with their regional subperiods, are presented in **Table 2**.

#### Paleoindian (10,000–8000 BC)

The most widely accepted model for the peopling of the New World argues that Asian populations migrated to North America over the Bering land bridge that formerly linked Siberia and Alaska, some 12,000 years ago. However, data are mounting in support of migrations that date to before 12,000 years ago. Regardless of the precise timing of the first occupation of the New World, it does not appear that Florida was inhabited by humans prior to about 12,000 years ago. The earliest radiocarbon dates that are firmly associated with human artifacts come from the Sloth Hole site in Jefferson County (Hemmings 2004) and indicate that Paleoindian people were in Florida by at least 11,000 BP, while at the Page-Ladson site modified bones of extinct mammals have been dated to about 12,000 years ago Paleoindian (Webb and Dunbar 2006).

**Table 2. Native American Cultural Chronology for the North Peninsular Gulf Coast Region.**

Period	Calendrical Dates
Paleoindian	10,000–8000 BC
Archaic	
Early Archaic	8000–6000 BC
Middle Archaic	6000–2000 BC
Late Archaic (Orange)	2000–500 BC
Ceramic	
Deptford	500 BC–AD 400
Weeden Island	AD 400–750
Suwannee Valley	AD 750–1565

The conventional view of Paleoindian existence in Florida is that they were nomadic hunters and gatherers who wandered an environment quite different than that of the present. Excavations at the Harney Flats site in Hillsborough County (Daniel and Wisenbaker 1987) have altered this view, and many archaeologists now believe that Paleoindian people lived part of the year in habitation sites that were located near critical resources. Because the climate during the Paleoindian period was cooler and drier than at present, with coastal sea levels and the inland water table much lower than at present (Carbone 1983; Watts and Hansen 1988; Watts et al. 1996), many archaeologists believe that the scarcity of potable water sources played a crucial role in the distribution of Paleoindian bands across the landscape. They

hypothesize that human groups frequented sinkholes and springs to collect water and exploit the flora and fauna that were also attracted to these locations (Dunbar 1991; Milanich 1994; Webb et al. 1984). Many of these freshwater sources were located in areas of exposed Tertiary-age limestone that had become silicified, providing Paleoindians with a raw material source (chert) for tool manufacture. Thus, it is thought that permanent freshwater sources (sinkholes, springs), along with outcrops of high-quality chert, were primary factors influencing Paleoindian settlement patterns in Florida. North-central Florida is rich in freshwater sources and chert outcrops, and evidence of Paleoindian occupations in this region is extensive. Dunbar and Waller (1983) identify several areas within north Florida as having an abundance of Paleoindian projectile point finds, including the Withlacoochee River basin. In addition, many sites are probably now submerged in the Gulf due to rising sea levels since the late Pleistocene (Faught 2004).

### **Archaic Period (8000–500 BC)**

Around 8000 BC, the environment and landscape of Florida underwent pronounced changes due to climatic amelioration. These changes were interconnected and included a gradual warming trend, a rise in sea level, a reduction in the width of peninsular Florida, and the spread of oak-dominated forests and hammocks throughout much of Florida (Milanich 1994; Smith 1986). Concomitant with these environmental changes was the extinction of the Pleistocene fauna and therefore alterations in native subsistence strategies. These became more diverse due to the emergence of new plant, animal, and aquatic species. Also occurring at this time was a significant increase in population numbers and density, with native groups developing regional habitat-specific adaptations and material assemblages (Milanich 1994; Smith 1986:10). As conditions became wetter, coastal, riparian, and lacustrine adaptations became increasingly more common. This Archaic period is typically divided into Early, Middle, and Late subperiods by archaeologists.

Within north-central Florida, evidence of the earliest Archaic occupations usually consists of lithic scatters containing chert debitage and occasionally projectile points. Early Archaic Arredondo, Hamilton, and Kirk (Bullen 1975) projectile points have been recovered at sites in north Florida. However, much of the data on the Early Archaic period come from surface-collected materials. Habitations from this period were placed next to water sources including Paynes Prairie in Alachua County and Orange Lake in Marion County.

During the Middle Archaic period, an array of site types evolved that included residential bases, short-term settlements, specialized procurement camps, quarries, and cemeteries (Milanich 1994:75–85). Middle Archaic occupations are most common in the inland river valleys of Florida. One of the largest known Middle Archaic sites is situated on the high ground between Newnans Lake and Paynes Prairie (8AL356) in Alachua County (Clausen 1964). This site was a central base settlement, but many Middle Archaic sites are small, seasonally occupied hunting and fishing camps (Hemmings and Kohler 1974). The distinctive, stemmed Middle Archaic projectile points, such as Marion, Putnam, Alachua, Hillsborough, and Newnan, are very

common in nearby Alachua and Marion County (Bullen 1975). Large chopping tools and heat-treated lithics also appeared at this time (Bullen 1958; Ste. Claire 1987).

Occupation of coastal estuaries became more common after 3000 BC, possibly due to a decrease in the rate of sea level rise. The trend toward increased sedentism and more circumscribed territories continued into the Late Archaic period, as environmental and climatic conditions approached those of today (Watts and Hansen 1988). Coastal and riverine locales were sought out by Late Archaic groups, perhaps because they were able to provide a greater quantity of dependable aquatic foods to the growing populations of this time (Milanich 1994:87). Late Archaic sites are most common on the northeast coast and the inland waterways, the coast of southwest Florida, and along the St. Johns River (Milanich 1994:85).

A major technological innovation of the Late Archaic was the development of fired-clay pottery around 2000 BC. Referred to as Orange pottery by archaeologists, this early ceramic ware was tempered with vegetal fibers, either thin strands of palmetto or Spanish moss (Sassaman 1993). During a span of approximately 1,500 years, a variety of plain, incised, and punctated types were produced. With regard to vessel form, early pots were hand-molded and tended to be thick-walled, whereas some of the later vessels were thinner and formed by coiling. Fiber-tempered pottery may have been introduced into north-central Florida from the people of the St. Johns region (Clausen 1964).

## **Ceramic Period (500 BC–AD 1565)**

### ***Deptford Culture***

Milanich and Fairbanks (1980:66) describe the Deptford people as primarily a “coastal dwelling culture” that relied heavily on maritime subsistence strategies. Deptford culture flourished between ca. 500 BC and AD 500. Many Deptford sites include large linear shell middens that contain plain pottery or ceramics with checked patterns stamped on the exterior of the pot (Milanich and Fairbanks 1980). These exterior patterns were produced by impressing or stamping the vessel with carved wooden paddles before firing. These paddled designs have been incorporated into the names of the wares by archaeologists; Deptford Checked Stamped is an example. The Deptford period is also marked by the gradual change from fiber tempering to sand and grit tempering. Besides check-stamped, surface treatments can be plain, cord-wrapped, brushed, punctated, or malleated. Lithic tools are extremely rare in Deptford sites, with only small triangular points occurring in small numbers.

Deptford sites are found from near Savannah, Georgia, to as far south as Levy County on the west coast of Florida and near Jacksonville on the east coast. Although the majority of Deptford sites are located on the coast, inland sites have been recorded in the interior forests and along rivers. Deptford sites are poorly represented in north-central Florida, but these coastal people apparently were coming inland to procure seasonal resources and a supply of chert. The sites are primarily short-term occupations by small groups, probably traveling the inland waterways

in search of nuts, berries, and other terrestrial resources (wood, game, stone to make tools, etc.). These sites are often found along lakes and streams where hickory and oak are present.

### ***Weeden Island Cultures***

The emergence of Weeden Island cultural attributes in north-central Florida and the panhandle of Florida began at about AD 400. Early Weeden Island is characterized by the appearance of complicated-stamped pottery along with pottery decorated with incised and punctated lines. Weeden Island and related ceramics appear up until about AD 1200, particularly in burial mounds. It is not clear exactly what ceramic traditions followed Weeden Island in this area, but possibly some extension of them does exist. Much of the cultural change that occurred from the earlier Orange period through the Deptford to later more elaborate Weeden Island cultures was due to their location between the Woodland cultures of the north and the south Florida populations. Their geographic position allowed them to act as “middle men,” as described by Milanich, and reap the benefits of being involved in trade between these two groups (Milanich and Fairbanks 1980). The large Crystal River mound complex was in use as a possible aggregation and ceremonial center during the Weeden Island period (Pluckhahn et al. 2010; Weisman 1995).

### ***Suwannee Valley Culture***

The Suwannee Valley culture developed out of the prior Weeden Island culture and is contemporaneous with the Wakulla culture in northwest Florida and the Alachua culture in north-central Florida (Milanich 1994). The change is noticeable in the archaeological record at about AD 750 and may have been related to increased agricultural production and possibly the inclusion of maize in the diet, although there is no hard evidence for maize until later in prehistory. Ken Johnson and Bruce Nelson conducted several surveys in north Florida in which several hundred sites dating after AD 750 were identified (Johnson 1986, 1987; Johnson and Nelson 1990). Most of the sites were found during surface survey, as little subsurface testing was conducted; thus, the full range of earlier occupations of the sites is not well understood. Johnson and Nelson found that the settlement patterns had shifted from the clustered village pattern of the Weeden Island period to more numerous smaller sites located in previously unsettled locations. Suwannee Valley villages appear to be less nucleated and actually more like hamlets and special-use sites (Johnson 1991; Johnson and Nelson 1990).

John Worth has studied the pottery associated with the Suwannee Valley culture, which he defined during a revision of the aboriginal ceramic typology for north Florida (Worth 1992). The Suwannee Valley series is distinguished from other pottery that occurs in north Florida (Lamar, Jefferson, Goggin, St. Johns, Pasco, and Fort Walton series pottery types) based on the temper and surface decoration (Worth 1992). Suwannee Valley ceramics are unique in their simple design and utilitarian nature, which is quite a contrast to the pottery of the earlier Weeden Island and contemporaneous Mississippian groups. Suwannee Valley ceramics are sand and grit tempered, and decorated over the entire surface of the vessel. Most vessels are in the form of jars and bowls with varying types of rims. The pottery types associated with the Suwannee Valley culture are Fig Springs Roughened (varieties Ichetucknee and Santa Fe), Fig Springs Incised, Trestle Point Shell

Impressed, Grassy Hole Pinched, Alachua Cob Marked, Prairie Cord Marked, Lochloosa Punctated, and Alachua Plain (Milanich 1994; Worth 1992).

The types of stone tools made by the people of the Suwannee Valley cultures have not been adequately defined. However, the bow and arrow was in use by this time, and small Pinellas, Ichetucknee, and Tampa arrow points are common in late prehistoric-period sites (Bullen 1975). The ceramics of the Suwannee Valley culture changed little between AD 750 and 1500. The Suwannee Valley culture seems to have developed without influence or interference from the Mississippian cultures to the north. The descendants of the Suwannee Valley culture still inhabited north Florida when European explorers arrived in the sixteenth century.

## **POST-CONTACT HISTORY**

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### **Early European Exploration, the First Spanish Period, and the British Period (1521–1784)**

The European exploration of Florida began in the early sixteenth century. The first documented visit occurred in 1513 when Juan Ponce de León traveled up the east coast of the peninsula (Tebeau 1971:21). Ponce de León sailed as far north as the mouth of the St. Johns River before turning south, rounding the tip of the peninsula, and sailing up Florida's west coast to an area near Charlotte Harbor. Ponce de León returned in 1521 to the San Carlos Bay region where he intended to settle, but changed his plans after he found the natives in the area too hostile (Gannon 1996).

Following Ponce de León's visit to the west coast of Florida was Pánfilo de Narváez's expedition through the area in 1528. Narváez landed in Tampa Bay and made an overland journey to St. Marks, just south of Tallahassee, passing through the vicinity of present-day Dunnellon near the Withlacoochee River (Dunn 1977:13).

In 1539, Hernando de Soto landed on the west coast of Florida in Tampa Bay near the mouth of the Little Manatee River. De Soto and some of his men left the Tampa Bay camp and headed northeast, crossing the Alafia River (River of Mocosó). De Soto trekked north through Florida and into the southeastern United States. Many archaeologists plot his course through Florida as passing through Citrus County (Milanich and Hudson 1993). The present-day community of Hernando is located where de Soto is believed to have forded the Withlacoochee River (Morris 1995:117).

Over the next two centuries, European settlements developed along the east coast of Florida, while the west coast remained relatively unsettled. The only pockets of nonnative populations in western Florida were coastal areas to the south of Citrus County, in the vicinity of present-day Tampa and St. Petersburg, where Cuban fisherman had established camps (Fernald and Purdum 1992).

At the beginning of the eighteenth century, Native Americans in Florida found their population greatly reduced due to diseases, slave raids, intertribal warfare, and attacks from the Creeks, a new group of Indians from Alabama and Georgia who had moved into Florida during the early eighteenth century to escape the political and population pressures of the British colonies to the north.

By 1763, the British had extended their influence into Florida and gained control of the peninsula. After Spain ceded Florida to Great Britain, the British divided the territory at the Apalachicola River into East and West Florida. Present-day Citrus County was part of the East Florida territory (Fabel 1996). Like the Spanish who preceded them, the British had little or no presence in modern-day Citrus County.

During the British period, Creek Indians continued to migrate into Florida, seeking refuge from British pressure and intertribal fissioning. By 1765, the Creek refugees were being referred to as *cimarrones*, the Spanish term for runaways (Fernald and Purdum 1992). The *cimarrones* were later known as the Seminoles and eventually became the dominant Native American group in Florida by the end of the eighteenth century.

## **Second Spanish Period (1784–1821)**

At the Revolutionary War's end, the British defeat at the hands of the American colonists saw a new Treaty of Paris (1783), which returned sovereignty of Florida to Spain. The influx of foreign nationals into north Florida and the growing sentiment that the United States should control the territory, however, contributed to the continued deterioration of Spanish dominance in the area (Franklin and Morris 1996). Spanish authority in Florida slowly waned until 1819, when the United States purchased the territory for \$5 million dollars. The United States officially took over Florida in 1821, with Andrew Jackson serving as the territorial governor (Dunn 1977:15).

## **Territorial Period (1821–1860)**

Present-day Citrus County was originally part of Duval County, which was formed on August 12, 1822. In December 1824, Duval County was divided into smaller units, one of which was Alachua County—which included the area now known as Citrus County. One of the early communities established in Citrus County was Red Level. This settlement was founded near an Indian trail (now US 19), just north of Crystal River. The early settlers cleared the forest in the area and reshaped the land for cattle ranching, citrus cultivation, and turpentine production. One of the first settlers in the Red Level area was William Turner, who came to the area from Pennsylvania. Turner established a homestead in a nearby cedar grove by 1820 and eventually started a turpentine operation. Other early settlers included Daniel Edwards, who started a ranch on the fertile land just south of Crystal River, and Jim Bertine, who raised cattle on the open range around Red Level (Dunn 1977:15–16).

As increasing numbers of American settlers moved into Florida, conflicts over arable land arose with the Seminole Indians. The federal government responded by drawing up the Treaty of Moultrie Creek in 1823, which restricted the Seminoles to approximately four million acres of land in the middle of the peninsula from Micanopy to just north of the Peace River (Mahon 1967: rear foldout map). Subsequent treaties included the Payne's Landing Treaty in 1832 and the 1833 Fort Gibson Treaty, which called for the emigration of Seminoles to the western territories (Mahon 1967:75–76, 82–83). These three treaties were not popular with the Seminoles and only increased their hostility toward white settlers, culminating ultimately in 1835 in the Second Seminole War. The war was initially centered near the Withlacoochee River in northern Citrus County, where Seminole chief Osceola maintained his headquarters. In 1838, the conflict moved into the Lake Okeechobee and Everglades areas, as US troops moved south to pursue the retreating Seminoles. The Second Seminole War lasted nearly 10 years and was one of the most prolonged of American wars, resulting in over 1,500 deaths.

Following the suppression of the Seminole uprising, Congress encouraged settlement in Florida by establishing the Armed Occupation Act of 1842. This act granted 160 acres to any man who maintained arms, built a house, farmed at least five acres of land, and lived on the granted land for at least five years. The purpose of the act was to ensure, through a civilian presence, that the Seminole Indians did not rise up again. A year after the establishment of the Armed Occupation Act, Hernando County was established in western Florida. The county was named in honor of Hernando de Soto, and its boundaries included the present-day counties of Hernando, Citrus, and Pasco (State of Florida 1945:5). To facilitate settlement of the area, much of the land in Citrus County was surveyed in 1844 (Dunn 1977:15–16). Further inducement for settlement came on March 3, 1845, when Florida became the 27<sup>th</sup> state of the United States of America.

### **Civil War and Postbellum Period (1860–1899)**

On January 10, 1861, Florida seceded from the United States as a slave state, becoming the third state to join the Confederacy. During the war, the area around the Homosassa River contributed to supplying Confederate troops with sugar from the Yulee Sugar Mill and oranges from the numerous groves in the area.

After the war, agricultural production increased, and new citrus operations reshaped the landscape as a result of the expansion of railroads and canals through the county. One of the earliest railroads through the area was the Dunnellon Short Railroad, which ran from Ocala via Dunnellon to Homosassa. By the late 1880s, the corridor was taken over by the Silver Springs, Ocala, and Gulf Railroad (SSO&G) (**Figure 6**). The SSO&G ran southeast from Ocala through Dunnellon to Grand Junction in northern Citrus County. At Grand Junction the railroad split into two branch lines. The western branch passed through the trackside town of Citronelle, 8 miles east of the current project area, before terminating in Homosassa. The eastern branch passed through the county seat of Inverness before reaching the junction point of Pemberton in Hernando County. The SSO&G provided freight, passenger, and mail service to several Citrus County communities along the railroad corridor (Dunn 1977:30, 71). By the late 1890s, the



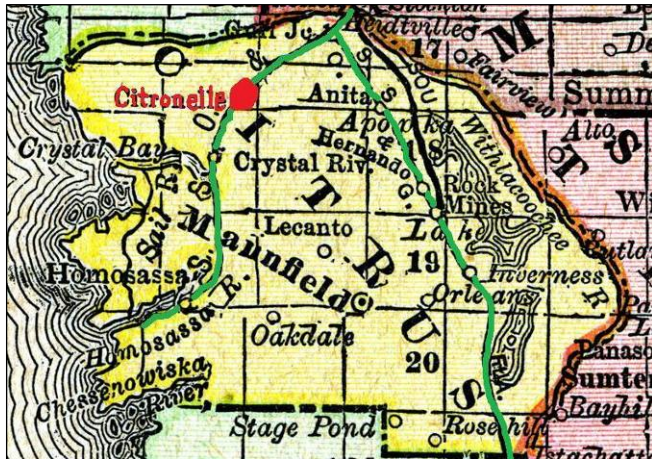


Figure 6. 1888 Rand McNally map of Citrus County showing the SSO&G Railroad (green lines). The western branch passed through Citronelle (red dot), eight miles east of the current project area. Source: Florida Center for Instructional Technology, University of South Florida.



Figure 7. 1897 Century Atlas map showing the former SSO&G Railroad corridor taken over by the Plant System (red lines) in Citrus County. Source: Florida Center for Instructional Technology, University of South Florida.

SSO&G had been consolidated into Henry B. Plant's sprawling transportation network of railroads and steamboats known as the Plant System (Figure 7). In 1902 the Atlantic Coast Line acquired the Plant System and operated its railroads through Citrus County.

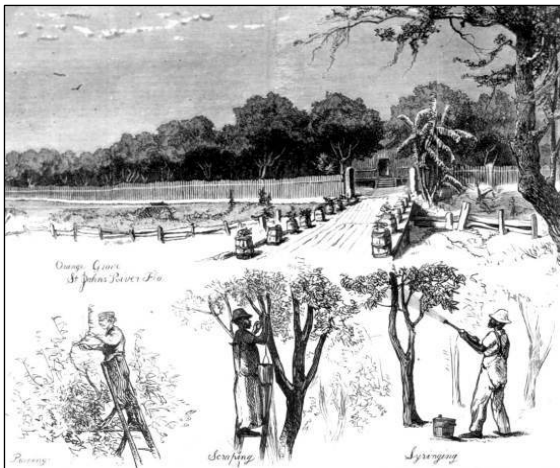
The area was also reshaped politically when Governor E. A. Perry signed a bill in June 1887 that divided Hernando County into three counties—Hernando, Citrus, and Pasco (State of Florida 1945:5). Mansfield served as the temporary county seat for Citrus County. In 1891, voters elected to move the county seat to Inverness (Dunn 1977:101).

During the second half of the nineteenth century, Citrus County was heavily invested in the orange boom occurring throughout much of central Florida. Young entrepreneurs moved into Citrus County from outside the state to set up small-scale citrus operations (Figures 8–10). The orange industry remained profitable until the winter of 1894–1895, when a devastating freeze swept over most of central Florida. The freeze destroyed nearly all the orange groves in Citrus County, forcing many growers to abandon citrus cultivation entirely in the area (Dunn 1977:108). Since the 1894–1895 freeze, most of the citrus production has moved southward down the peninsula to areas less prone to freezing.

In addition to citrus production, phosphate mining became a profitable industry in Citrus County. Shortly before the citrus freeze, Albertus Vogt discovered phosphate near Dunnellon. This discovery coincided with similar finds around Hawthorne in Alachua County and around the Peace River in Polk and Hardee Counties. Recognizing the value of the mineral, Vogt bought up large tracts of land in eastern Citrus County, which he later sold to the phosphate tycoon John C. Dunn



**Figure 8. 1875 sketch of an orange grove in Citrus County by E. A. Abbey depicting workers harvesting citrus. Source: Florida Center for Instructional Technology, University of South Florida.**

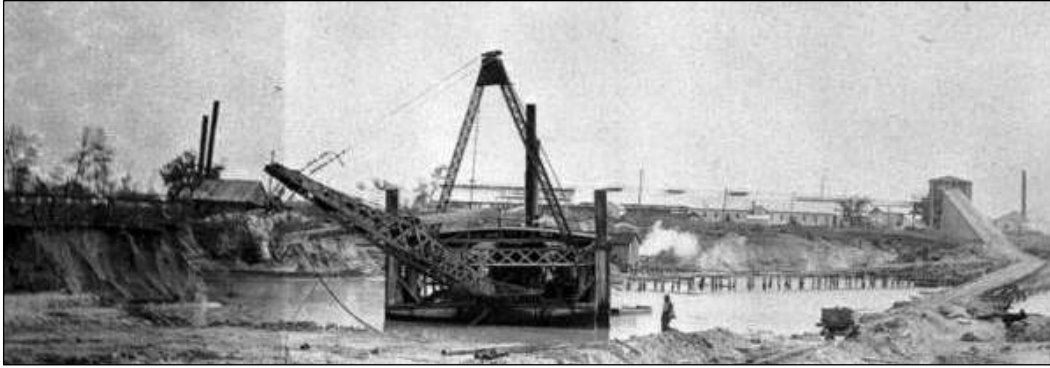


**Figure 9. 1875 sketch of an orange grove in Citrus County by E. A. Abbey depicting workers pruning and spraying trees. Source: Florida Center for Instructional Technology, University of South Florida.**



**Figure 10. 1875 sketch of an orange grove in Citrus County by E. A. Abbey depicting workers packing citrus. Source: Florida Center for Instructional Technology, University of South Florida.**

(Dunn 1977:117, 131). Phosphate mining became an important industry in the county, attracting new workers and residents into the area (**Figure 11**). By the early 1900s, much of the phosphate was exported to Europe. With the beginning of World War I, however, European demand for phosphate dried up, leading to the demise of the industry in Citrus County and a subsequent decline in population.



**Figure 11. Photograph depicting phosphate mining ca. 1910 in Citrus County with dredging machinery operated by Bradley Phosphate Company. Source: Florida Center for Instructional Technology, University of South Florida.**

## Citrus County during the Twentieth Century

In addition to phosphate mining, the economy of Citrus County during the early 1900s also included the production of turpentine, the processing of timber, cattle raising, and small-scale diversified farming. By 1916, a variety of field crops had replaced the mono-crop cultivation of cotton and citrus that characterized nineteenth-century agriculture in the area. “Citrus County does not appeal to the man who expects to get rich from a single crop,” noted a report in the *Semi-Tropic Florida Development Year Book*. “It appeals, rather,” the report added, “to the man, who, tired of wrestling with the rigors of a Northern winter, is looking for a location where general farming can be carried on throughout the whole year, a land of stock, and hogs and poultry, of varied crops which can be depended upon for moderate profits, a land of general sum and healthful conditions” (Dunn 1977:230). Among the more popular farm products were corn, oats, sweet potatoes, sugarcane (**Figure 12**), rice, field peas, eggplants, cucumbers,



**Figure 12. Grinding sugarcane on a farm in Citrus County. Photograph taken in 1947. Source: Florida Center for Instructional Technology, University of South Florida.**

watermelons, cantaloupes, beets, beans, grapes, peaches, strawberries, and dairy products. The principal farming districts included the area around Citronelle, Crystal River, Inverness, Hartshorn, Dunnellon, and Floral City (Dunn 1977:129).

The early decades of the 1900s also brought infrastructural changes that shaped the development of the county well into the twentieth century. One of these changes involved the construction of the Dunnellon Dam and Hydro-Electric Plant in 1907–1908 (Dunn 1977). The dam was erected 11 miles above the mouth of the Withlacoochee River near

Inglis, along the border between Citrus and Levy Counties. The dam, gates, and the original power plant were built to supply power for the Camp Phosphate Company's phosphate mines and worker camps. The company also sold power to the Town of Dunnellon. The earth and concrete dam was completed in 1910, and operations began that same year. The water behind the dam formed Backwater Lake, a popular fishing and recreation area.

In 1926, the dam and property were acquired by the Florida Power Corporation. The new company upgraded the power-generating capabilities of the dam by installing three additional generating units to augment the original two (Dunn 1977:166–167). At the time, the power plant was the largest hydroelectric facility in Florida (**Figure 13**), providing service to Citrus, Marion, Sumter, Hernando, Pasco, and Pinellas Counties (Garnault 1925:37–45). The hydroelectric plant remained in operation until 1963, when Florida Power donated the dam and 3,700 acres of land—3,000 of which constitute the bottom of the Inglis Reservoir—to the State of Florida for use as a recreational park (Dunn 1977:166–167).



**Figure 13. 1955 photograph of the Dunnellon Dam and Hydro-Electric Power Plant.**  
Source: Florida Center for Instructional Technology, University of South Florida.

At the eastern end of the county, the Inverness Power Company received a franchise to build a new electric plant on February 3, 1913. Electricity was still a new commodity and a source of great pride for those communities with access to it. When the town of Inverness, for example, finally received electricity in October 1913, community pride swelled noticeably, as observed by the *Citrus County Chronicle*: “Inverness put on metropolitan airs properly Saturday when Fletcher Morrison turned on the electric lights. Nearly every residence and business house in the town was lighted [*sic*] up, and presented a handsome appearance. We now propose a great white way from the A.C.L. [Atlantic Coast Line] depot to the head of Main Street” (Dunn 1977:219).

Another infrastructural change welcomed by all throughout the county was a newly improved highway. In 1914, Citrus County had only one stretch of highway that could be considered, as one driver put it, “magnificent.” The segment stretched from Holder south to Floral City along

present-day US 41 (Dunn 1977:226). Most of the secondary roads in Citrus County at that time were still in a poor or unimproved state, consisting mostly of sand. As late as 1925, State Highway 15 (present-day US 19 and US 98) from Inglis south through Red Level to Crystal River was still an unimproved road (Dunn 1977:268). By 1927, the highway had been “improved” but was still used as a secondary or connecting road (**Figure 14**). In 1929, however, the corridor became part of the US highway system and was incorporated as part of US 19, which stretched over 14,000 miles from Erie, Pennsylvania, to Memphis, Florida, just north of Bradenton (US Highways 2010). The other main route through Citrus County was State Highway 5, designated as US 41 when it became part of the US highway system in 1927 (US Highways 2010).



**Figure 14. Rand McNally Auto Map showing the state of Citrus County’s road development in 1927.**  
Source: us-highways.com.

By 1958, rural communities located between US 19 (State Highway 55) and US 41 (State Highway 495)—such as Red Level and Citronelle—were still relatively small, with a substantial amount of undeveloped land around them (Florida Department of Transportation [FDOT] 1936 [revised 1958]). With its open spaces and lack of built features, the land around the BDP preferred ROW typifies the rural nature of Citrus County during the 1930s through the 1950s, shaped predominantly for agricultural production or cattle grazing (Citrus County Property Appraiser 2009). By contrast, the community of Red Level during this period featured a built environment that included a church, a school, a few residences, and a phosphate mine just west of US 19 and a group of dwellings, a store, a town hall, and four farms along the east side of the highway. Similarly, the town of Citronelle had a school, tenant housing, and a group of dwellings clustered around the railroad tracks paralleling US 41 (FDOT 1936 [revised 1958]).

Much of the post-World War II development in northern Citrus County was centered in Citrus Springs, just east of Citronelle. The Citrus Springs area, along with new subdivisions around Beverly Hills, Inverness, and Homosassa Springs, accounted for most of the growth in Citrus County during the second half of the twentieth century. From 1950 to 2000, the population of Citrus County rose rapidly from 6,111 to 118,085, contrasting sharply with the slow demographic growth experienced during the first half of the twentieth century (**Table 3**).

To accommodate the growing energy needs of the region, the Florida Power Corporation began researching nuclear energy during the early 1960s. In 1968, the company took the

**Table 3. Citrus County Census Data, 1900 to 2010.**

Year	Population	Year	Population
1900	5,391	1960	9,268
1910	6,731	1970	19,196
1920	5,220	1980	54,703
1930	5,516	1990	93,515
1940	5,846	2000	118,085
1950	6,111	2010	141,236

next step and began construction of a nuclear unit at its Crystal River plant, which at the time was equipped with two fossil-fuel units. After several delays, the nuclear unit went into operation in March 1977. Today, there are four fossil-fuel units in addition to the nuclear unit, and the majority owner and operator of the Crystal River facility is PEF.

Citrus County remains an area of substantial growth. Census estimates for 2010 indicate that the population of the county has surpassed 141,200, an increase of over 23,100 new residents since 2000. Although much of the economy in the county is still centered on agriculture, the growth of Inverness and Crystal River has sparked a middle-class retail boom. The county is also rapidly becoming a favored location for Northern retirees and vacationers.

### **History Specific to the Project Area**

The Holcim mine property was formerly owned by the Hollins family, who moved to Florida from Texas following World War II to cattle ranch in Citrus County. Dixie M. Hollins Sr. began purchasing land in the project area in 1942 and amassed 16,000 acres of flatland and gulf hammock. He named his landholdings Hollinswood Ranch (Miller 1973:1).

The US Army Corps of Engineers began building the Cross Florida Barge Canal through a portion of Hollinswood Ranch in 1964. After several years of dredging and decades of planning, the Citrus/Levy County portion of the cross-state canal was opened at the start of 1970. The canal was envisioned to connect the Atlantic coast of Florida with the Gulf Coast and thereby foster economic expansion in the state. A grassroots movement led by environmentalist Marjorie Harris Carr led to the suspension of the project in 1971, and 20 years later the project was officially canceled (Noll and Tegeger 2009).

Over the last several decades, large portions of Hollinswood Ranch have been purchased by the State of Florida through the Conservation and Recreational Lands program. The Florida Power Corporation and Holcim, Inc., also have acquired acreage from the Hollinswood Ranch property. The Hollins family holdings presently represent about 1,500 acres to the north of the Marjorie Harris Carr Cross Florida Greenway State Recreation and Conservation Area (Miller 1973).

## BACKGROUND RESEARCH

### HISTORIC MAP AND AERIAL PHOTOGRAPH REVIEW

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Historic maps and aerial photographs offered limited evidence of historic development within the BDP preferred ROW. The earliest available detailed map is the General Land Office (GLO) survey map from 1836 (GLO 1836), which does not depict any cultural features within the project area. The subsequent 1847 map provides greater detail and suggests that there was limited settlement in the vicinity (GLO 1847) (**Figure 15**).

A 1936 map of Red Level, which is located 4 miles east of the CREC segment of the project area, reveals some cultural features in the vicinity; however, the area depicted west of Red Level and toward the preferred ROW is undeveloped (State Road Department 1936) (**Figure 16**).

Available US Department of Agriculture (USDA) aerial photographs (USDA 1944, 1952, 1960) also were examined for historic cultural features such as structures, persistent roads or trails, and major landscape alterations. Other than the appearance of trail roads and evidence of limited timber logging, no features were identified in the aerial photographs. Moreover, no historic buildings were identified within the BDP preferred ROW, and no historic structures were visible from the public ROW during a windshield survey that was conducted prior to the cultural resources survey.

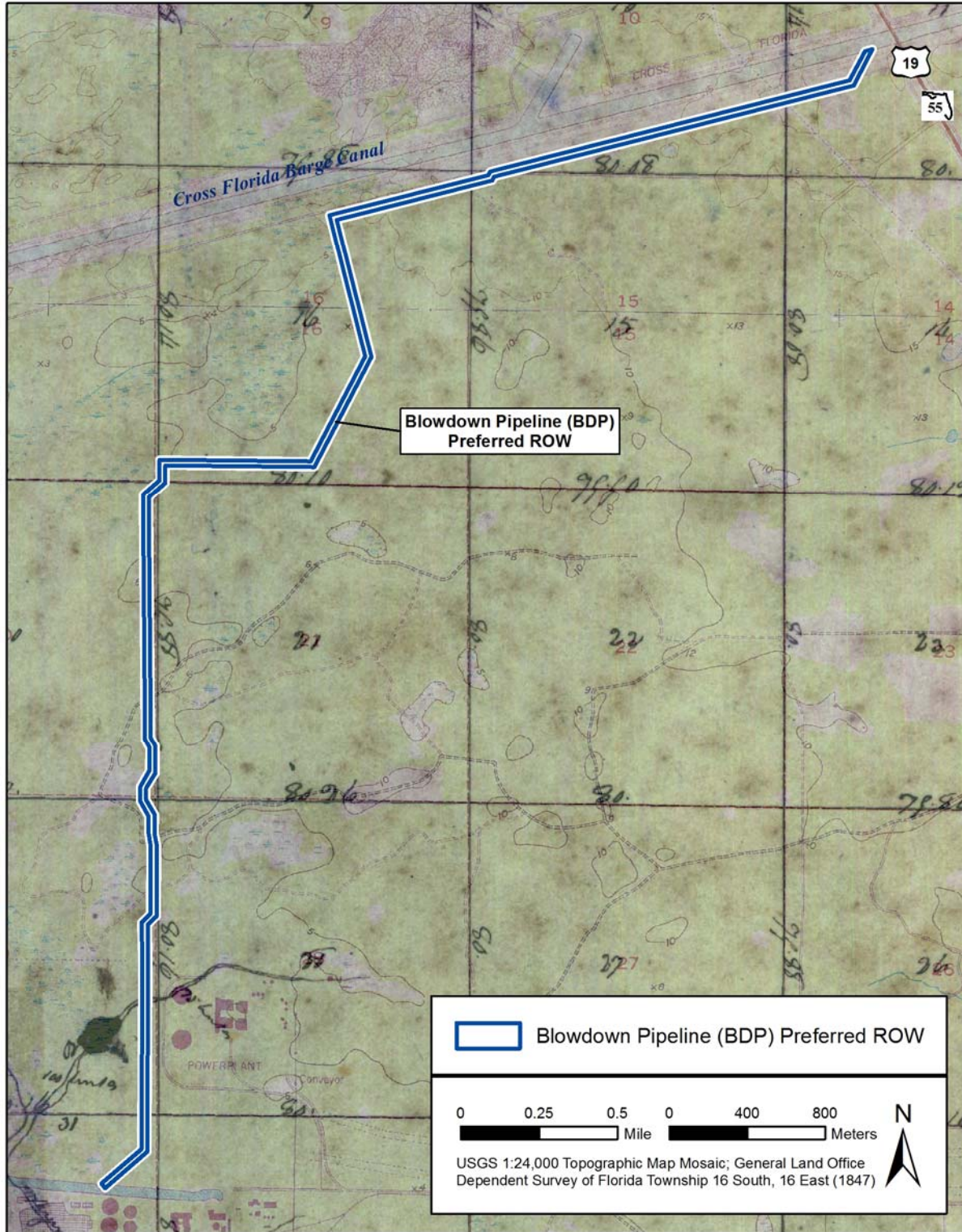


Figure 15. 1847 GLO map georeferenced with contemporary USGS quadrangle map depicting the BDP preferred ROW.



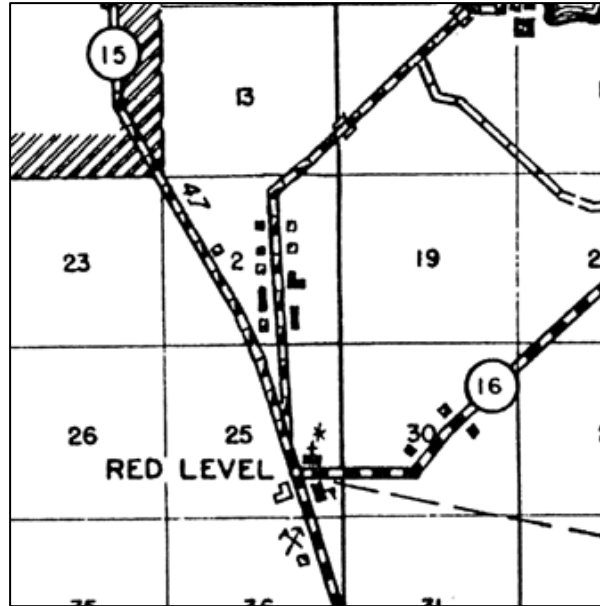


Figure 16. 1936 State Road Department map depicting Red Level. Source: Maps Etc. (fcit.usf.edu).

## FLORIDA MASTER SITE FILE REVIEW

Eleven cultural resource studies have been conducted within one-half mile of the BDP preferred ROW; however, none specifically targeted the current APE. Three of these studies (Florida Master Site File [FMSF] Survey Nos. 16609, 16532, and 16938) were completed for proposed natural gas pipeline corridors (Barse et al. 2008, 2009; Coughlin et al. 2010) that intersect a small segment of the preferred ROW near its northeastern terminus (**Figure 17**). Additionally, archaeological assessment surveys were conducted on portions of the Holcim Mine property by Almy et al. (1995) and Dean et al. (2007). Based on a review of the methods employed during both surveys, it is unlikely that any shovel testing was conducted within the current project ROW. Consequently, these studies are not depicted in **Figure 17** and did not influence the testing strategy employed for this investigation.

No archaeological sites or historic structures have been recorded within the BDP preferred ROW, although two archaeological sites (8CI105 and 8CI108) have been recorded just west of the southern terminus of the project area. Both sites are prehistoric shell middens, and both have been determined to be ineligible for listing in the NRHP by the Florida SHPO. No historic buildings or potential districts were identified in the APE during the desktop screening, windshield survey, or field investigation.

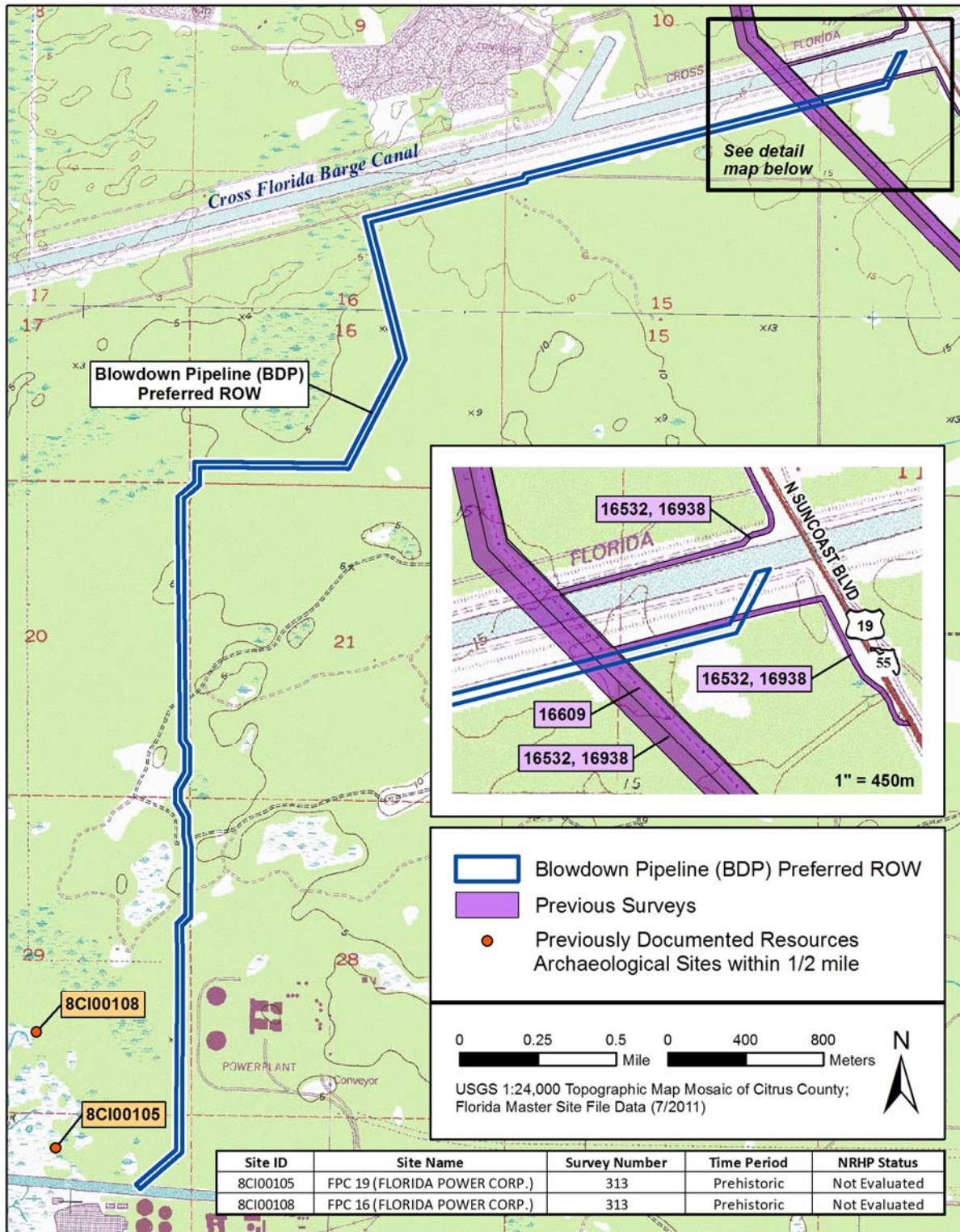


Figure 17. Map showing the locations of previous surveys that intersect the BDP preferred ROW and previously recorded cultural resources within one-half mile of the project area.

## **INFORMANT INTERVIEW**

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A phone interview was conducted with Curtis Peters, Quarry Manager at the Holcim Mine (Peters, personal communication 2011). Mr. Peters stated that the Holcim Mine has been in operation since 1988. When Holcim, Inc., purchased the property, it was being used for cattle ranching and timber production as part of the Hollinswood Ranch property. Mr. Peters has never encountered cultural resources on the Holcim property, nor has anyone else to his knowledge.

An interview also was conducted with Kathy Turner-Thompson, a Historical Resource Officer with Citrus County Historical Society, Inc. (Turner-Thompson, personal communication 2011). Ms. Turner-Thompson indicated that property in the vicinity of the APE was owned by the Peterson family (immigrants from Denmark) in the mid- to late nineteenth century; however, their residence was more than one mile east of the APE. She also stated that land alterations in the area would likely have disturbed any archaeological deposits.

Citrus County is not a Certified Local Government (CLG) and does not presently have a historic preservation ordinance. As a result, the county does not employ a CLG contact for coordination and interview.

## RESEARCH DESIGN AND METHODS

### RESEARCH DESIGN

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A research design is a plan to coordinate the cultural resource investigation from inception to the completion of the project. This plan should minimally account for three things: (1) it should make explicit the goals and intentions of the research, (2) it should define the sequence of events to be undertaken in pursuit of the research goals, and (3) it should provide a basis for evaluating the findings and conclusions drawn from the investigation.

The goal of this cultural resource survey was to locate and document evidence of historic or prehistoric occupation or use within the APE (archaeological or historic sites, historic structures, archaeological occurrences [isolated artifact finds], or TCPs), and to evaluate these for their potential eligibility for listing in the NRHP. The research strategy was composed of background investigation, a historical document search, and field survey. The background investigation involved a perusal of relevant archaeological literature, producing a summary of previous archaeological work undertaken near the project area. The FMSF was checked for previously recorded sites within the project APE, which provided an indication of prehistoric settlement and land-use patterns for the region. Current soil surveys, vegetation maps, and relevant literature were consulted to provide a description of the physiographic and geological region of which the project area is a part. These data were used in combination to develop expectations regarding the types of archaeological sites that may be present and their likely locations (site probability areas).

The historical document search involved a review of both primary and secondary historic sources as well as a review of the FMSF for any previously recorded historic structures. The original township plat maps, early aerial photographs, and other relevant sources were checked for information pertaining to the existence of historic structures, sites of historic events, TCPs, and historically occupied or noted aboriginal settlements within the project limits.

### METHODS

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This cultural resource investigation followed a testing methodology outlined in PEF's Cultural Resources Work Plan (SEARCH 2011a). Soil drainage and proximity to water or wetlands, known cultural resources, and potential cultural resources were used to define areas of high, medium, and low archaeological potential across the BDP preferred ROW. The criteria for identifying areas of high, moderate, and low site potential are listed in **Table 4**. In addition, archival and cartographic research was completed prior to fieldwork to guide efforts for locating historic resources.

**Table 4. Criteria Used to Identify Areas of High, Moderate, and Low Site Probability.**

Site Probability	Criteria
High	Areas of better-drained soil (i.e., somewhat poorly drained, moderately well drained, well drained, excessively drained) within 100 meters of water or wetlands
	Within 100 meters of any previously recorded resource
	Within 100 meters of any potential resource
Moderate	Areas of better-drained soil (i.e., somewhat poorly drained, moderately well drained, well drained, excessively drained) between 100 and 300 meters of water or wetlands
	Areas of poorly drained soil within 100 meters of water or wetland resources
	Within 100 and 300 meters of any previously recorded resource
	Within 100 and 300 meters of any potential resource
Low	All other areas

## ARCHAEOLOGICAL SURVEY

Pursuant to the methods outlined above, the shovel test (ST) locations were preplotted onto aerial photographs of the project area in GIS. This excluded the previously surveyed transmission line corridor through the BDP preferred ROW, which had been systematically tested at 20- to 30-meter, 30-meter, and 50-meter intervals in areas of high, moderate, and low site potential, respectively (Barse et al. 2008, 2009; Coughlin et al. 2010). These testing intervals exceed those recommended by the FDHR and constitute adequate coverage of the narrow 200-foot-wide corridor. The survey grid of proposed STs was preloaded onto WAAS-enabled GPS units, as well as plotted on high resolution (1-meter) aerial photographs at 1:4000 scale.

Following the FDHR's *Cultural Resource Management Standards & Operational Manual*, high-probability zones were tested at 25-meter intervals, moderate-probability zones were tested at 50-meter intervals, and low-probability zones were subjected to discretionary subsurface testing along one linear transect. Pedestrian inspection in areas of exposed ground surface complimented subsurface testing. At the discretion of the field archaeologists, projected STs were not excavated in areas of standing water or wetlands, or in areas that were perceived to pose a danger to the field crew.

All STs were circular, measured approximately 50 centimeters in diameter, and were excavated to a depth of 100 centimeters below surface (cmb), subsurface conditions permitting. All excavated sediments were screened through 1/4-inch mesh hardware cloth. The location, cultural content, soil strata, and environmental setting of each ST were recorded in field notebooks. Each ST was also noted on aerial photographs and recorded on a GPS unit.

## ARCHITECTURAL SURVEY

The architectural field investigation employed several methods to identify historic resources in the project area. In addition to a search of the FMSF for any previously recorded historic

structures, US Geological Survey (USGS) quadrangle maps and historic aerial photos were reviewed for evidence of structures dating prior to 1961. Additionally, a windshield survey was conducted from the public ROW prior to the cultural resources survey. No potential historic resources were identified during the background research or windshield survey, and none were identified during the field survey.

## **TRADITIONAL CULTURAL PROPERTIES DESKTOP STUDY**

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The TCP desktop study of the BDP preferred ROW included background research and a survey of Google Earth maps and GIS maps, as well as a review of literature on the history, folkways, and related topics for the purpose of identifying potential TCPs within the project area. Research also included GIS census data analysis for the purpose of preliminary research on the history of the area and on communities within and near the project area.

The discovery of named places on the landscape can lead to the identification of undocumented TCPs and communities; however, none were identified in the study area. As a final measure, the National Park Service map of Indian reservations in the continental United States (<http://www.nps.gov/nagpra/DOCUMENTS/ResMAP.HTM>) was consulted for the potential occurrence of Native American TCPs in the project area. No Native American reservations are documented within Citrus County.

## **PROCEDURES TO DEAL WITH UNEXPECTED DISCOVERIES**

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Every reasonable effort has been made during this investigation to identify and evaluate possible locations of prehistoric and historic archaeological sites; however, the possibility exists that evidence of cultural resources may yet be encountered within the project limits. Should any evidence of unrecorded cultural features and/or human remains be discovered during construction activities, all work in that portion of the project area must stop. Should questionable materials be uncovered during the excavation of the project area, a professional archaeologist will assist in the identification and preliminary assessment of the materials. If such evidence is found, the FDHR will be notified immediately.

In the unlikely event that human skeletal remains or associated burial artifacts are uncovered within the project area, all work in that area must stop. A professional archaeologist must be contacted and the discovery will be reported to local law enforcement, who will in turn contact the medical examiner. The medical examiner will determine whether or not the State Archaeologist should be contacted per the requirements of Chapter 872.05, Florida Statutes. A more detailed description of this process can be found in PEF's official Unanticipated Discoveries (Accidental Finds) Plan on file at FDHR (SEARCH 2011b).

## SURVEY RESULTS

SEARCH excavated a total of 207 shovel tests along the BDP preferred ROW. No archaeological sites were discovered. **Figure 18** illustrates the locations of all shovel tests and the locations where no shovel tests could be excavated due to standing water or safety concerns within the Holcim Mine. A TCP desktop study did not reveal any TCPs and/or communities within the BDP preferred ROW, and no historic structures were identified during the field survey.

### LANDSCAPE MODIFICATIONS AND DISTURBANCES

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The absence of archaeological deposits within a study area can sometimes be attributed to environmental impacts. During this assessment survey, substantial landscape modifications and disturbances were noted within and adjacent to the BDP preferred ROW (**Figure 19**). These impacts are generally related to three major activities that have occurred in and around the project area: (1) the construction of the Cross Florida Barge Canal, (2) timber harvesting, and (3) mining.

The northern segment of the BDP preferred ROW follows an earthen berm northeast to southwest along the south side of the Cross Florida Barge Canal. The berm measures approximately 3 meters (9.8 feet) in height and is composed of spoil from the canal and construction of adjacent access roads. Additionally, the parcel to the south abutting this segment of the preferred ROW has been cleared and graded for timber harvesting and/or mining. A representative soil profile from this segment (ST 175) revealed three strata: Stratum I (0–30 cm), pale yellow-brown sand (disturbed); Stratum II (30–40 cm), gray sand (disturbed); and Stratum III (40–100 cm), yellow-brown sand. Limestone of various-sized clasts was encountered throughout the shovel test.

At the juncture where the BDP preferred ROW turns south, the ROW begins to overlap with a graded roadway. The areas adjacent to this north-south stretch of preferred ROW are poorly drained and have been timbered within the last 50 years (USDA 1950). The BDP preferred ROW continues through the active Holcim Mine and follows a rock conveyor system along a narrow strip of land between several large ponds. This portion of the preferred ROW has been completely re-formed from quarrying activities and presents dangerous working conditions. For safety purposes, no shovel tests were excavated in the roadway immediately north of, and between, the quarry ponds (see No Dig Locations in **Figure 18**). A representative soil profile from this segment (ST 88) revealed one stratum: Stratum I (0–40 cm), gray-brown sand (disturbed). Bedrock was encountered at 40 cm and limestone of various-sized clasts was encountered throughout the shovel test.

At the southern extent of the Holcim property the BDP preferred ROW enters the CREC facility and continues approximately 0.6 miles before terminating. In the CREC property, the study area parallels an access road and crushed rock conveyor system (operated by Holcim). Here,

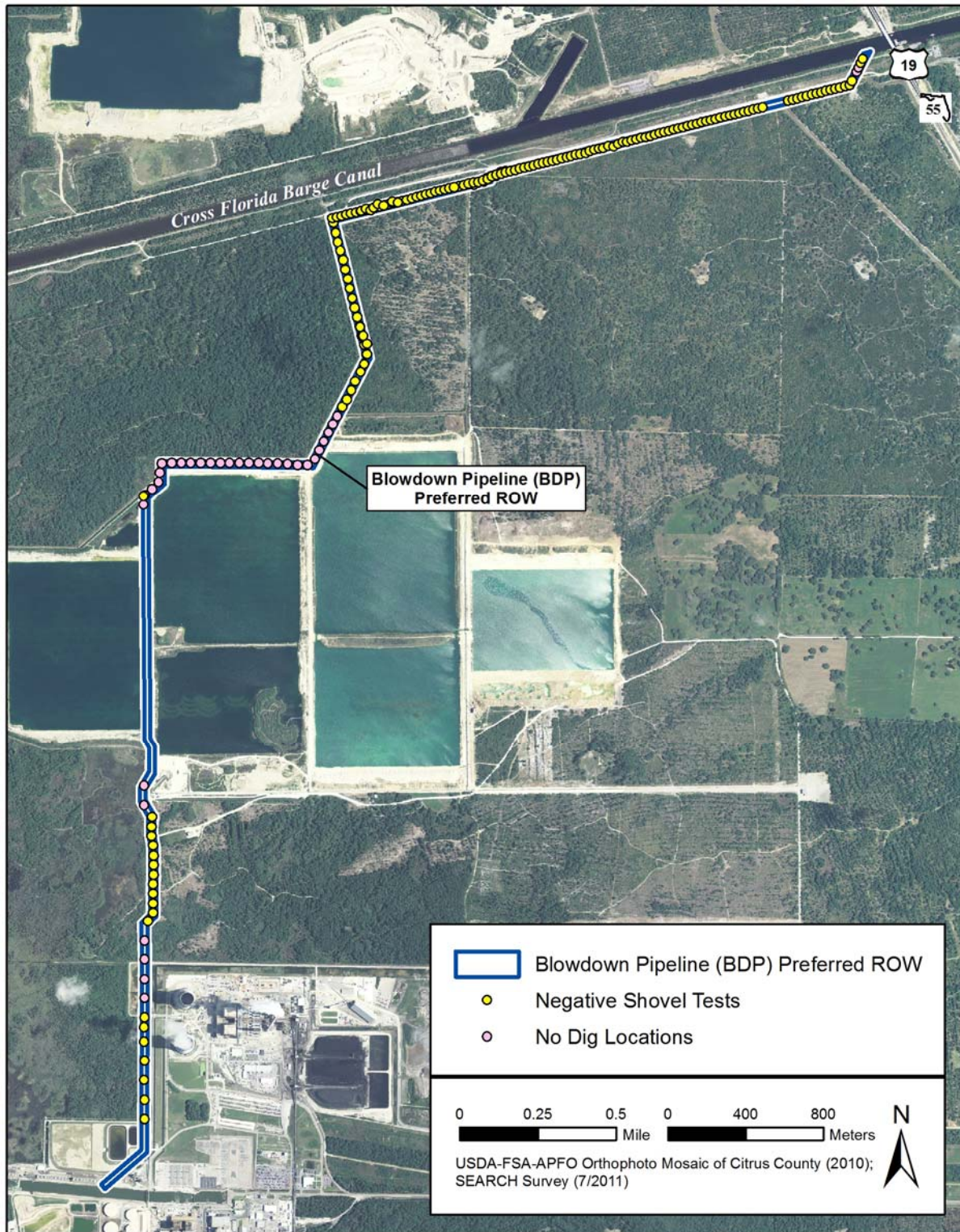


Figure 18. Shovel test locations within the BDP preferred ROW.





**Figure 19. Counterclockwise from top left: dragline for land clearing and limerock boulder; looking east along access road on the north side of the Holcim property; looking southeast toward the CREC facility; looking north from CREC toward the Holcim property; looking south along the access road and Holcim conveyor system; looking east along the berm adjacent to the barge canal.**

the BDP preferred ROW traverses areas that have been substantially altered by retention pond, roadway, and transmission line construction. The areas adjacent to the preferred ROW are characterized by very poorly drained flatwoods with standing water. A representative soil profile from this segment (ST 3) revealed three strata: Stratum I (0–10 cm), dark brown (humic) sand; Stratum II (10–40 cm), grayish-brown sand (wet); and Stratum III (40–70 cm), light grayish-brown clayey sand (wet). The water table was encountered at 70 cm.

Overall, the BDP preferred ROW has undergone substantial landscape modifications and disturbances that greatly reduced its potential to yield intact archaeological deposits.

## CONCLUSIONS

In August 2011, SEARCH performed a cultural resource assessment survey within the approximately 5.6-mile BDP preferred ROW in Citrus County, Florida, on behalf of PEF. This survey was conducted to determine if any archaeological sites or historic structures exist within the preferred ROW that may be eligible for the NRHP. The survey consisted of pedestrian inspection and excavation of 207 shovel tests, none of which yielded cultural material. Background research and field investigations revealed that soils within the BDP preferred ROW have been heavily disturbed from historic land modifications, including the construction of the Cross Florida Barge Canal, mining, and timber-related activities.

No archaeological sites or historic structures were identified, and a desktop study did not reveal any Traditional Cultural Properties within the APE. Based on the results of this survey, it is the opinion of the Principal Investigator that the proposed project will have no effect on any cultural resources eligible for listing in the NRHP. No further work is recommended.

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**APPENDIX A:**

**RULE 1A-32 ARCHAEOLOGICAL RESEARCH PERMIT**



**From:** Porter, Kevin M. [KMPorter@dos.state.fl.us]  
**Sent:** Monday, July 18, 2011 7:17 AM  
**To:** Michael Arbuthnot  
**Subject:** RE: 1A-32 Permit No. 1011.080

Hey Michael,

Yes, we can modify the project field dates without executing a new permit. Our permit records now indicate fieldwork to begin on 8/1/2011 and to end on 08/26/2011. Thank you for letting us know. Please make the necessary changes to the permit document, initial each change and keep a copy of this email with your permit. Good luck with the project.

Best,

Kevin M. Porter  
Archaeologist III

Bureau of Archaeological Research  
Division of Historical Resources  
Florida Department of State

B. Calvin Jones Center for Archaeology  
1001 de Soto Park Drive  
Tallahassee, Florida 32301  
PH: 850 245 6336 / FAX: 850 245 6452

Untitled-1.jpg



Please take a few minutes to provide feedback on the quality of service you received from our staff. The Florida Department of State values your feedback as a customer. Kurt Browning, Florida Secretary of State, is committed to continuously assessing and improving the level and quality of services provided to you. Simply click on the link to the "DOS Customer Satisfaction Survey." Thank you in advance for your participation.  
[DOS Customer Satisfaction Survey](#)

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**From:** Michael Arbuthnot [<mailto:michael.arbuthnot@searchinc.com>]  
**Sent:** Friday, July 15, 2011 3:59 PM  
**To:** Porter, Kevin M.  
**Subject:** RE: 1A-32 Permit No. 1011.080

Kevin,

Happy Friday PM to ya'...

Unfortunately, we were delayed in conducting our fieldwork for the PEF Blowdown Corridor project (Permit No. 1011.080). As a result the field dates on the 1A-32 permit are no longer valid. We are now planning to begin work on 8/1/11 and finish by 8/26/11. Can we just extend the dates or do I need to execute a new permit?

Thanks,  
Mike

Michael A. Arbuthnot, MS, RPA  
Principal Investigator

Southeastern Archaeological Research Inc. (SEARCH)  
Northeast Florida Office  
12443 San Jose Blvd., Suite 204, Jacksonville, FL 32223  
904-806-1066 cell 904-379-8338 phone 904-379-8592 fax  
[michael.arbuthnot@searchinc.com](mailto:michael.arbuthnot@searchinc.com) [www.searchinc.com](http://www.searchinc.com)

Archaeology-Architectural History & History-Maritime Archaeology

---

**From:** Porter, Kevin M. [<mailto:Kevin.Porter@dos.myflorida.com>]  
**Sent:** Monday, June 20, 2011 1:43 PM  
**To:** Michael Arbuthnot  
**Subject:** 1A-32 Permit

Hey Michael,

Please find your 1A-32 archaeological research permit and a few other associated documents attached. Good luck with the project.

Kind Regards,

Kevin

Kevin M. Porter  
Archaeologist III

Bureau of Archaeological Research  
Division of Historical Resources  
Florida Department of State

B. Calvin Jones Center for Archaeology  
1001 de Soto Park Drive  
Tallahassee, Florida 32301  
PH: 850 245 6336 FAX: 850 245 6452

Please take a few minutes to provide feedback on the quality of service you received from our staff. The Florida Department of State values your feedback as a customer. Kurt Browning, Florida Secretary of State, is committed to continuously assessing and improving the level and quality of services provided to you. Simply click on the link to the "DOS Customer Satisfaction Survey." Thank you in advance for your participation.  
[DOS Customer Satisfaction Survey](#)



FLORIDA DEPARTMENT OF STATE

Kurt S. Browning  
Secretary of State

DIVISION OF HISTORICAL RESOURCES

ARCHAEOLOGICAL RESEARCH PERMIT

8/12/2011

Permit No. 1011.080

Field Begin Date: 6/27/2011

Field End Date: ~~7/8/2011~~

MAA

**PERMITTEE/AUTHORIZED ENTITY:**

Southeastern Archaeological Research (SEARCH)  
Jonesville Office  
c/o Michael Arbuthnot  
315 NW 138th Terrace  
Newberry, Florida 32669

Report/Artifact Due Date: 12/31/2011

Project: Progress Energy Florida Blowdown Corridor

This permit is issued under the authority of Chapters 267.031 (1) and 267.12, Florida Statutes (F.S.) and Rule 1A-32, Florida Administrative Code (F.A.C.), and is administered by the Florida Bureau of Archaeological Research (BAR), Florida Division of Historical Resources (DHR).

ACTIVITY DESCRIPTION:

Shovel Testing of proposed ROW for Progress Energy Florida expansion

LOCATION DESCRIPTION:

Northern Citrus County, east of US 19, south of Florida Barge Canal, near Withlacoochee Bay; Marjorie Harris Carr Cross Florida Greenway State Recreation and Conservation Area  
DEP, Office of Greenways and Trails

GENERAL CONDITIONS:

1. The Principal Investigator listed above or another qualified archaeologist designated by the applicant shall be responsible for all archaeological investigations, production of a final report, and be on site during all fieldwork.
2. A copy of this permit shall be provided to the land managing agency (when applicable) and field personnel shall carry a copy during fieldwork.
3. The permittee shall (initial each item as indicated):
  - a. prepare a final report that meets standards and guidelines required by Rule 1A-46, F.A.C., including the necessary Florida Master Site File forms; MA
  - b. inform the BAR permit administrator that a report has been completed and submitted to the Division of Historical Resources; or submit a copy of the final report to the BAR permit administrator; MA
  - c. provide proper curation and conservation of recovered artifacts and other recovered site materials until such time as those artifacts and other site materials are conveyed to the BAR for curation; MA
  - d. convey all artifacts and related materials obtained from state-owned or controlled land to the

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Director's Office  
(850) 245-6300 • FAX: 245-6436

Archaeological Research  
(850) 245-6444 • FAX: 245-6452

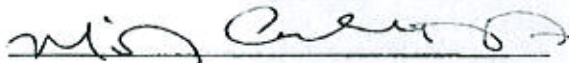
Historic Preservation  
(850) 245-6333 • FAX: 245-6437



BAR permit administrator for permanent curation or processing for loan; MA

- e. convey copies of all notes, maps, photographs, videotapes, and other field records pertaining to research conducted under this permit to the BAR permit administrator following completion of the project MA;
  - f. and not remove from a stable environment artifacts and materials which the permit recipient is unable to properly curate and conserve before conveying to BAR. MA
4. The effective field investigation dates are subject to receipt of permission from the land management agency and, in some instances, State/Federal dredge-and-fill permitting programs. Those agencies may also require work performance conditions relevant to their natural resource management and permitting responsibilities. A representative of the land managing agency (if one exists) will need to sign this permit document prior to BAR executing this permit (see page 3).
  5. Unless approved in writing by BAR, no work beyond that described in the "ACTIVITY DESCRIPTION" and attached to your application shall be performed.
  6. This permit is valid for up to one year following the requested report due date. Requests for approval for amendments to fieldwork, fieldwork end date and report/artifact due date are required during this time. Such requests may be made and approved by phone, email, or in writing during this time and do not require amendments to this document.
  7. In any release of information, including public presentations, media contacts, and the final written report, there shall be acknowledgement that the portion of the project involving state-owned and controlled land was conducted under the terms of an archaeological research permit issued by the Florida Department of State, Division of Historical Resources, Bureau of Archaeological Research.
  8. If Unmarked Human Burials are discovered, permit recipient shall comply with the provisions of 872.05, F.S., and when appropriate, Rule 1A-44, F.A.C. Specifically, upon discovery of unmarked human remains, all activities that might further affect those remains shall be halted and the remains protected from further disturbance until an appropriate course of action has been determined by the local medical examiner or by the State Archaeologist, as appropriate.
  9. In issuing this permit, the State assumes no liability for the acts, omissions to act or negligence of the permittee, its agents, servants or employees; nor shall this permittee exclude liability for its own acts, omissions to act or negligence to the State.
  10. The permittee, unless the permittee is an agency of the State, agrees to assume all responsibility for, indemnify, defend and hold harmless the Division of Historical Resources from and against any and all claims, demands, or liabilities, or suits of any nature whatsoever arising out of, because of, or due to any act or occurrence of omission or commission arising out of the permittee's operations pursuant to this permit and shall investigate all claims at its own expense. In addition, the permittee hereby agrees to be responsible for any injury or property damage resulting from any activities conducted by the permittee.
  11. The parties hereto agree that the permittee, its officers, agents and employees, in performance of this permit, shall act in the capacity of an independent contractor and not as an officer, employee, or agent of the State.

The undersigned, as representative of the Permittee/Authorized Entity, understands and accepts the terms of this 1A-32 Archaeological Research Permit.



Date: 6/15/11

Signature

The undersigned, as representative of the land managing agency for the managed area/state property described in the "LOCATION DESCRIPTION" section of this document, hereby permits the activity described above.



Date: 6/16/11

Mickey Thomason

Title: OMCM - REGIONAL TRAIL MANAGER

**This permit will not become effective until it has been executed by the Chief of BAR. Before BAR can execute this permit, the Permittee must have a land management representative (if applicable) sign in the space provided above. Please send the signed permit to the Permit Administrator at the address above.**

**A copy of the executed permit will be sent to you prior to commencing fieldwork.**

Executed in Tallahassee, Florida

STATE OF FLORIDA  
DEPARTMENT OF STATE



Ryan J. Wheeler, Ph.D.  
Chief, Bureau of Archaeological Research

6/20/2011

Date of Issue

Enclosures:

Rule 1A-46, F.A.C.  
BAR Collections and Curation Guidelines  
How to Package Documents, Florida Master Site File

Copies furnished to:

RJW/kmp



**APPENDIX B:**

**DHR/SHPO LETTER (PROJECT FILE NO. 2011-1984)**





FLORIDA DEPARTMENT OF STATE  
**Kurt S. Browning**  
Secretary of State  
DIVISION OF HISTORICAL RESOURCES

Mr. Robert Kitchen  
Nuclear Plant Licensing  
New Generation Programs and Projects  
Progress Energy Florida Inc.  
Post Office Box 14042  
St. Petersburg, FL 33733

June 7, 2011

Re: DHR/SHPO Project File No.: 2011-1984 / Received by SHPO: May 18, 2011  
Nuclear Regulatory Commission  
Levy Nuclear Plant Units 1 and 2 – Cultural Resources Work Plan  
Florida Site Certification No. PA 08-51C  
Citrus, Marion, Hernando, Sumter, Polk, Hillsborough and Pinellas Counties

Dear Mr. Kitchen:

This office received the referenced work plan proposed by Southeastern Archaeological Research, Inc. We considered the submitted plan and area of potential effect in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended and 36 CFR Part 800: Protection of Historic Properties; as well as Chapter 403, Florida Statutes, and the state's Power Plant Siting Act certification process. The State Historic Preservation Officer is to advise federal agencies and applicants as they identify historic properties (listed or eligible for listing in the National Register of Historic Places), to facilitate the assessment of effects upon them, and consider alternatives to avoid or minimize adverse effects.

It is the opinion of this office that the proposed strategy is sufficient to identify and evaluate any cultural resources within the proposed transmission rights of way, access road and blow down pipeline, as well as three additional parcels acquired for a training site and access road. We look forward to receiving the cultural resource assessment report(s) with the findings of the proposed field investigations

If you have any questions concerning our comments, please contact me at 850-245-6333 or lkammerer@dos.state.fl.us. Thank you for your interest in protecting Florida's historic properties.

Sincerely,

Laura A. Kammerer  
Deputy State Historic Preservation Officer  
For Review and Compliance

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Historic Preservation  
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**APPENDIX C:**  
**SURVEY LOG SHEET**





Ent D (FMSF only) \_\_\_\_\_



# Survey Log Sheet

Florida Master Site File  
Version 4.1 1/07

Survey # (FMSF only) \_\_\_\_\_

Consult *Guide to the Survey Log Sheet* for detailed instructions.

## Identification and Bibliographic Information

Survey Project (name and project phase) CULTURAL RESOURCE ASSESSMENT SURVEY OF THE PROGRESS ENERGY FLORIDA BLOWDOWN PIPELINE RIGHT-OF-WAY

Report Title (exactly as on title page) CULTURAL RESOURCE ASSESSMENT SURVEY OF THE PROGRESS ENERGY FLORIDA BLOWDOWN PIPELINE RIGHT-OF-WAY, CITRUS COUNTY, FLORIDA

Report Authors (as on title page, last names first) 1. Arbuthnot, Michael 3. Gaillard, Meg  
2. Torres, Josh 4. \_\_\_\_\_

Publication Date (year) 2011 Total Number of Pages in Report (count text, figures, tables, not site forms) 42

Publication Information (Give series, number in series, publisher and city. For article or chapter, cite page numbers. Use the style of *American Antiquity*.)  
2011 CULTURAL RESOURCE ASSESSMENT SURVEY OF THE PROGRESS ENERGY FLORIDA BLOWDOWN PIPELINE RIGHT-OF-WAY, CITRUS COUNTY, FLORIDA. Prepared by Southeastern Archaeological Research, Inc., Newberry, Florida.

Supervisors of Fieldwork (even if same as author) Names Torres, Joshua

Affiliation of Fieldworkers: Organization Southeastern Archaeological Research City Newberry, FL

Key Words/Phrases (Don't use county name, or common words like *archaeology, structure, survey, architecture, etc.*)

1. Progress Energy 3. Cross Florida Barge Canal 5. \_\_\_\_\_ 7. \_\_\_\_\_  
2. Citrus County 4. \_\_\_\_\_ 6. \_\_\_\_\_ 8. \_\_\_\_\_

Survey Sponsors (corporation, government unit, organization or person directly funding fieldwork)

Name Progress Energy Florida Organization Southeastern Archaeological Research

Address/Phone/E-mail 315 NW 138th Terrace, Newberry, Florida 32669

Recorder of Log Sheet Michael A. Arbuthnot Date Log Sheet Completed 10-6-2011

Is this survey or project a continuation of a previous project?  No  Yes: Previous survey #s (FMSF only) \_\_\_\_\_

## Mapping

Counties (List each one in which field survey was done; attach additional sheet if necessary)

1. Citrus 3. \_\_\_\_\_ 5. \_\_\_\_\_  
2. \_\_\_\_\_ 4. \_\_\_\_\_ 6. \_\_\_\_\_

USGS 1:24,000 Map Names/Year of Latest Revision (attach additional sheet if necessary)

1. Name <u>YANKEETOWN</u>	Year <u>1988</u>	4. Name _____	Year _____
2. Name <u>RED LEVEL</u>	Year <u>1990</u>	5. Name _____	Year _____
3. Name _____	Year _____	6. Name _____	Year _____

## Description of Survey Area

Dates for Fieldwork: Start 8-2-2011 End 8-12-2011 Total Area Surveyed (fill in one) \_\_\_\_\_ hectares 67.7 acres

Number of Distinct Tracts or Areas Surveyed 1

If Corridor (fill in one for each) Width: \_\_\_\_\_ meters \_\_\_\_\_ feet Length: \_\_\_\_\_ kilometers \_\_\_\_\_ miles

Research and Field Methods

Types of Survey (check all that apply): archaeological architectural historical/archival underwater
damage assessment monitoring report other(describe): \_\_\_\_\_

Scope/Intensity/Procedures Archaeological subsurface shovel testing program supplemented by intensive surface inspection. Systematically tested at 25, 50-meter, and 100-meter intervals in areas of high, moderate, and low site potential.

Preliminary Methods (check as many as apply to the project as a whole)

Florida Archives (Gray Building) library research- local public local property or tax records other historic maps
Florida Photo Archives (Gray Building) library-special collection - nonlocal newspaper files soils maps or data
Site File property search Public Lands Survey (maps at DEP) literature search windshield survey
Site File survey search local informant(s) Sanborn Insurance maps aerial photography
other (describe): \_\_\_\_\_

Archaeological Methods (check as many as apply to the project as a whole)

Check here if NO archaeological methods were used.
surface collection, controlled shovel test-other screen size block excavation (at least 2x2 m)
surface collection, uncontrolled water screen soil resistivity
shovel test-1/4" screen posthole tests magnetometer
shovel test-1/8" screen auger tests side scan sonar
shovel test 1/16" screen coring pedestrian survey
shovel test-unscreened test excavation (at least 1x2 m) unknown
other (describe): \_\_\_\_\_

Historical/Architectural Methods (check as many as apply to the project as a whole)

Check here if NO historical/architectural methods were used.
building permits demolition permits neighbor interview subdivision maps
commercial permits exposed ground inspected occupant interview tax records
interior documentation local property records occupation permits unknown
other (describe): \_\_\_\_\_

Survey Results (cultural resources recorded)

Site Significance Evaluated? Yes No
Count of Previously Recorded Sites 0 Count of Newly Recorded Sites 0
Previously Recorded Site #'s with Site File Update Forms (List site #'s without "8". Attach additional pages if necessary.) \_\_\_\_\_

Newly Recorded Site #'s (Are all originals and not updates? List site #'s without "8". Attach additional pages if necessary.) \_\_\_\_\_

Site Forms Used: Site File Paper Form Site File Electronic Recording Form

\*\*\*REQUIRED: ATTACH PLOT OF SURVEY AREA ON PHOTOCOPY OF USGS 1:24,000 MAP(S)\*\*\*

SHPO USE ONLY SHPO USE ONLY SHPO USE ONLY
Origin of Report: 872 CARL UW 1A32 # \_\_\_\_\_ Academic Contract Avocational
Grant Project # \_\_\_\_\_ Compliance Review: CRAT # \_\_\_\_\_
Type of Document: Archaeological Survey Historical/Architectural Survey Marine Survey Cell Tower CRAS Monitoring Report
Overview Excavation Report Multi-Site Excavation Report Structure Detailed Report Library, Hist. or Archival Doc
MPS MRA TG Other: \_\_\_\_\_
Document Destination: \_\_\_\_\_ Plotability: \_\_\_\_\_

Cross Florida Barge Canal

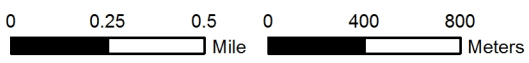
19

55

Blowdown Pipeline (BDP)  
Preferred ROW



Blowdown Pipeline (BDP) Preferred ROW



USGS 1:24,000 Topographic Map Mosaic of Citrus County

**CULTURAL RESOURCE ASSESSMENT SURVEY  
OF THE PROGRESS ENERGY FLORIDA  
BLOWDOWN PIPELINE PREFERRED RIGHT-OF-WAY  
CITRUS COUNTY, FLORIDA**

