

Orlando, FL

November 7-8, 2024



2024 TRANSPORTATION SYMPOSIUM

District Case Studies – Cultural Resources



Jennifer Marshall

FDOT Office of Environmental Management



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2024 TRANSPORTATION SYMPOSIUM

Section 4(f) Process Enhancements



Matt Marino, M.A., RPA

Ardurra & FDOT Office of Environmental Management



Objectives

- 1-slide Introduction to Section 4(f)
- Project Applicability
- No Use for Unevaluated Archaeological Sites
- Net Benefit Programmatic Section 4(f) Evaluation
- Revised Individual Section 4(f) Evaluation Outline

Section 4(f) of the U.S. Department of Transportation Act of 1966

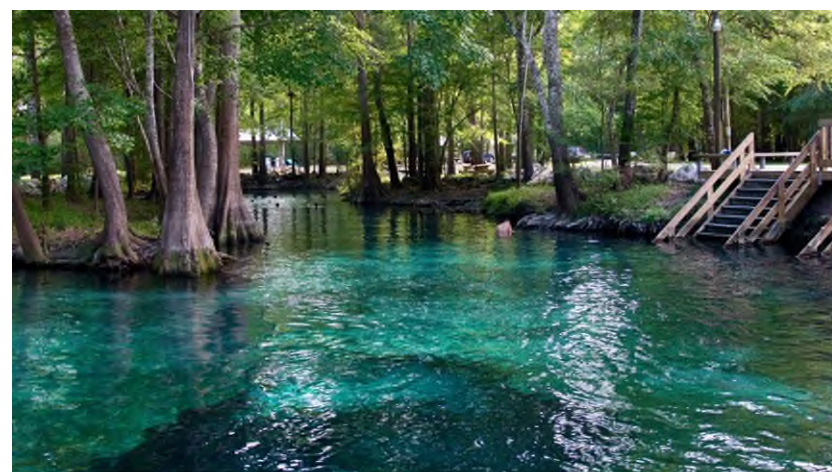
- Consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation project development

FDOT can only approve transportation “**uses**” of land from protected properties when the following conditions are met:

- There are no feasible and prudent avoidance alternatives to the use of land; and
- The project includes all possible planning to minimize harm to resource resulting from the proposed use.

OR

- The use of the property will have a *de minimis* (minor) impact



Is it a Transportation Project?

- Applies to **transportation projects** funded, approved, or authorized by any USDOT Agency
- Does it facilitate the movement of people and goods?
 - 3R
 - Lighting
 - Drainage
 - Bridge safety netting
- 4(f) does not apply to every federally funded FDOT project



No Use for Unevaluated Archaeological Sites

- In the absence of a determination from the OWJ (SHPO), **FHWA/FDOT will presume significance.**
- 25,506 of 37,572 (68%) of archaeological sites in Florida have not been evaluated for listing on the NRHP.
 - That likely won't change for sites in FDOT ROW
- Temporary Occupancy exception requires **OWJ concurrence** (see 23 CFR 774.13(d))
- Write up a **no use** determination while citing the temporary occupancy conditions in your justification.



Net Benefit Programmatic Evaluation

- Are you anticipating the need to prepare an Individual Section 4(f) Evaluation?

- Are you ant
Evaluation?



Section 4(f)

Net Benefit Programmatic

- Are you anticipating the need to prepare an Individual Section 4(f) Evaluation?
- Section 4(f) Evaluation and Approval for Transportation Projects That Have a **Net Benefit** to a Section 4(f) Property
 - Applies to all resources and project types regardless of Class of Action
- A “net benefit” is achieved when the mitigation and measures to minimize harm result in an overall enhancement to the resource
 - and the OWJ concurs
- No impact threshold, but historic properties must remain NRHP eligible.
 - MOA mitigation is baseline. Must do more.

Net Benefit Programmatic

Alternatives

- Do Nothing/No Build
 - Finding: Not feasible and prudent because it does not address the purpose and need
- Improve the facility in a manner that addresses the Purpose and Need without the use of the 4(f) property
 - Finding: Not feasible and prudent to avoid by using engineering techniques, minor location shifts, changes in engineering design standards, use of other structures, etc., if implementing such measures would result in other substantial impacts or effects.
- Build the facility at a new location
 - Finding: Does not address the Purpose and Need, not feasible and prudent, AND If we build on a new location, we miss the opportunity to provide a net benefit to the Section 4(f) resource.

This is documented in a form in SWEPT's Section 4(f) Tool, not in a standalone report.

Programmatic 4(f) Evaluation Comparison Chart

	Independent Bikeway or Walkway Projects	Use of Historic Bridges	Minor Involvement with Parks, Recreation Lands, and Wildlife and Waterfowl Refuges	Minor Involvement with Historic Sites	Transportation Projects that have a Net Benefit to a Section 4(f) Property
Date Enacted	05/23/1977	07/05/1983	12/23/1986	12/23/1986	04/20/2005
Project Type	Independent walkway or bikeway project, not incidental activities of a highway project.	Rehabilitation or replacement of historic bridges.	Improvement of operational characteristics, safety, and or physical condition of an existing highway essentially on the same alignment.	Improvement of operational characteristics, safety, and or physical condition of an existing highway essentially on the same alignment.	Any type of project on an existing or new alignment regardless of NEPA document type.
Resource Applicability	Parks or recreation areas	Historic bridges that are not National Historic Landmarks	Parks, recreation lands, and wildlife and waterfowl refuges that are adjacent to the existing facility	Historic sites that are adjacent to the existing facility	All Section 4(f) resources
Impact Threshold	No significant impact (no displacements, minimal water quality impacts, etc.)	If bridge can be rehabilitated without affecting the historic integrity, Section 4(f) does not apply. If the bridge is to be demolished and/or replaced, Section 4(f) applies.	The amount of property that may be acquired/used is limited as specified in the PA. May not be used for projects processed as an EIS.	Project may not remove or alter historic buildings, structures, objects, or archaeological resources important for preservation in place. Project must result in a no effect or no adverse effect determination under Section 106. May not be used for projects processed as an EIS.	No impact limits, but project results in an overall enhancement to the resource. For historic resources, the project doesn't require a no effect or no adverse effect determination under Section 106, but the resource must remain eligible for listing on the NRHP.
Alternatives Analysis	1.FDOT makes a determination that there is no prudent and feasible alternative to the use of the Section 4(f) lands.	1.Do nothing. 2.Build a new structure at a different location without affecting the historic integrity of the bridge. 3.Rehabilitate the bridge without affecting its historic integrity.	1.Do nothing. 2.Improve the highway without using the adjacent Section 4(f) resource. 3.Build an improved facility on a new location without using the adjacent Section 4(f) resource.	1.Do nothing. 2.Improve the highway without using the adjacent historic site. 3.Build an improved facility on a new location without using the adjacent historic site.	1.Do nothing. 2.Improve the transportation facility in a manner that addresses the project's P&N without using the Section 4(f) property. 3.Build the transportation facility at a new location that does not require use of the Section 4(f) property.
Coordination and Concurrence Requirements	OWJ concurs in writing that the project is acceptable and consistent with designated use of property.	If replacement is proposed, the bridge must be made available for an alternate use. SHPO concurs in writing with the impact assessment and proposed mitigation.	OWJ concurs in writing with the impact assessment and proposed mitigation.	SHPO concurs in writing with the impact assessment and proposed mitigation.	OWJ concurs in writing with the impact assessment and proposed mitigation. For project with one or more public meetings or hearings, information of the Section 4(f) resources shall be communicated to the public.

Revised Individual Section 4(f) Outline

- 1. Section 4(f) Properties:** Describe the Section 4(f) properties in the study area. Use graphics and tables as appropriate to supplement the text.
- 2. Analysis of Feasible and Prudent Avoidance Alternatives:** Describe the search for feasible and prudent (F&P) avoidance alternatives – alternatives that do not use any Section 4(f) properties. This section could be organized by project alternatives or by 4(f) properties. Any avoidance alternatives that were screened out during NEPA scoping should be reconsidered and the no-build alternative must be included.
- 3. Analysis of Alternatives that Use Section 4(f) Properties:** Alternative(s) that use Section 4(f) properties should be evaluated to determine whether they meet P&N to the degree that they warrant further analysis. Describe the use of each Section 4(f) property by each alternative. This section could be organized by project alternatives or by Section 4(f) property. Use graphics and tables as appropriate to supplement the text.
- 4. Determine Need for Least Overall Harm Analysis:** Option I: If only one alternative remains under consideration, then evaluate and document that all possible planning to minimize harm has occurred by applying the definition in 774.17 to the alternative. Conclude with the wording from the regulations that the alternative "includes all possible planning to minimize harm."
Option II: If more than one alternative remains under consideration, then discuss the determination of which alternative causes the least overall harm.

Don't discuss project description (i.e. preferred alternative) first, and then move on to an evaluation of alternatives.

Let the 4(f) Evaluation lead you to the Preferred Alternative.

Cite regulations, not policy

Contact



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Silver Springs State Park Trail Crossings, Marion County



Catherine B. Owen, M.S.

District Cultural Resources Coordinator, FDOT District Five



What do you mean, adverse effect? It's just a trail!

- PD&E Study commitment: SR 40 EA for widening adjacent to (former) Silver River SP; FDEP incorp. *Silver Springs* attraction in 2013
- FDOT mitigation for *Section 4(f)* use (right-of-way acquisition) of park property
- FDEP requested construction of:
 - one large bridge over the Silver River; then...
 - two trail crossings over tributaries of the Silver River



Florida's Original Tourist Destination



*“Nature’s
Underwater
Fairylnd”*

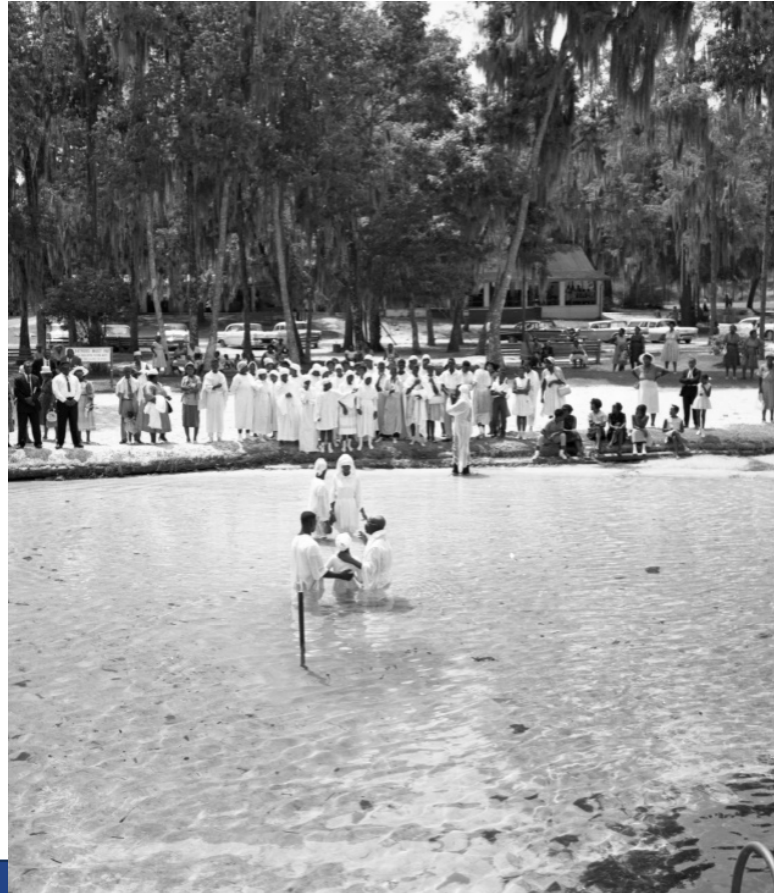
Historic Uses of the Springs



One of largest artesian in world;
Largest 1st magnitude in FL

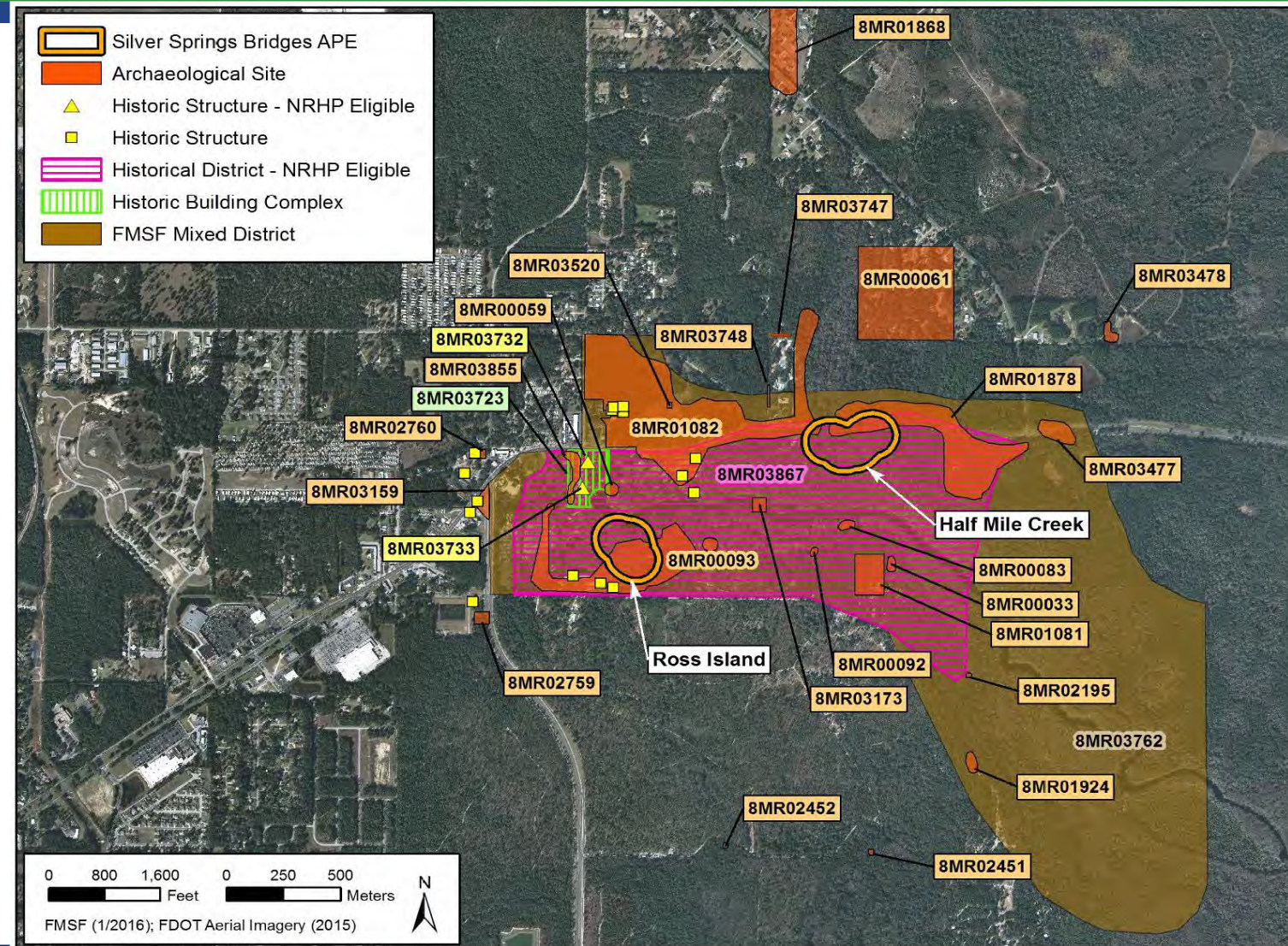
Paradise Segregated

- Paradise Park operated 1949-1969 (closed after desegregation of Silver Springs)
- Offered similar amenities; Was 1 of 3 FL beaches open for African Americans
- 100K visitors annually (+ from other states, tour buses, church groups) !



Previously Recorded Cultural Resources

- Studies conducted from 1859 to present; 40 sites in the area !
- Peoples have occupied or interacted with area for >10k yrs
- **CRAS** results:
 - NRHP eligible
No Name/8MR93 & Cactus Flower/8MR1878
 - Within Areas of Potential Effect (APE) of each crossing



Trail Crossing Areas of Potential Effect (APE)

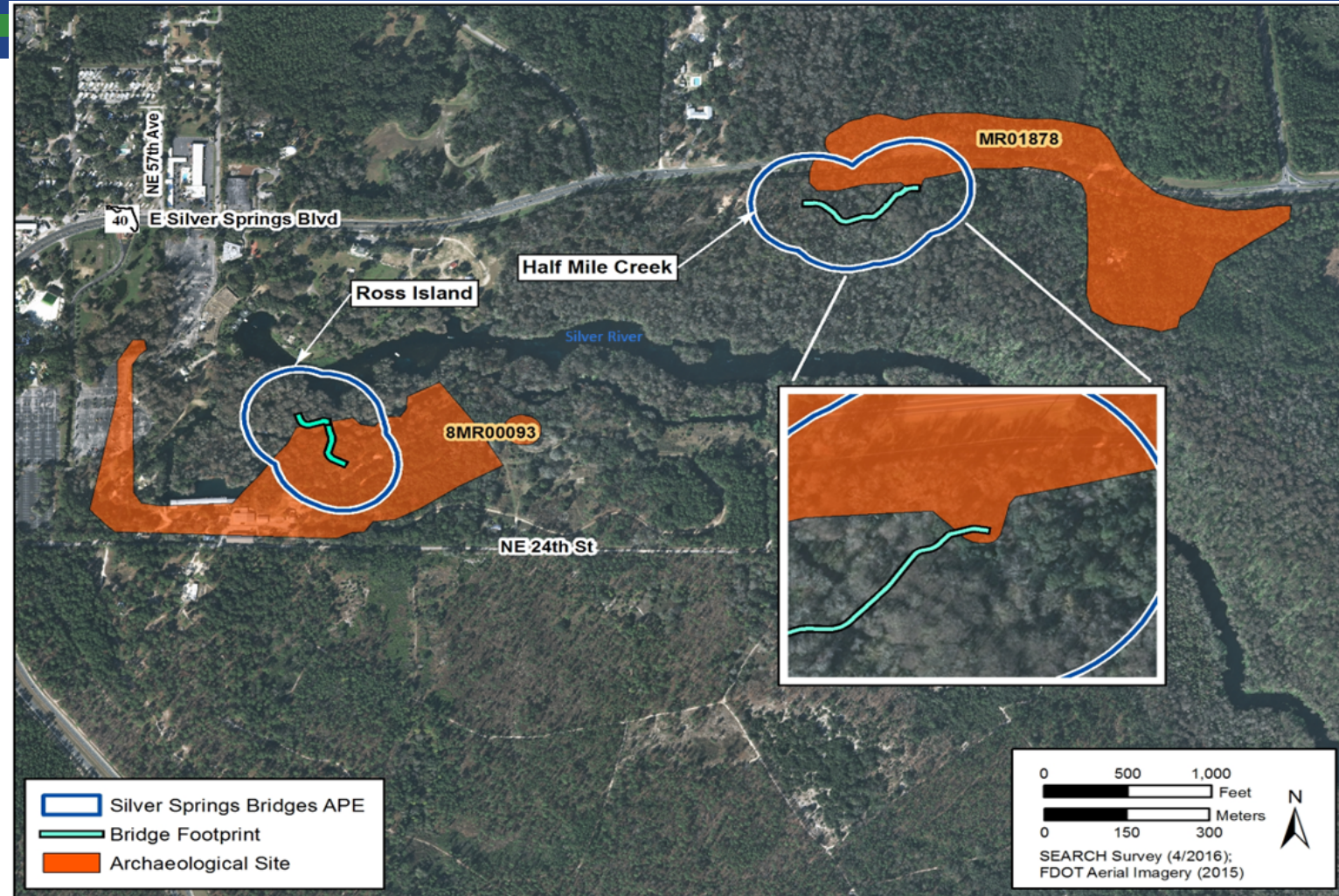
Silver River Tributaries:

Ross Island/Fort King Waterway (8MR93), Half Mile Creek (8MR1878)

- APEs contained 2 previously recorded NRHP-eligible AR sites; CRAS w/no Phase II & limited Phase I testing

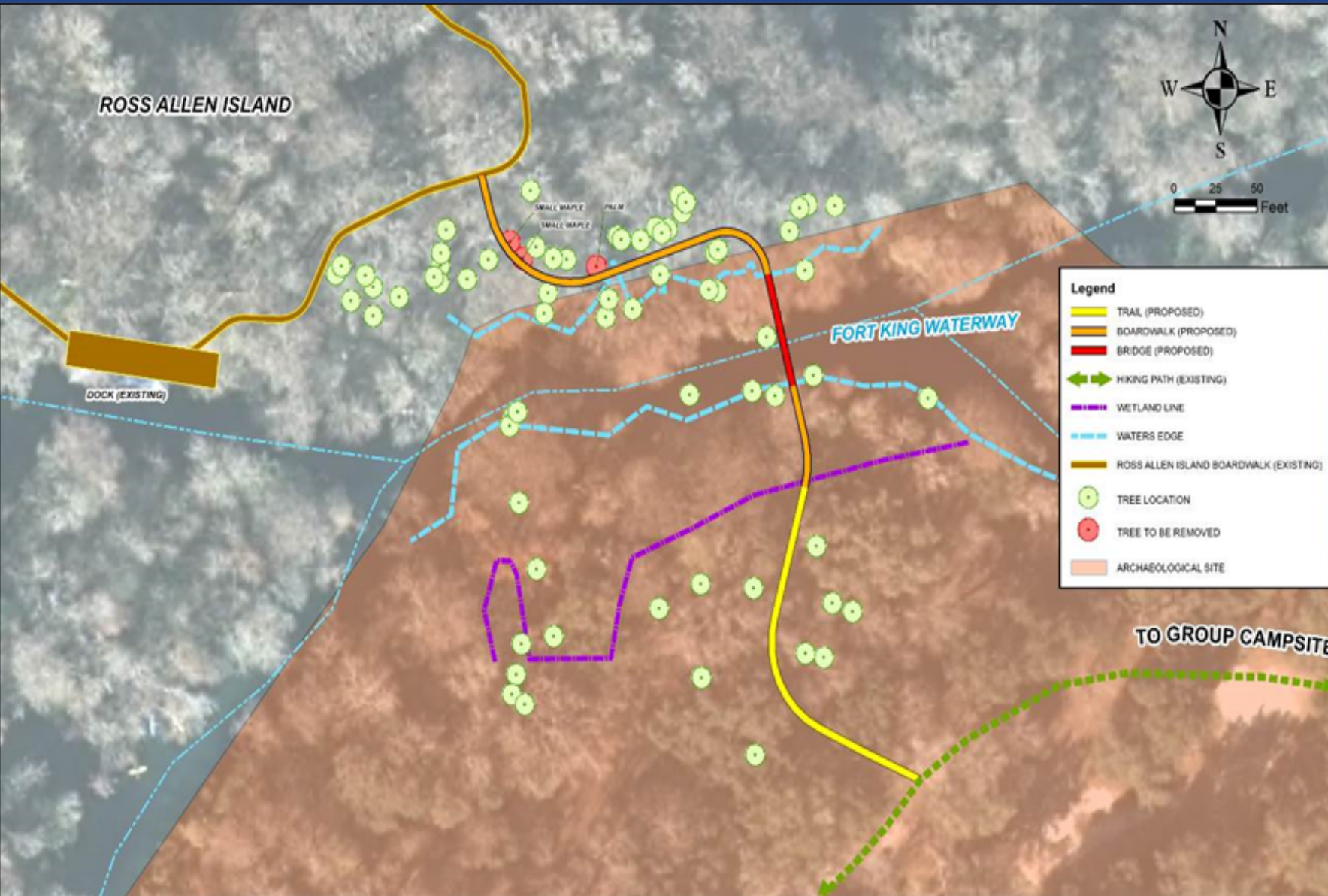
Section 106 Effects Case Study:

- No Adverse Effect 8MR1878 (site avoidance via trail on fill)
 - Adverse Effect 8MR93 (site avoidance not possible - driving of pilings within site boundary for bridge landings, boardwalk)
- Required PD&E/NEPA phase: “Minor” Type 2 CatEx (FHWA 2016)



*Note how SR 40 bisects 8MR1878

Minimize Park Trail Connectivity thru 8MR93



- Connects **existing trail network within Park.**
- Impacts reduced by meandering thru cypress & top-down construction. Site avoidance not possible.
- [Bridge+Boardwalk = 367 ft, Trail = 183 ft]

Memorandum of Agreement (MOA)

MEMORANDUM OF AGREEMENT
BETWEEN THE FLORIDA DEPARTMENT OF TRANSPORTATION AND
THE FLORIDA STATE HISTORIC PRESERVATION OFFICER
REGARDING TWO PEDESTRIAN BRIDGES AND CONNECTING BOARDWALKS
WITHIN THE SILVER SPRINGS STATE PARK,
MARION COUNTY, FLORIDA

WHEREAS, pursuant to 23 United States Code (U.S.C.) § 327 and the implementing Memorandum of Understanding (MOU) executed on December 14, 2016, the Florida Department of Transportation (FDOT) has assumed Federal Highway Administration's (FHWA) responsibilities under the National Environmental Policy Act (NEPA) for highway projects on the State Highway System (SHS) and Local Agency Program (LAP) projects off the SHS; and

WHEREAS, in accordance with the MOU, FDOT's assumption of FHWA's responsibilities under NEPA for highway projects includes assumption of responsibilities for compliance with 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108); and

WHEREAS, FDOT and the Florida Department of Environmental Protection (FDEP) and the Board of Trustees of the Internal Improvement Trust Fund executed an MOU on July 28, 2011 in support of the Project Development and Environment (PD&E) study for the widening of SR 40 (Financial Project No. 410674-1-22-01), which included a Programmatic 4(f) Evaluation for impacts to Silver Springs State Park; and

WHEREAS, as mitigation for the use of the Section 4(f) property at the Silver Springs State Park and pursuant to the 2011 MOU and coordination between FDOT and FDEP, FDOT will design and construct two pedestrian bridges and connecting boardwalks over tributaries of the Silver River; and

WHEREAS, it is anticipated that FHWA will provide federal financial assistance for the two pedestrian bridges and connecting boardwalks within the Silver Springs State Park (Financial Project No. 426179-1-31-01) (Project); and

WHEREAS, FDOT has determined that the Project represents an undertaking in accordance with 36 CFR § 800.3(a); and

WHEREAS, FDOT has defined the Project's area of potential effects (APE) as the construction footprint in addition to 100-meter (330-foot) buffers of the Half Mile Creek Trail Crossing (including a portion of archaeological site 8MR01878) and the Ross Island Trail Crossing (including a portion of archaeological site 8MR00093) (see Attachment 1); and

WHEREAS, FDOT has consulted with the Florida State Historic Preservation Officer (SHPO) pursuant to the requirements of 36 CFR Part 800 and has determined that the Project will have no adverse effect on the Cactus Flower site (8MR01878), an archaeological property which is eligible for listing in the National Register of Historic Places (NRHP), provided that

- **MOA** for mitigation of adverse effects to 8MR93
- Phase III data recovery for 8MR93
- Public outreach plan for Park (SHPO)
- Archaeological monitoring during construction (both sites)

Data Recovery Plan (8MR93)

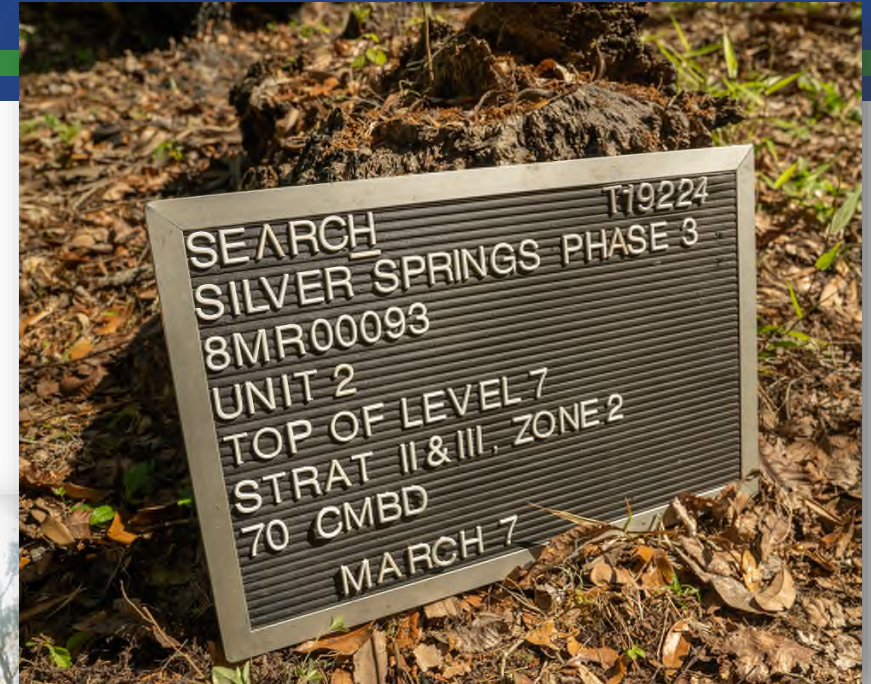
- Summarized previous work and findings at site (e.g., UF 2013)
- Identified Research Questions (based on previous work and SHPO input)
- Outlined Phase III data recovery mitigation excavation within project footprint



Fort King Waterway Trail Crossing

Phase III Data Recovery (8MR93)

- **Field Operations (8MR93 – SILVER RUN)**
 - DHR BAR issued 1A-32 permit
 - Occurred over the course of two 10-day field mobilizations in Feb/Mar 2020
 - **Park closed due to COVID**



D5 EMO staff able to observe !

**KUDOS to Sally Lieb,
FDEP Park Manager**

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Phase III Data Recovery (8MR93)

Test Units limited to boardwalk section (piling installation), because trail to be built on fill

- **Four 2m-x-2m excavation units**
- **~20 sq m of soil excavated**



Very small area of excavation within overall huge site but big portion of construction footprint



Phase III Findings - 8MR93

Ca. 10K artifacts recovered during unit excavation;
including *diagnostic* lithic tools (indicating specific
time periods when produced)



Probable Marion PP/K
Middle Archaic
5000 to 1000 BC



Newnan PP/K
Middle Archaic
5000 to 1000 BC



Possible Bolen variant PP/K
Early Archaic
8000 to 5000 BC

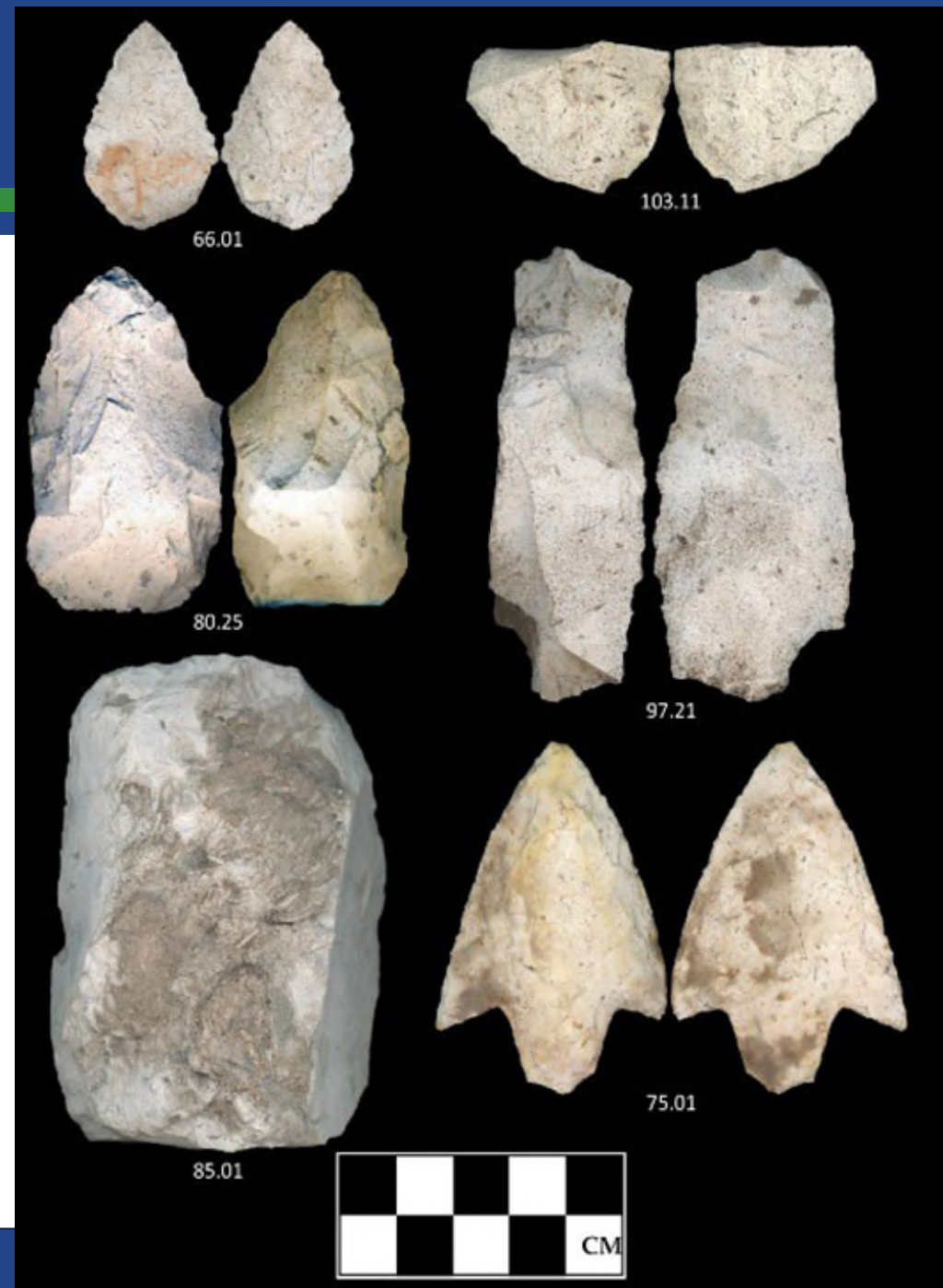


Adze
Non-diagnostic

Phase III Findings - 8MR93

- Lithic Tools: projectile points/knives, scrapers, choppers; determine when *precontact** peoples occupied site
- Some PP/Ks modified (hunting strategy/ reuse of “bull-noses” embedded in prey)
- 8MR93 intersected by Ocala Quarry Cluster = local source of most *chert* (lithic raw material) used to make lithic tools

*Period prior to contact of an indigenous people w/outside culture



Phase III Summary - 8MR93

- Multicomponent Site - precontact use for 1000's years; reused as campsite/habitation area w/o permanent occupation
- Substantial quantity of lithic artifacts, debitage, diagnostic/non-diagnostic tools: primary activity = tool modification/ maintenance (sparse evidence of manufacture); no ceramics/feature paucity
- Spatial distribution & types of precontact cultural material: evidence of ephemeral Early Archaic (7-10k yrs ago) component & intensive use during Middle Archaic (3-7k yrs ago)



Tribal Section 106 Consultation

- **CRAS - 2016 (FHWA)**
- **Effects Assessment – 2017**
- **Data Recovery Plan - 2018**
- **MOA - 2019**
- **Site Management Plan – 2020**
- **Phase II Excavation – 2020**
- **Phase II Archaeological Site Mitigation Report – 2022**
- **Archaeological Monitoring Report - 2025**



Archaeological Monitoring

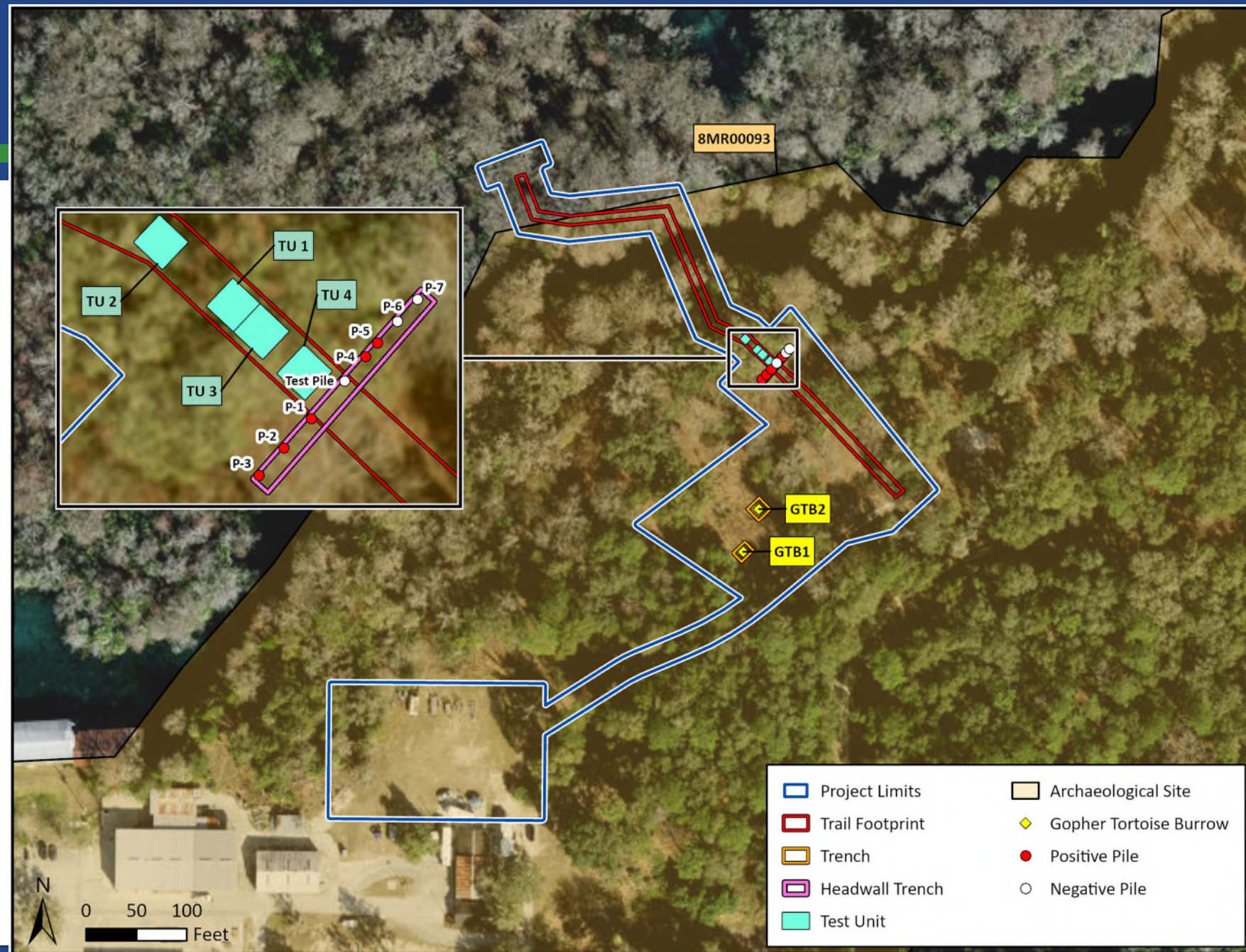
- During construction at both 8MR93 & 8MR1878 – monitoring began JAN 2024
- **Site Management Plan** denoted Avoidance/Minimization recommendations for both sites during construction (staging areas, vehicular transport routes, barriers, public protection)
- Archaeological monitoring duties:
 - Coordinate w/Park, construction crews, FDOT
 - Look for cultural deposits uncovered by construction during all ground disturbing activities within AR sites
 - Screen displaced soil
 - Report based on observed construction activities and recovered artifacts



Test pile installation at 8MR1878. Note: geofabric and mats used to help mitigate site disturbance from heavy machinery.

Project Layout

Figure shows the location of the trail footprint to Phase III test units (TU), headwall trench, piles (P), and gopher tortoise (GT) burrows within the project limits and the archaeological site boundary.



Gopher Tortoise Relocation

- Two gopher tortoise burrows located within project limits and boundary of 8MR93
- Bucket traps installed prior to use of heavy machinery (no luck!)



- Heavy machinery uncovered burrow network and removed 1 tortoise
- All removed soil was screened by archaeological monitors
- **6,000+ artifacts recovered, including pre-historic ceramics & lithic tools**

Gopher Tortoises as Archaeologists?

- October 2023 (three days): FDOT staff plus FDEP staff participation – **lithics on GT burrow aprons !**
- Expedited due to pre-construction permitting → required to conduct GT survey within 90 days of construction



Gopher tortoise safely relocated!



Archaeological Monitoring During Construction

- Began 10/17/2023 and continues at Fort King Waterway
- Completed at Half Mile Creek on 01/25/24
 - ✓ No further monitoring required - completion of ground disturbing work within monitoring boundary
- **More complicated monitoring at Fort King due to bridge being constructed**
 - Headwall construction
 - Support timber piles



Monitoring Findings (thus far)

- Majority of artifacts recovered during gopher tortoise relocation
 - 15 diagnostic lithic tools (2 Early Archaic, 13 Middle Archaic)
 - **133 prehistoric ceramic sherds recovered!**
 - Dating from Early Woodland (2,500 yrs ago) to St. Augustine (1500s+) temporal periods
 - **No ceramic was discovered during the Phase III investigation (interesting!)**
- Additional diagnostic lithic tools recovered during headwall trench excavation
 - Artifacts sent to lab, awaiting results
 - No ceramics recovered from headwall trench or piles



Public Outreach Plan

- Educate public re: prehistoric and/or historic development and use of Silver Springs area
- Design/content via joint effort w/FDEP educational staff & SEARCH Exhibit staff
- FDEP requested (3) **Interpretive Panels** [Springs' First People, Transportation, Paradise Park]
- Fabrication of panels (CHP Laminate) then FDEP installed in April 2024
- 4th panel designed for future installation



Educational Interpretive Panels



Signs designed to match the
“theme” of Silver Springs



Current Status – Almost There ?!

- 8MR93 (No Name) site renamed Silver Run (retired FDEP Park Manager)
- Construction est. end date DEC 2024 (Buy America delay)
- Archaeological monitoring report to SHPO, tribes, FDEP
- Provide all artifacts to FDEP
 - Phase III at OEM due to COVID
 - AR Monitoring @ GT excavation returned to Park Archaeologists
 - AR Monitoring @ headwall/piles will be returned after analysis to Park Archaeologists



Existing Ross Allen Island Boardwalk

In Conclusion...and final thoughts on Adverse Effects



The Dream Team

- ***Run as fast as you can when “they” say DON’T WORRY CATHY --- IT’S JUST A TRAIL !***
- Avoid Adverse Effects if possible... lest ye go down the proverbial GT burrow
- Due to time required for each step in the iterative, consultative 106 process = adds 2-3 years to schedule
- Once the MOA is executed, the work truly begins!

Mom was there too :-)



The Fort King Waterway trail crossing will enable Park visitors to traverse and appreciate a cultural landscape that has existed, and attracted diverse peoples, for thousands of years.



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Safety Message



**ZERO FATALITIES
& SERIOUS INJURIES
ON FL ROADWAYS**

**EVERYONE
HAS SOMETHING
TO GET HOME TO**

FDOT **TARGET ZERO**
FATALITIES & SERIOUS INJURIES

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Acknowledgements and Contact Info



Special Thanks to the JAM Team:

Joseph Fontanelli, FDOT D5 PM

Angela Matusik, Consultant Archaeologist (SEARCH)

Michael Schwier, Consultant PM (Mead&Hunt)

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Cultural Resource Monitoring: How to Protect Resources and Keep Moving Forward when Dealing with the Unexpected



Ian Pawn, Ph.D.

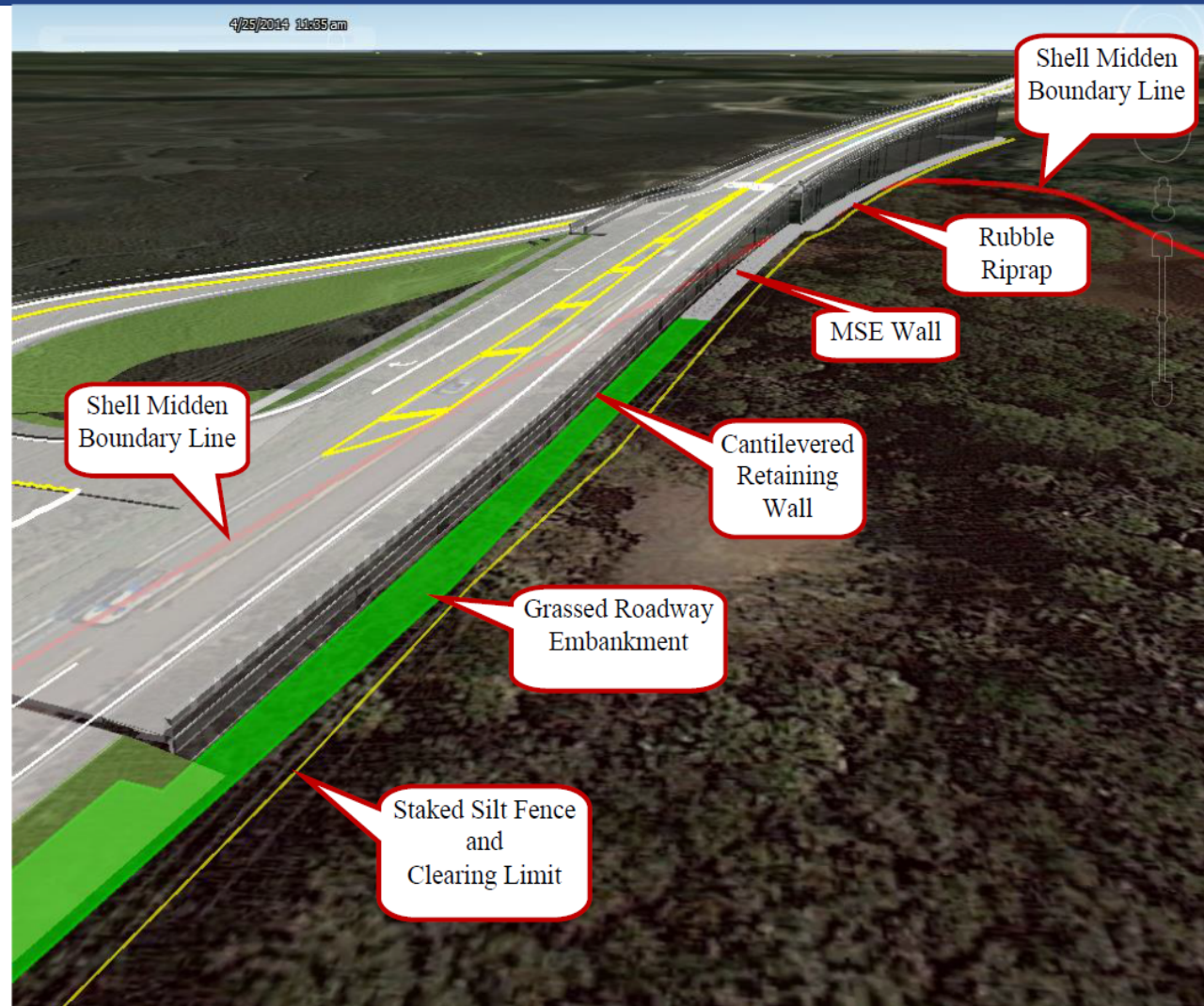
Cultural Resources Coordinator, FDOT, District 2

What is Monitoring?

- Minimization alternative to reduce impacts an undertaking may have on a historic resource (FDHR Module 3)
- Sensitive archaeological or historic resources have been identified within a project, and project commitment will include a qualified monitor to observe/record these resources while construction activities occur within or nearby
- Usually archaeological, but can include vibration monitoring or other types of observation of structures



Best Practices- Pre-Construction



- Project commitment- Ensures monitoring will go through the entire process and reach construction phase.
- Indicate monitoring areas in project plans
- Establish a monitoring plan, to be reviewed by SHPO and other stakeholders
- Early and often: communication

Best Practices-During Construction

- “Tailgate meeting”- teach crew what to look out for
- Leave opportunities for work to continue
- Build trust between crews, construction crews can be helpful to speed up monitoring process
- Keep a reporting schedule



The Unexpected?



- Ensure whatever funding you have is more than you anticipated
- Careful communication between monitor and crew can reduce or eliminate delays
- The monitoring plan can provide guidelines
 - Human remains statement-applicable laws, chain of contact, procedure

King Street Drainage and Outfall, St. Augustine, 2023



Discovery in Pipe Trench (approx. 6.5 feet down)

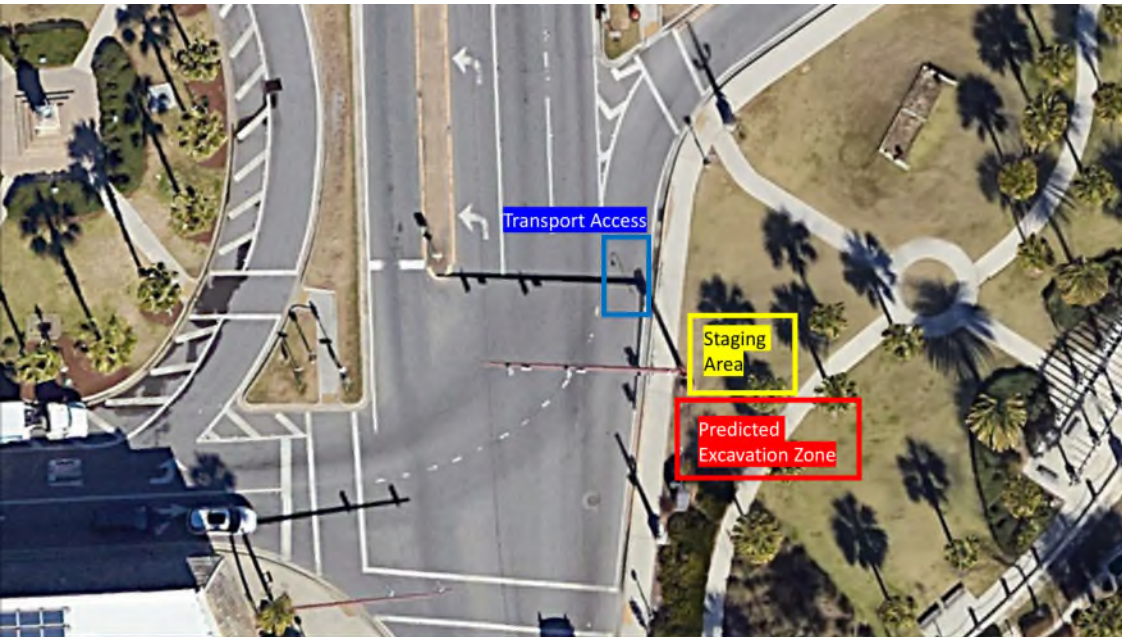






What were the best practices?

- Monitoring plan had clear chain of contact
- Communication maintained weekly throughout project
- Funding available quickly for emergency
- Construction crew assisted monitors to speed up work for everyone
- Construction could continue in other areas





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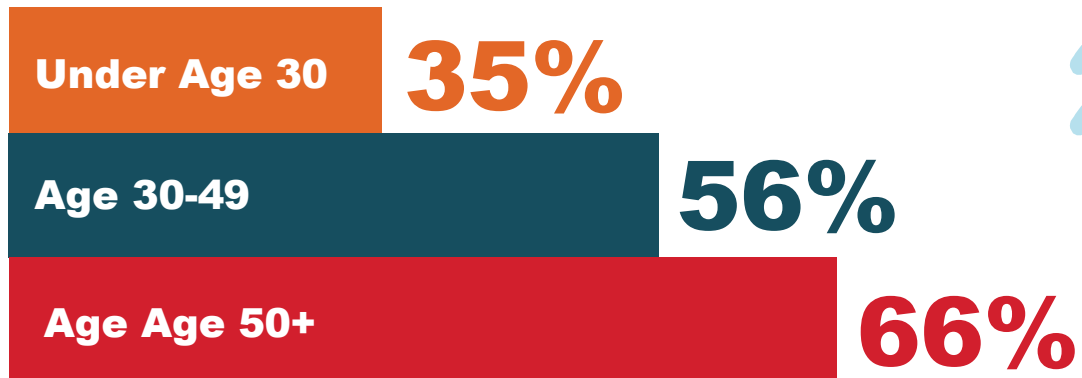
386-961-7886

DID YOU KNOW?

Wearing the right helmet makes a safety difference!

66% of Florida riders ages 50+ involved in **fatal** motorcycle crashes were **not wearing** USDOT- compliant helmets.*

RIDER AGE GROUPS USING NON-COMPLIANT HELMETS



Scan QR Code to find your perfect (and safe) fit!



* Sourced from Florida crash data between 2015 and 2019.