

Reitz Union Lawn / Inner Road Improvements

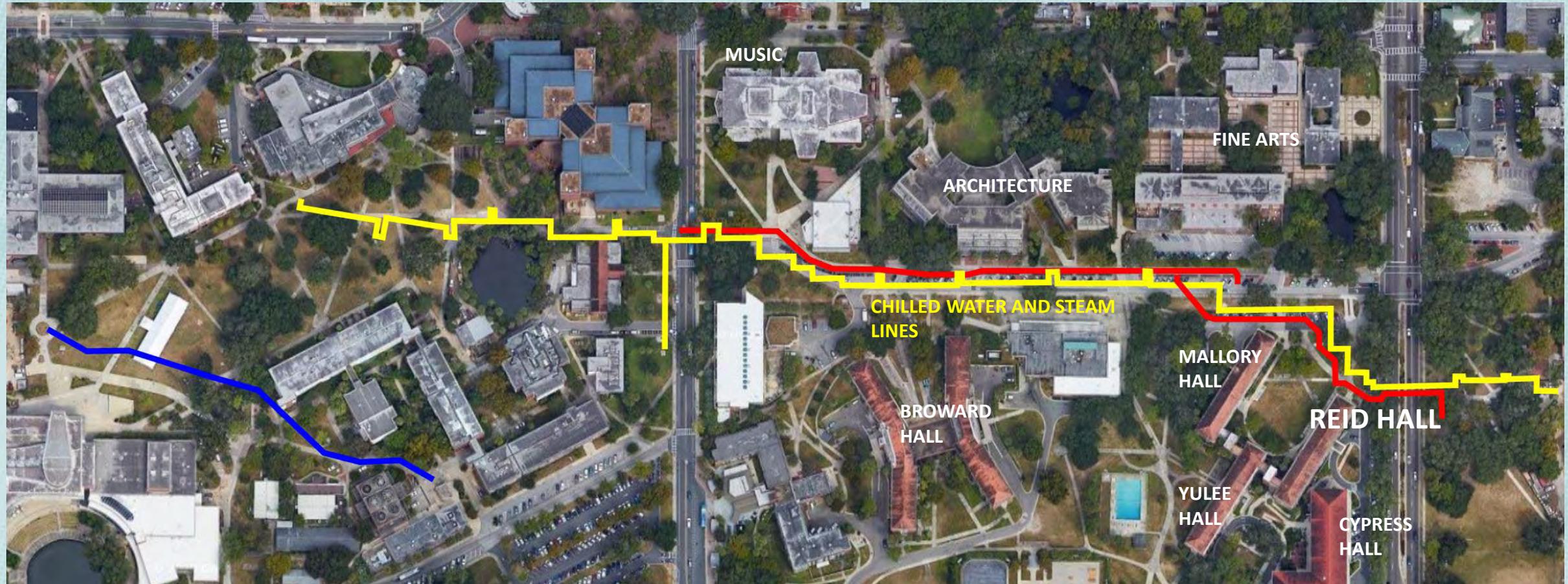
Project No. UF-644, UF-644A and UF-644B

LVL Committee Meeting

December 7, 2023

Tom Feather, Project Manager

Project Overview - Location

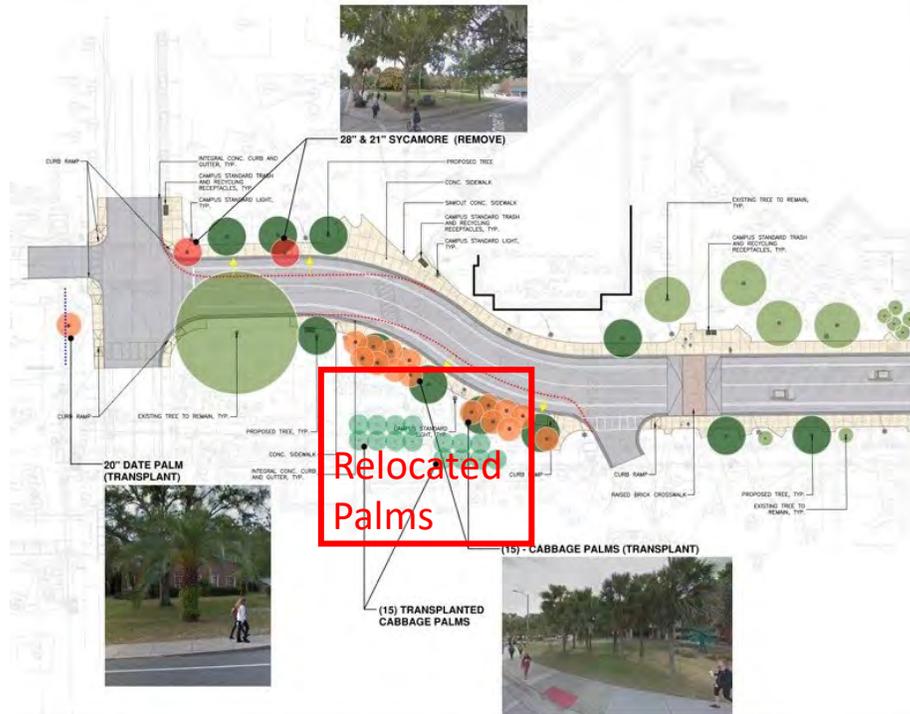


Project Overview – Area of Modification



Previous Landscape Discussion

Previously approved landscape plan had 15 sabal palms scheduled for relocation and 18 new sabal palms to be installed.

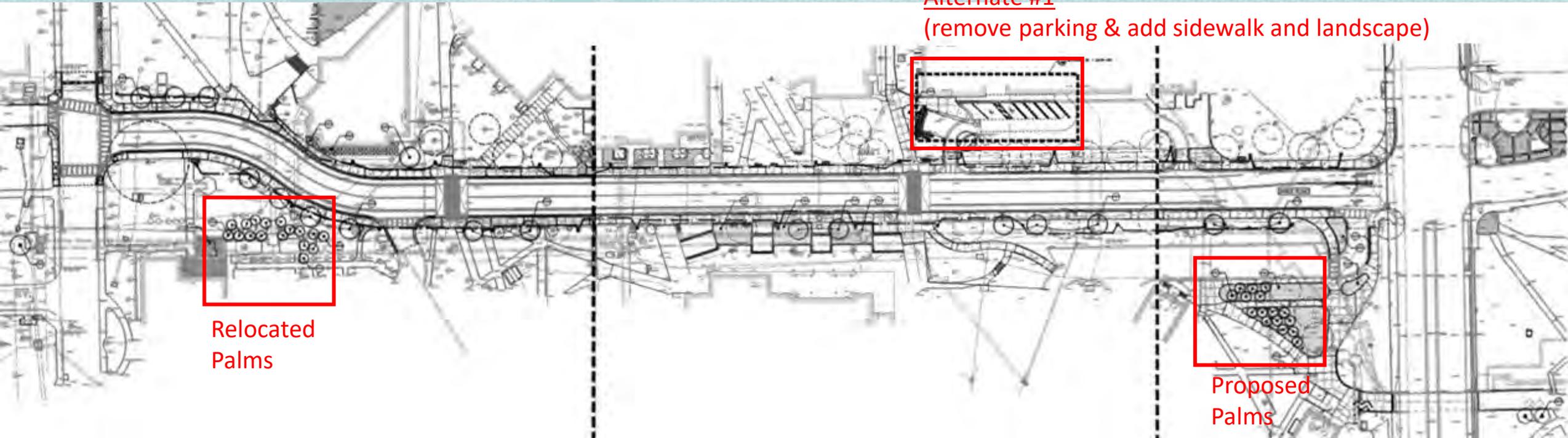


PLANT SCHEDULE BASE							
TREES	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	SIZE		REMARKS
LIM/30	7	Lagerstroemia indica 'Muskogee'	Crape Myrtle Multi-Trunk	30 GAL.	MULTI-TRUNK		
PM/EX	1	Phoenix dactylifera 'Medjool'	Date Palm	Existing	--		Relocate existing
QV/65	18	Quercus virginiana	Southern Live Oak	65 gal	3.5\" Cal		
SP/EX	15	Sabal palmetto	Cabbage Palmetto	Existing	--		Relocate existing
SP/FG	18	Sabal palmetto	Cabbage Palmetto	FG.	--		See Plan for CT HT
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	SIZE		REMARKS
IP/3	30	Illicium floridanum	Florida Anise	3 GAL.	18\"-24\" OA		
MC/3	44	Muhlenbergia capillaris	Pink Muhly Grass	3 GAL.			
ZP	27	Zamia pumila	Coontie	3 GAL.	18\"-24\" OA		Full & Thick
SHRUB AREAS	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	SIZE	SPACING	REMARKS
LE/1	3,360	Liriope muscari 'Emerald Goddess'	Liriope	1 GAL.	10\"-14\" HT. X 5-7 PPP	18\" o.c.	
TM	73	Trachelospermum asiaticum 'Minima'	Minima Jasmine	1 GAL.	4\"-6\" HT. X 12\"-18\" SPRD.	18\" o.c.	
SOD		Zoysia japonica	Zoysia Grass				



Due to prevalence of lethal bronzing on campus, should the design be changed to replace them with another tree species?

Project Overview – Approved Landscape Plan



Alternate #1

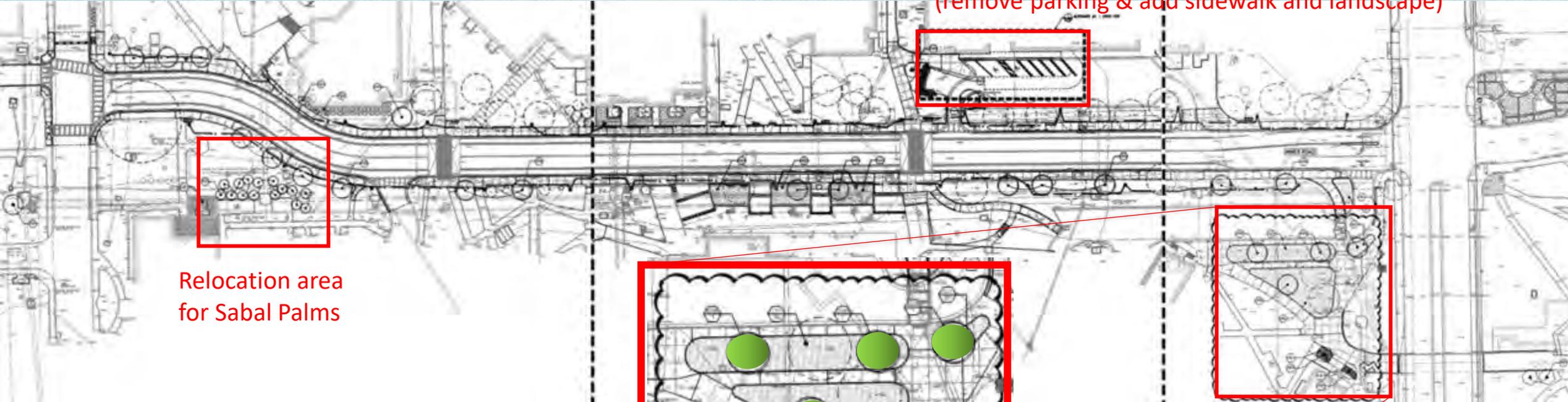
(remove parking & add sidewalk and landscape)

Relocated
Palms

Proposed
Palms

Project Overview – Revised Landscape Plan

Alternate #1
(remove parking & add sidewalk and landscape)



Relocation area for Sabal Palms

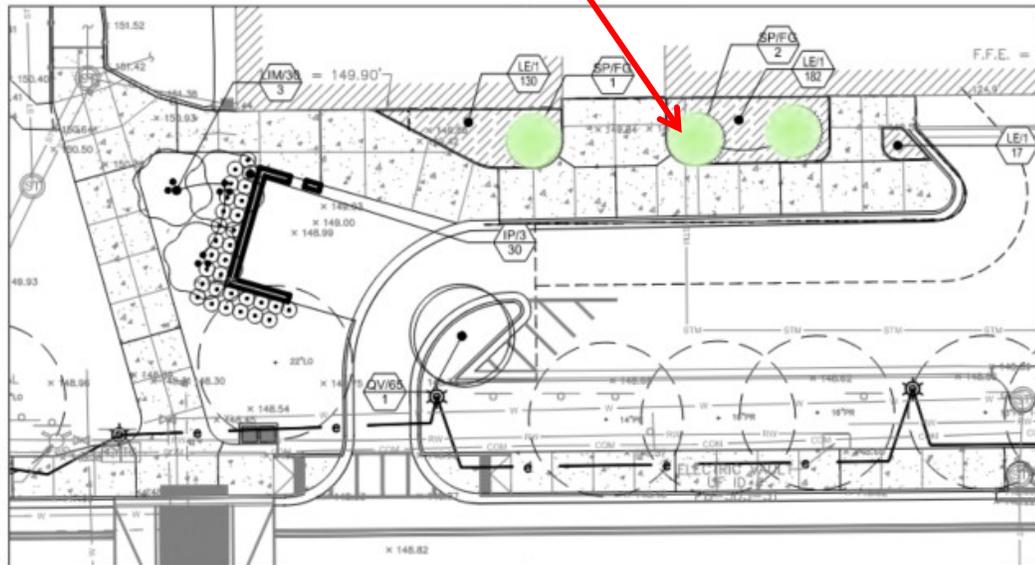
Live Oak and Crape Myrtle 'Natchez' at Reid Hall

REVISIONS PER NOVEMBER LVL MEETING

Remove all proposed sabal palms and replace with Live Oak or Crape Myrtles

Project Overview – Alternate #1

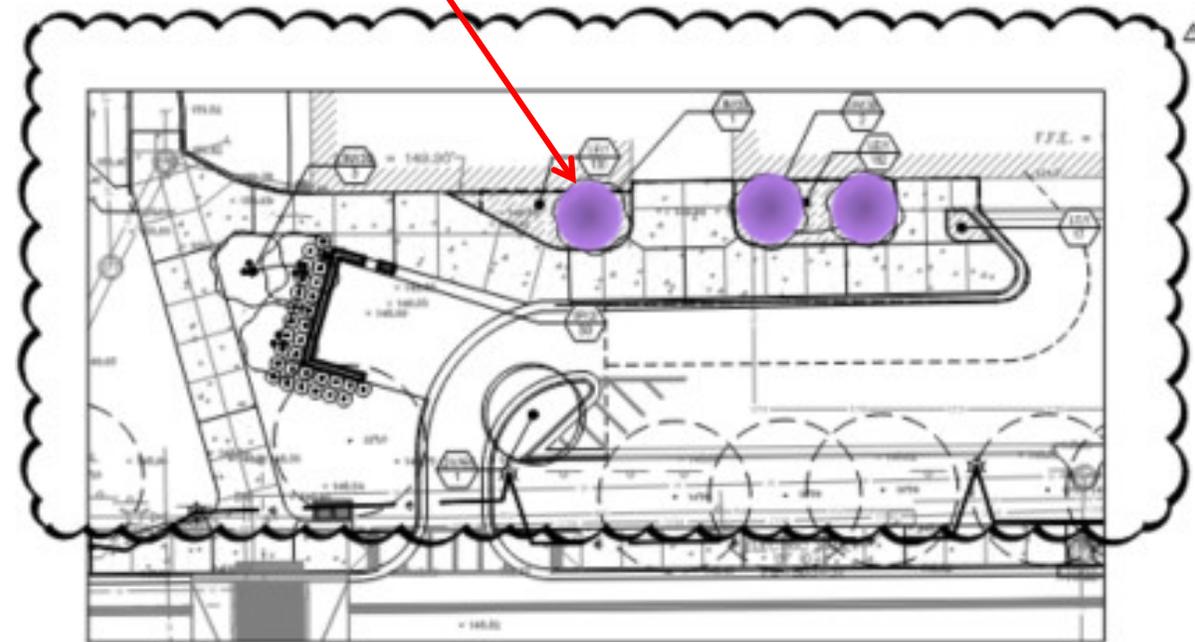
Sabal Palms



1 ALTERNATE. #1 - DROP OFF
L-006 1" = 20'-0"

ORIGINAL LANDSCAPE PLAN

Crape Myrtle



1 ALTERNATE. #1 - DROP OFF
L-006 1" = 20'-0"

REVISED LANDSCAPE PLAN

Landscape Plan & Compliance with the Landscape Master Plan

The revised landscape plan:

1. Replaces the two Sabal Palms impacted by the constructed at Reid Hall with two new Natchez White Crape Myrtles as discussed in the November LVL Meeting.
2. Eliminates all new Sabal Palms and designates an area that can accept relocated Sabal Palms from the project area at the discretion of the committee.
3. Provides for the relocation of the European Fan Palm from Reid Hall to elsewhere on campus as discussed in the November LVL Meeting.
4. Provides 4 additional Live Oaks and 3 additional Crape Myrtle 'Muskogee' as part of Alternate #1 (parking lot of the Fine Arts building)

Draft desired motion to be made by the committee:

“Motion to approve the revised landscape plans for Inner Road.



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UF

UF Disability Resource Center

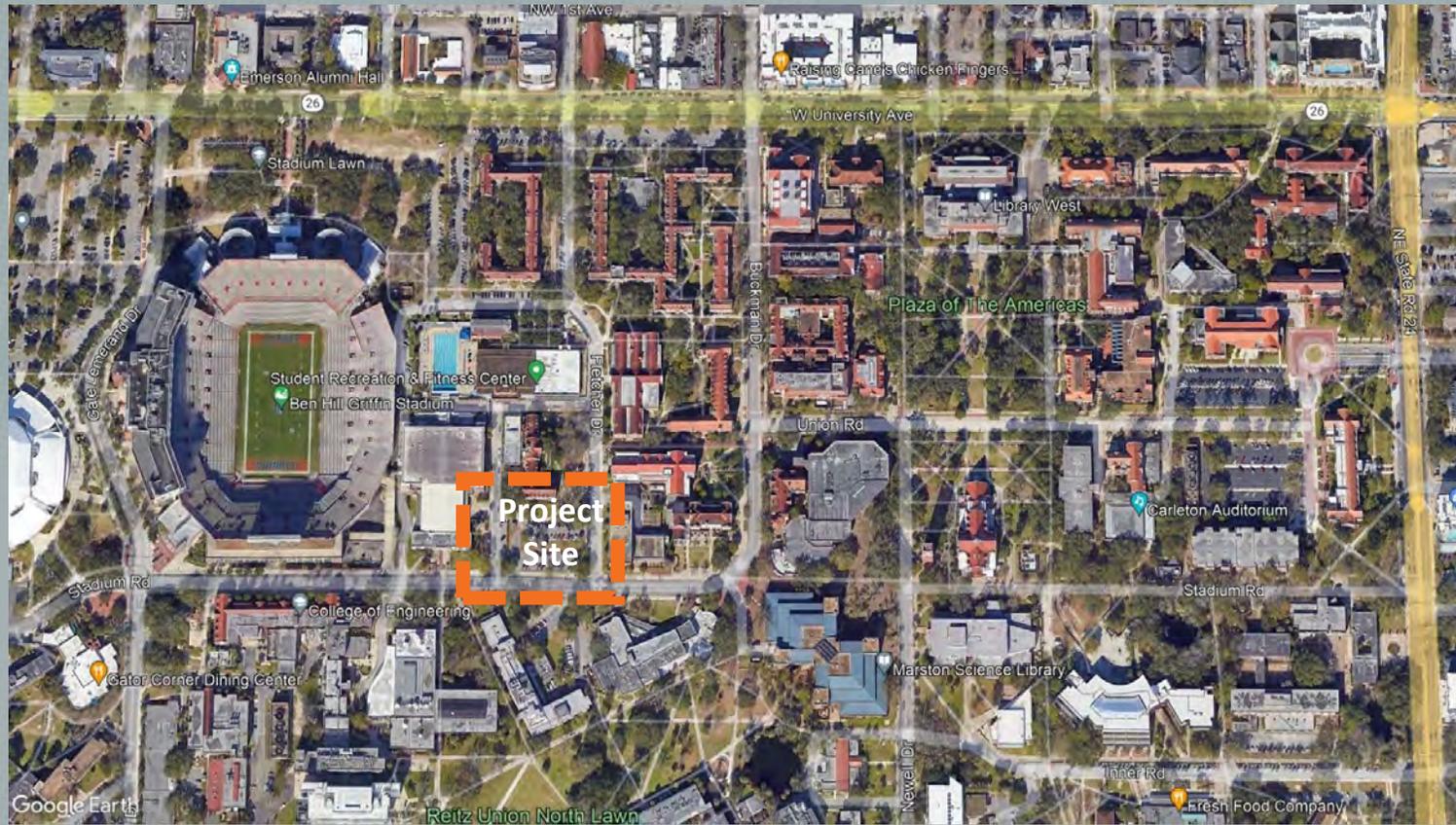
UF-675

Advanced Schematic Design
December 7, 2023

Tamera Baughman



Project Overview



- Project includes the removal of an existing parking lot, modifications to Fletcher Drive and a service road, and the construction of a two-story building.
- The DRC will be a new 14,837 SF facility including testing spaces, meeting rooms, and other resource materials
- The project is pursuing LEED Gold certifications

Project Site



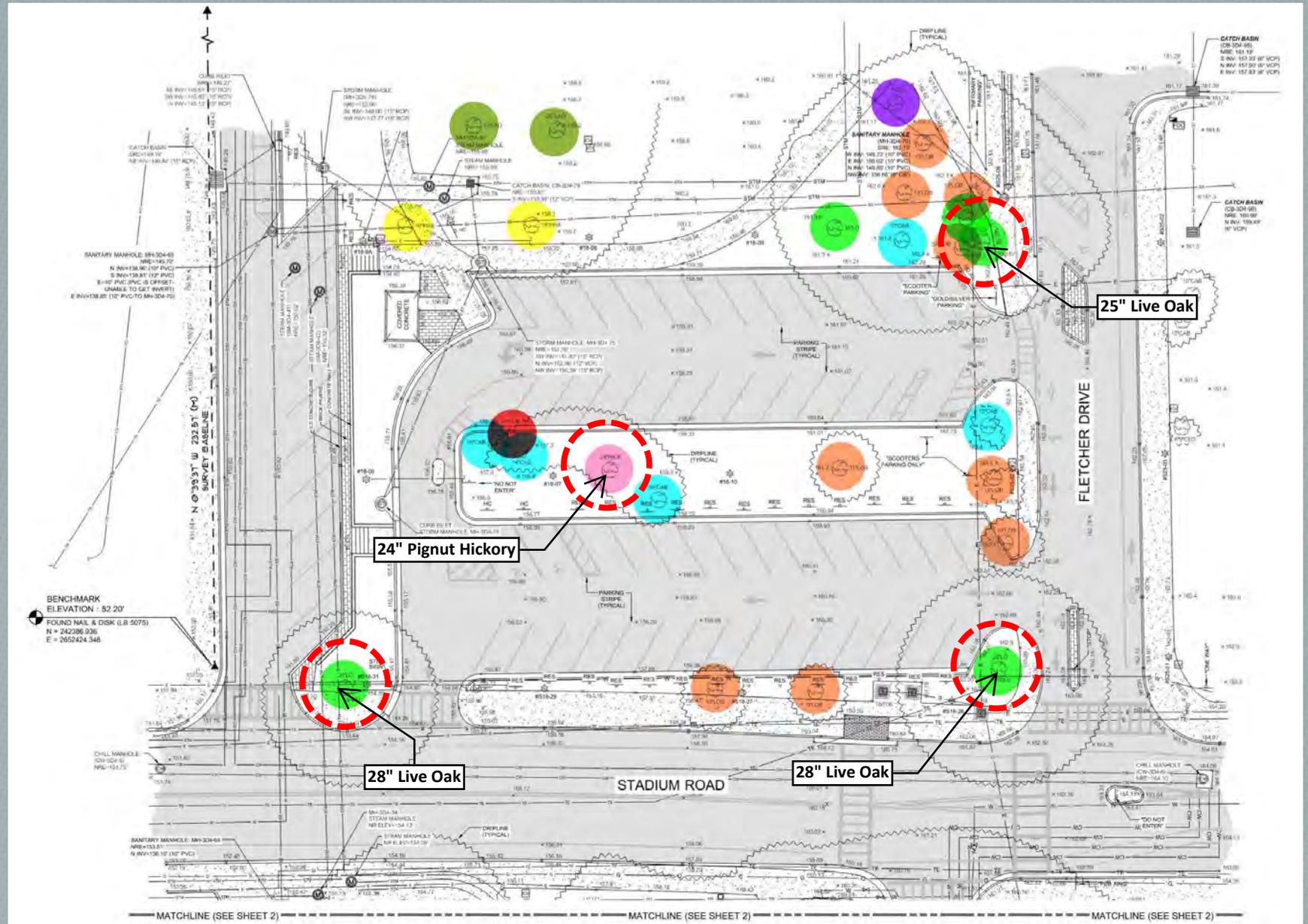
- This project extends from Stadium Road to the existing UF Student Health building. It also includes Fletcher Drive and the space between the service drive and the Florida Gymnasium.
- The site contains multiple trees and has significant grade change from east to west.

Existing Conditions



Site Survey

-  LIVE OAK
-  LAUREL OAK
-  HICKORY
-  TURKEY OAK
-  SPRUCE PINE
-  SLASH PINE
-  LOBLOLLY PINE
-  PINDO PALM
-  SABAL PALM
-  HERITAGE TREE



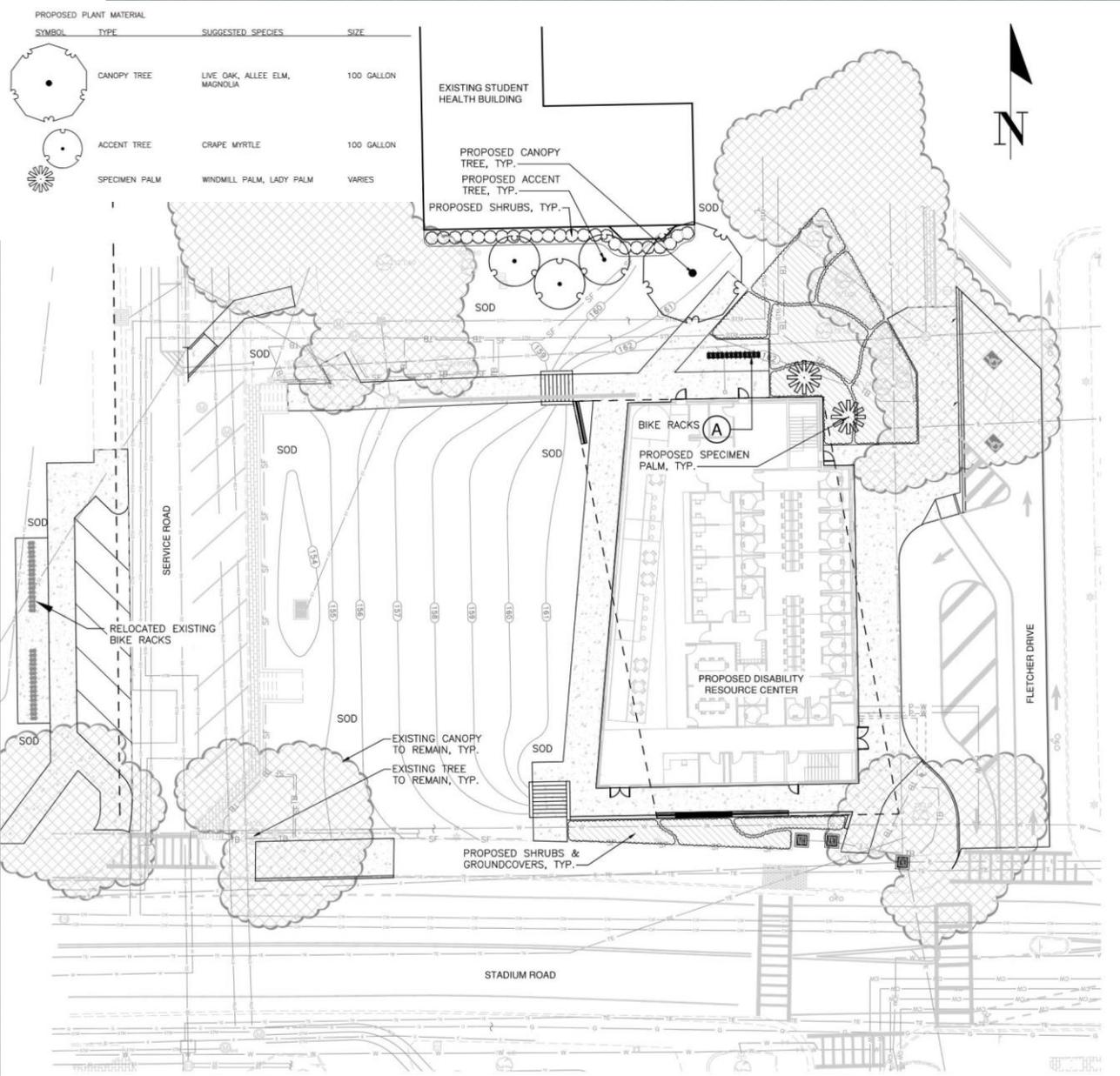
Site Plan



2 SOUTHWEST FACADE



4 EAST FACADE





2 SOUTHWEST FACADE



3 WEST FACADE



1 SOUTH FACADE

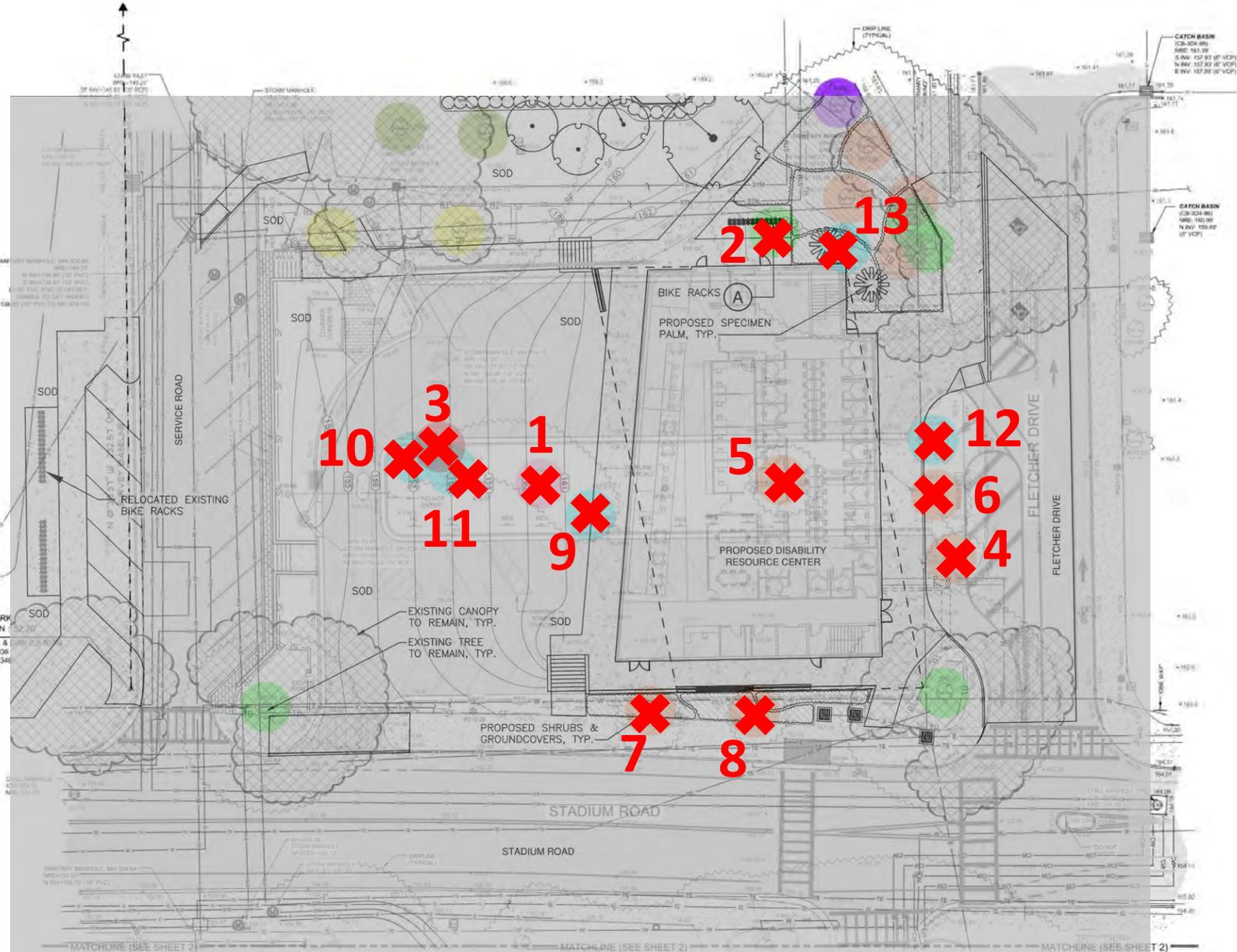


4 EAST FACADE

Tree Impact Summary

#	Size/Species	Required Mitigation Trees
1	24" Hickory	4
2*	18" Live Oak	0*
3	24" Loblolly Pine	2
4	15" Loblolly Pine	2
5	11" Loblolly Pine	2
6	10" Loblolly Pine	2
7	10" Loblolly Pine	2
8	9" Loblolly Pine	2
9	16" Sabal Palm	2
10	16" Sabal Palm	2
11	14" Sabal Palm	2
12	12" Pindo Palm	2
13	10" Sabal Palm	2

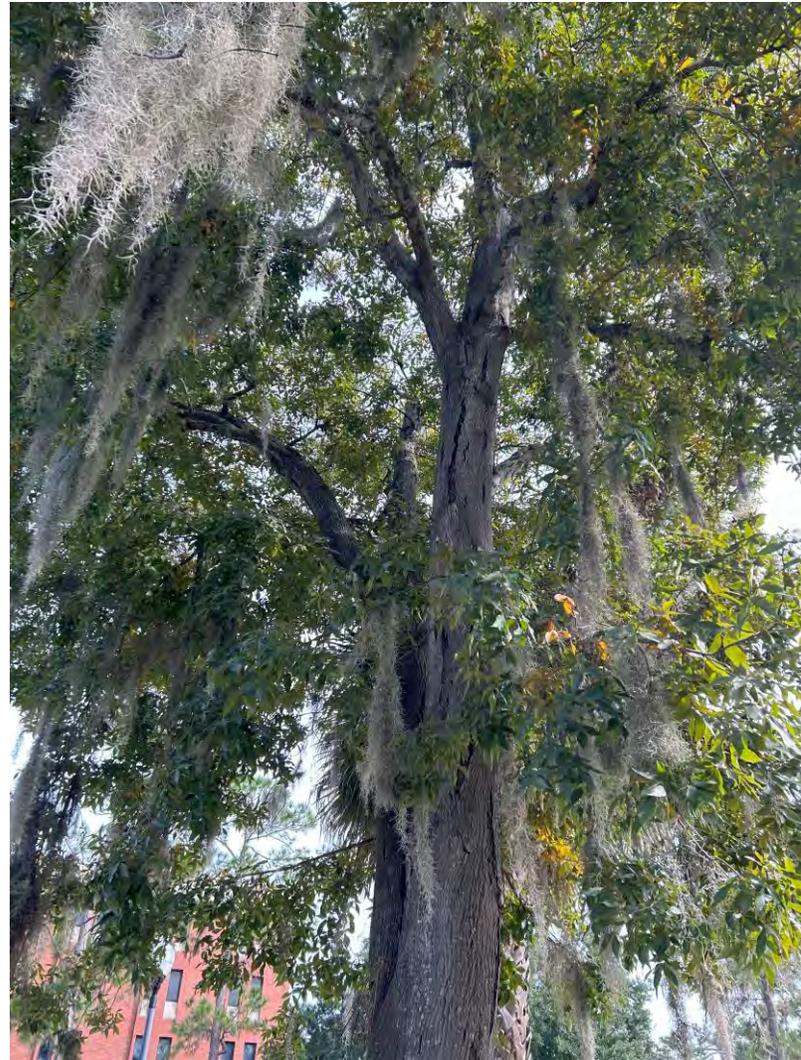
*Tree #2 is in poor condition and therefore no mitigation is recommended.



Tree Impact Summary



18" Live Oak **2**



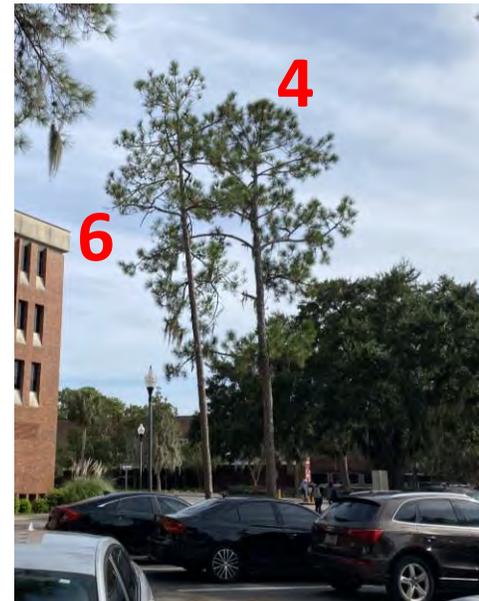
24" Hickory **1**



Tree Impact Summary

#	Size/Species	Required Mitigation Trees
1	24" Hickory	4
2*	18" Live Oak	0*
3	24" Loblolly Pine	2
4	15" Loblolly Pine	2
5	11" Loblolly Pine	2
6	10" Loblolly Pine	2
7	10" Loblolly Pine	2
8	9" Loblolly Pine	2
9	16" Sabal Palm	2
10	16" Sabal Palm	2
11	14" Sabal Palm	2
12	12" Pindo Palm	2
13	10" Sabal Palm	2
	Total:	26 Trees

*Tree #2 is in poor condition and therefore no mitigation is recommended.



Landscape Master Plan

- Priority Projects:
 - Stadium Road outside of the limits of the project site to the south
- Street Frontages:
 - Stadium Road to the south
 - Fletcher Drive to the east
 - An existing service road to the west
- Service Areas:
 - Proposed Service areas will be along the existing service road.

Sustainability and Site Impact Analysis

- Project pursuing LEED Gold Certification

Requested Motion:

“A motion to approve the requested trees for removal as presented.”

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UF

UF Health Ortho OR Building Addition

Design Development
December 2023

Tamera Baughman



Project Overview



Project Overview



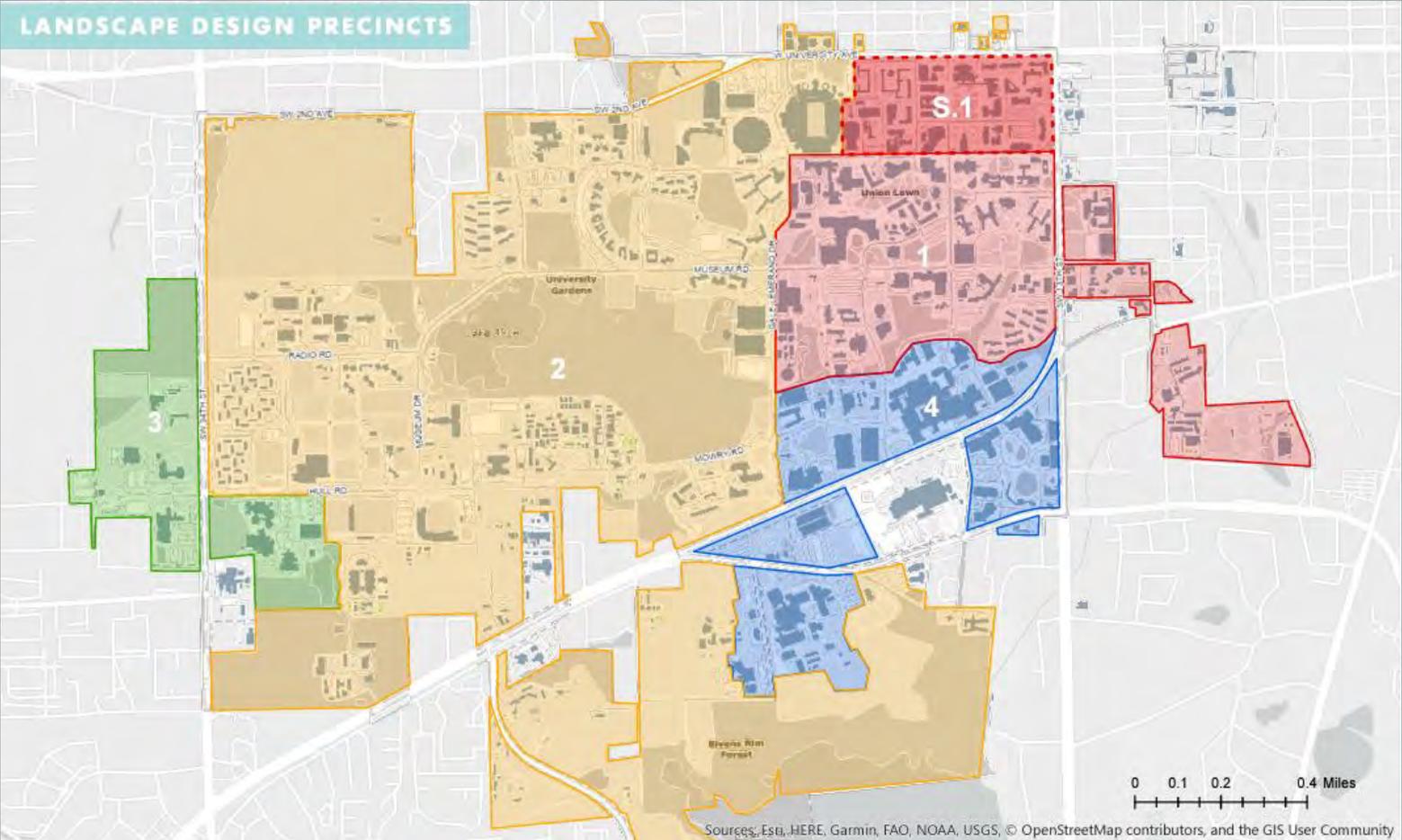
Project Limits of Work

Project Overview

- The project is located at the existing **UF Health Ambulatory Surgery Center off of SW 34th Street and Hull Road.**
- The project proposes a **± 27,000 sf addition to the West end of the building and renovating ±7,000 sf of the existing building** to accommodate better patient/staff/material flows. The addition provides a new drop off zone for near the existing Adult entrance due to proximity of their services.
- The proposed building addition will be placed over the existing parking area and a new parking lot will be added that will increase the total parking by 16 patient spaces and 16 employee spaces. Due to the removal of the existing parking area the stormwater conveyance system will be relocated. The existing stormwater management facility to the north will also require expansion to accommodate the added runoff.
- This is the first time the project has been presented to the LVL Committee.

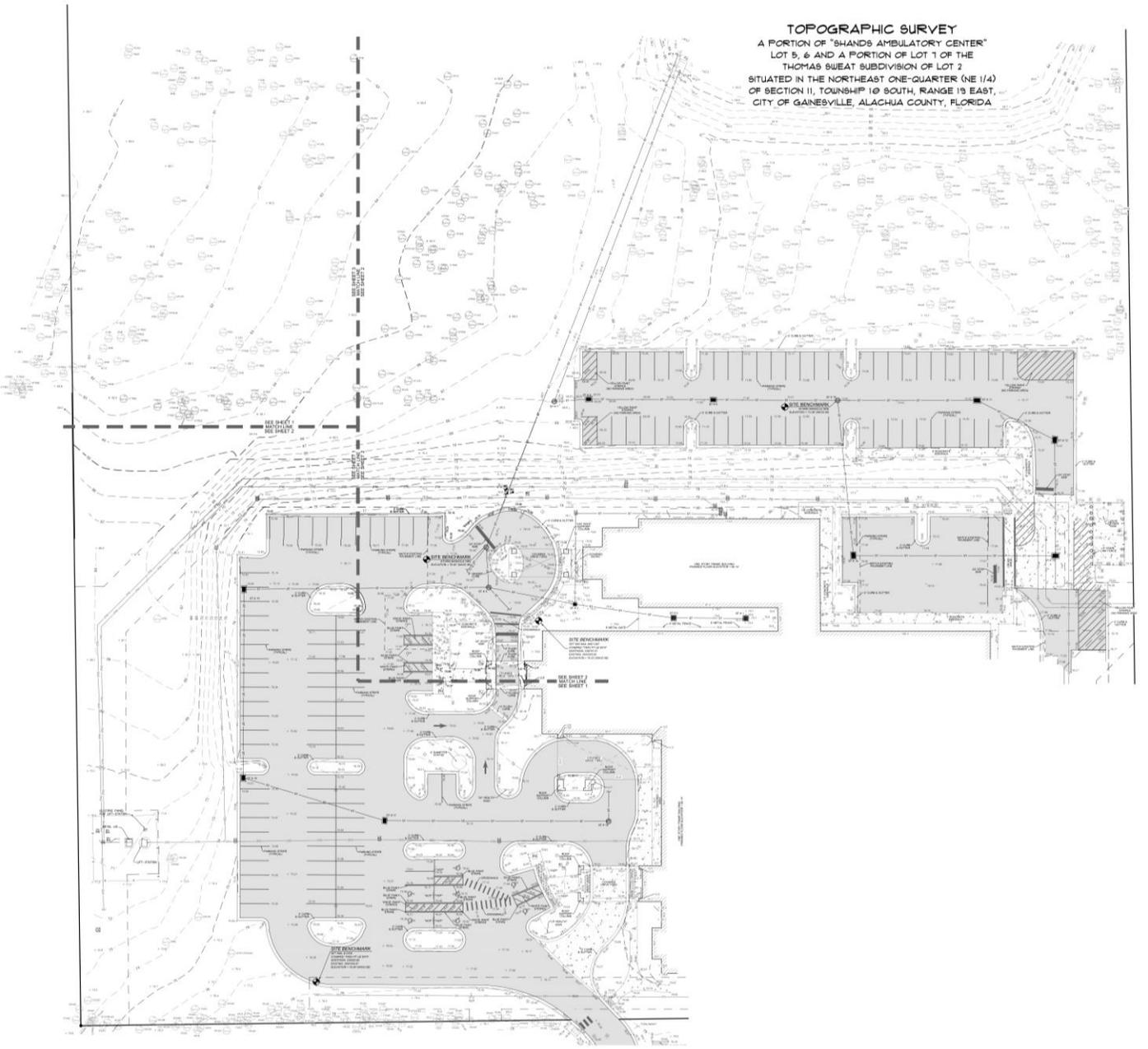
Landscape Master Plan

- The project is located within the Precinct 3 (Cultural) of the Landscape Master Plan.



Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Existing Conditions



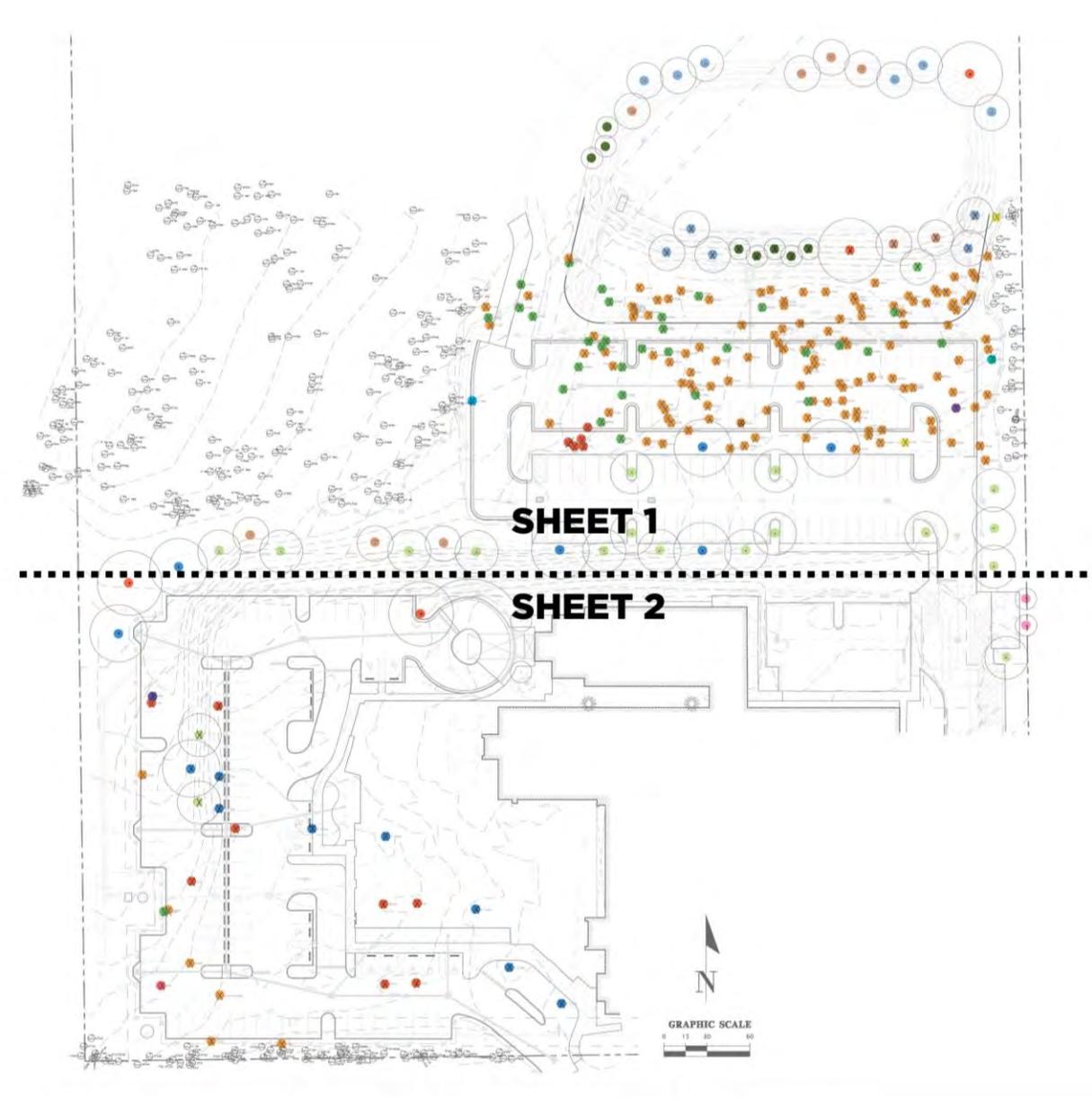
Existing Conditions



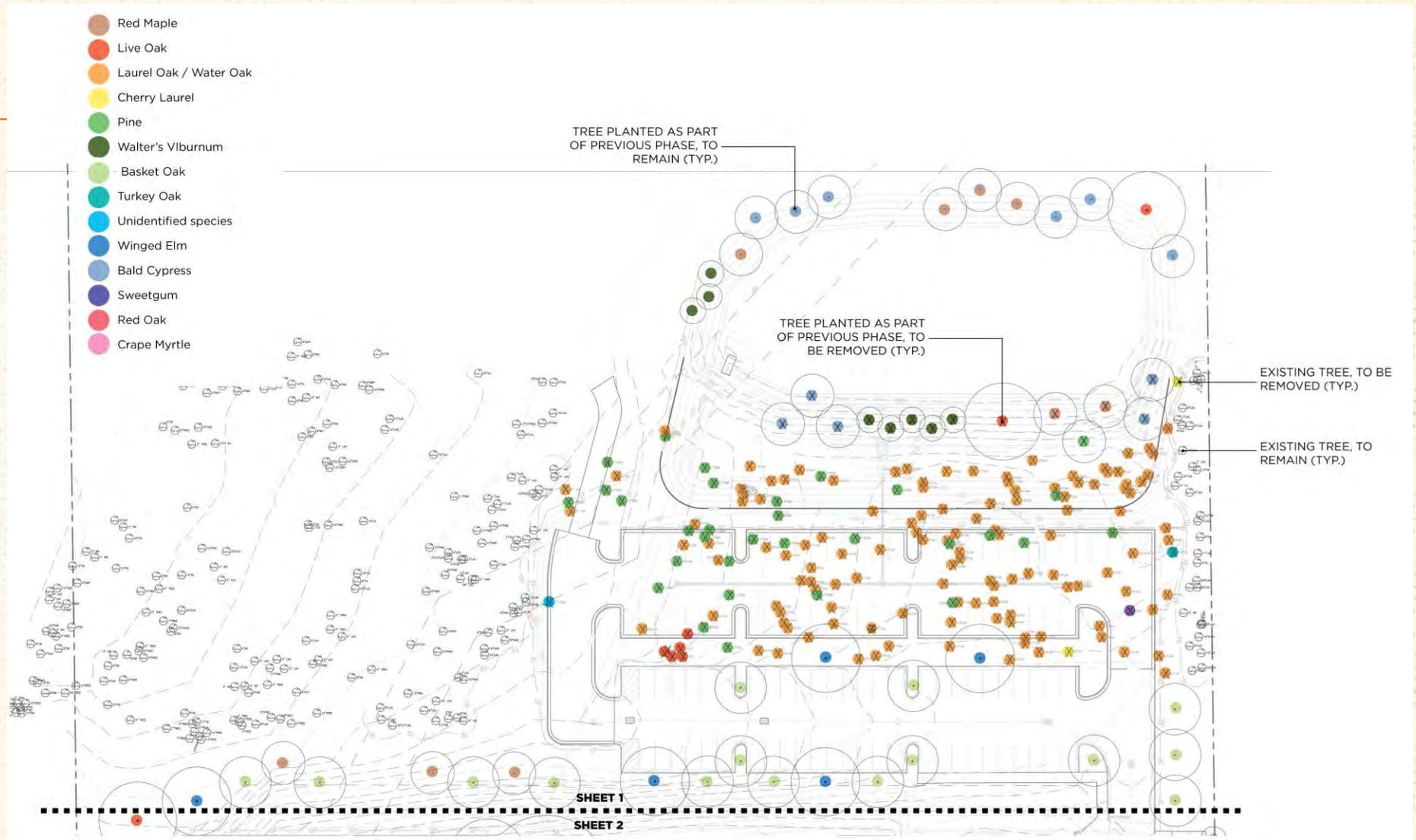
Site Plan



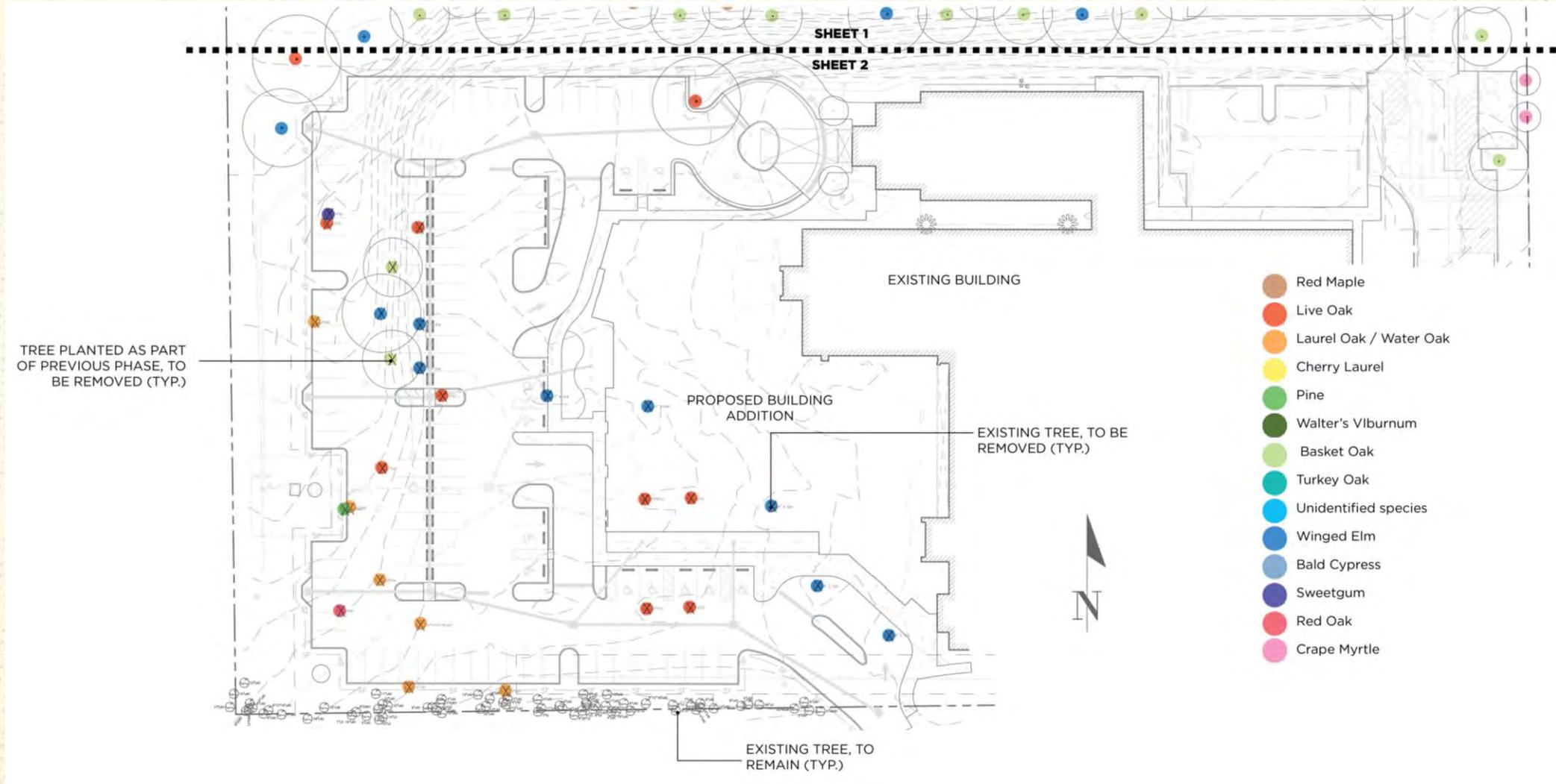
Tree Impact Summary



Tree Impact Summary



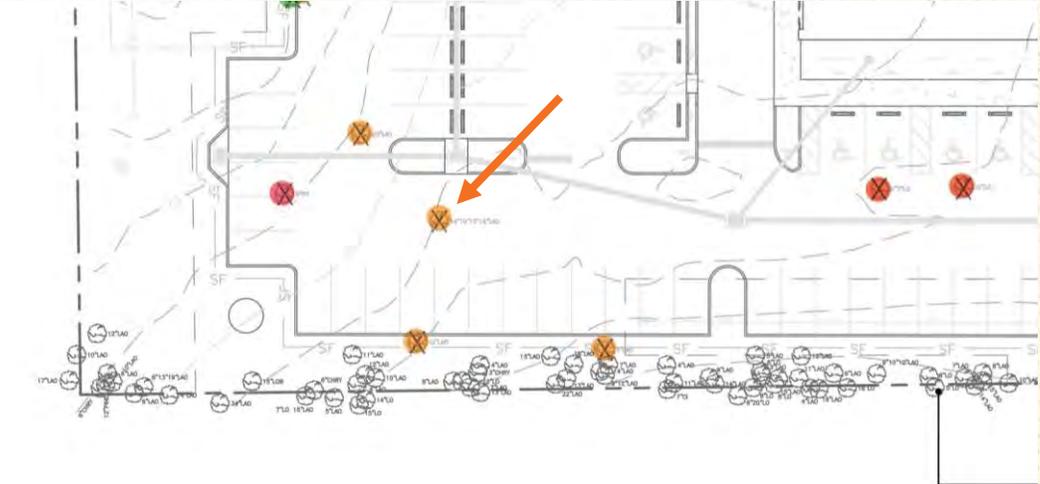
Tree Impact Summary



Tree Impact Summary



Request to eliminate mitigation for multi-trunk Laurel Oak in poor condition



Tree Impact Summary



Tree Impact Summary



Tree Impact Summary



Tree Impact Summary



Tree Impact Summary

Regulated Trees (2:1 Replacement)

<u>Species</u>	<u>Total trees removed</u>	<u>Mitigation Required</u>
Live Oak	13	26 trees
Laurel Oak	123	246 trees
Water Oak	2	4 trees
Cherry Laurel	1	2 trees
Pine	32	64 trees
Turkey Oak	1	2 trees
Winged Elm	3	6 trees
Sweetgum	2	4 trees
Red Oak	1	2 trees
Drake Elm	4	8 trees
Total Required Mitigation		364 trees

Existing trees planted as mitigation as part of a previous phase to be removed (1:1 Replacement)

<u>Species</u>	<u>Total trees removed</u>	<u>Mitigation Required</u>
Red Maple	2	2 trees
Live Oak	1	1 trees
Pine	1	1 trees
Walter's Viburnum	5	5 trees
Basket Oak	2	2 trees
Winged Elm	1	1 trees
Bald Cypress	5	5 trees
Total Required Mitigation		17 trees
Grand Total Required Mitigation		381 trees

Tree Impact Summary

Regulated trees to be removed (2:1 Replacement)

182 trees

Existing trees planted as mitigation as part of a previous phase to be removed (1:1 Replacement)

17 Trees

Heritage trees to be removed

30" Laurel Oak (3 Trees required)

Mitigation required

384 Trees

Mitigation provided

65 Trees

Total mitigation deficit

319 trees @ \$250 each = \$79,750.00

\$ 79,750.00 Total Mitigation Fee

Sustainability and Site Impact Analysis

- The project will pursue no sustainability certifications.
- Due to the removal of the existing parking area, the stormwater conveyance system, including inlets, will need to be relocated to accommodate the building expansion. Due to the additional impervious area associated with this development, the existing stormwater management facility to the north will need to be expanded to account for the added runoff.
- The existing water and fire service are adequate for the building addition/renovation. Some electric will need to be routed onsite.
- No modifications are anticipated to be required to the existing onsite GRU sewer lift station to accommodate the additional wastewater demand.

Plant Palette

All proposed plant material to be per the UF Landscape Master Plan plant palette.

TREES



Bald Cypress
Taxodium distichum



Red Maple
Acer rubrum



Winged Elm
Ulmus alata



Basket Oak
Quercus chapmanii

SHRUBS & GROUNDCOVERS



Mrs. Schiller's Viburnum
Viburnum obovatum 'Mrs. Schiller's Delight'



Oak-leaf Hydrangea
Hydrangea quercifolia



Pink Muhly
Muhlenbergia capillaris



Azalea
Rhododendron spp.



Agapanthus
Agapanthus africanus



Sand Cordgrass
Spartina bakeri



Coontie
Zamia floridana



Sasanqua Camellia
Sasanqua camellia



Holly Fern
Cyrtomium falcatum



Dwarf Yaupon Holly
Ilex vomitoria 'Nana'

Request a motion to approve the project as presented.



December 7, 2023
Facilities Services



Landscaping and Natural Resource Projects

Maintaining the aesthetics and functions of our natural areas

UF-685

Holland Law Heating Hot Water Conversion

- A 10-foot setback will be pursued along this corridor.
- Setback will:
 - Ensure ability to service the utility lines
 - Provide increased safety for pedestrians utilizing the sidewalk along that stretch of Fraternity Drive
- This work is paramount to ensuring the reliable provision of utilities to the area buildings.
- Facilities Services will be reviewing project site with GRU to determine routing options that will minimize impact to heritage trees along this corridor.



Current and Upcoming Work

Project list

- Tigert Circle Beautification Project
 - Phase Two work is underway
- Ficke and IFAS Meadow Fencing Additions

Fall 2023 Report of the Natural Area Advisory Committee (NAAC)

Prepared by the NATL Operations Team:

Anthony Auletta (NATL Chair), **Gage LaPierre** (NATL Vice Chair), **James Brown**,
Austin Hubsch, and **Blair McLean**

Report to be approved at the **Fall 2023 NAAC Meeting** on 2 November 2023

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[Appendix 1: Current NAAC Roster](#)

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1. Opening Remarks and Introductions

It has been another exciting and productive year for the **UF Natural Area Teaching Lab (NATL)**! We continue to make great strides towards our long-term restoration, enhancement, and education goals, as well as the short-term goals that we set at last year's NAAC meeting. Details of our progress in these efforts are outlined in the subsequent sections of this report.

We are also excited to welcome some new faces to the NATL Operations Team! Earlier this year, **Blair McLean** and **Josh Helwig** joined the team as new undergraduate interns in NATL, filling the positions that were previously held by MaryBeth Stager and Marion Warfel (who graduated in 2022-23). Blair and Josh have made many excellent contributions to NATL thus far, and we are excited to have them continue working in NATL into 2024. A generous donation from Donna Legare, as well as additional funding from the UF Office of Sustainability, UF Biodiversity Institute (UFBI), and Florida Museum of Natural History (FLMNH), allowed us to hire two additional undergraduate interns over the past year: **Austin Hubsch** and **Katya Kasprzak**. Austin and Katya's internship responsibilities are split between NATL and other campus natural areas (particularly McCarty Woods and Harmonic Woods). Both Austin and Katya have been instrumental in the ongoing restoration projects in those areas, which are crucial to maintain them as useful spaces for teaching, research, and other activities at the university. A summary of their efforts in McCarty and Harmonic Woods are attached as an appendix to this report. It is our hope that funding for these new internship positions will continue into next year and beyond.

Gage LaPierre and **James Brown** remain as our two NATL Graduate Teaching Assistants. Gage and James have made countless valuable contributions to NATL over the past 4+ years— they have been instrumental in planning and executing our restoration and enhancement projects (including prescribed burns and invasive species removal), leading our education and communication efforts, and helping to train and supervise our growing team of undergraduate interns. Both Gage and James are scheduled to graduate by the end of Summer 2024, and thus we will soon be searching for two new graduate TAs to take over their responsibilities starting in Fall 2024.

We have an exciting year ahead of us, as we continue to see the positive outcomes of our long-term management projects in NATL (including regular prescribed fire, intensive management of invasive species, and enhancement of NATL with native plants). Our top priority for the coming year will be ensuring that these projects continue and that we build on the strong foundation we've built.

—**Anthony Auletta** (NATL Chair)

2. NATL's Long-Range Strategic Plan

In previous NAAC reports, we have summarized NATL's **2011-2021 long-range strategic plan**. We are happy to report that most of the items on that list have been successfully completed or have had substantial progress made on them. Below we present an abbreviated list of new priorities for the next 5 years, which will form the basis of our new long-range strategic plan.

We recognize that NATL already has tremendous value to the local UF community. This vision plan seeks to strengthen and enhance these intrinsic values of NATL and provide mechanisms for bringing the educational value of NATL to an unlimited online environmental community of users. This list is not static; additional items may be added to the list. Items will be removed from the list if more than half of the NAAC members feel that the item would not enhance the use of NATL. Funding for items could come from donations to the UF Foundation on behalf of NATL or by writing specific items into future grant proposals.

- (1) Replace & enhance the SEEP boardwalk**
- (2) Ensure continuation of regular prescribed fire at NATL**
- (3) Continue efforts to eradicate / reduce invasive species in NATL**
- (4) Develop additional educational resources for NATL, including online resources that can supplement our physical amenities**
- (5) Apply NATL's management framework as a model for managing other natural areas on campus**

3. NATL Finances

A. Fiscal Report (FY 2022-23)

Below is the NATL spending plan for Fiscal Year 2022-23 that was approved by the NAAC at the Fall 2022 meeting, as well as a summary of income and expenditures for the fiscal year (which closed on July 30, 2023). We were able to stay close to our proposed budget.

NATL Fiscal Report for FY 2022-2023		Final Report for 2022-2023	
As approved at Fall 2022 meeting			
		Receipts	
Funds available for 2022-23, excluding stipends for Graduate TAs*		Already received	Projected
Brought forward from previous year	-102	-102	-102
Projected income for 2021-22			
Provost	6,000	6,000	6,000
NATL Endowment	4,625	4,625	4,625
Sum	10,523	10,523	10,523
Grand Total	10,523		
Spending Plan for 2022-23		Expenditures	
OPS		Spent	Projected
Undergraduate TAs	4,322	4,322	4,322
Control of Invasives	1,320	1,320	1,320
Sum	5,642	5,642	5,642
OE			
Miscellaneous Operating Expenses	1,600	1,600	1,600
Resotation Projects	2,500	2,500	2,500
New Signs, Pamphlets, & Kiosks	800	800	800
Sum	4,900	4,900	4,900
Grand Total	10,542	10,542	10,542
To be carried forward	-19		-19
NATL improvement fund (from online donations)			
Online donations to NATL (implemented March 2012)	921		921

B. Fiscal Plan (FY 2023-24)

The table below represents the proposed NATL spending plan for Fiscal Year 2023-24. This budget includes a one-time donation of \$4,000 by Donna Legare to help fund an additional intern to work in NATL and McCarty Woods. Aside from this donation, we do not anticipate any changes in our income for this fiscal year, and thus the budget is very similar to our plan from previous years (with slight adjustments).

NATL Fiscal Plan for FY 2023-2024			2 November Plan for 2023-2024		
Final version to be approved at Fall 2023 meeting					
Funds available for 2022-23, excluding stipends for Graduate TAs*			Receipts		
			Already received	Projected	
Brought forward from previous year	-19		-19	-19	
Projected income for 2023-24					
Provost	6,000		6,000	6,000	
NATL Endowment	4,625		4,625	4,625	
One-Time Donation	4,000		4,000	4,000	
	Sum	14,606	14,606	14,606	
	Grand Total	14,606			
Spending Plan for 2023-24			Expenditures		
OPS			Spent / Allocated	Projected	
Undergraduate TAs	8,625		8,625	8,625	
	Sum	8,625	8,625	8,625	
OE					
Miscellaneous Operating Expenses	1,581		601	1,581	
Resotation Projects	2,400		742	2,400	
New Signs, Pamphlets, & Kiosks	2,000		55	2,000	
	Sum	5,981	1,398	5,981	
	Grand Total	14,606	10,023	14,606	
To be carried forward		0		0	
NATL improvement fund (from online donations)					
Online donations to NATL (implemented March 2012)		130		130	

4. NATL Use Report

A. Visitor Counts

We have been collecting data on the total number of visitors to NATL using people counter devices dating back to December of 2010. The figure below illustrates graphically the number of visitors to NATL each month from September 2022 to October 2023.

Between September 30, 2022 and October 1, 2023, NATL was used by an estimated **27,766 visitors!** Since 2010, NATL has seen an estimated of **237,382!** The actual number of NATL visitors may be higher than reported; however, some data points are missing due to technical failures of our previously used TrailMaster equipment.

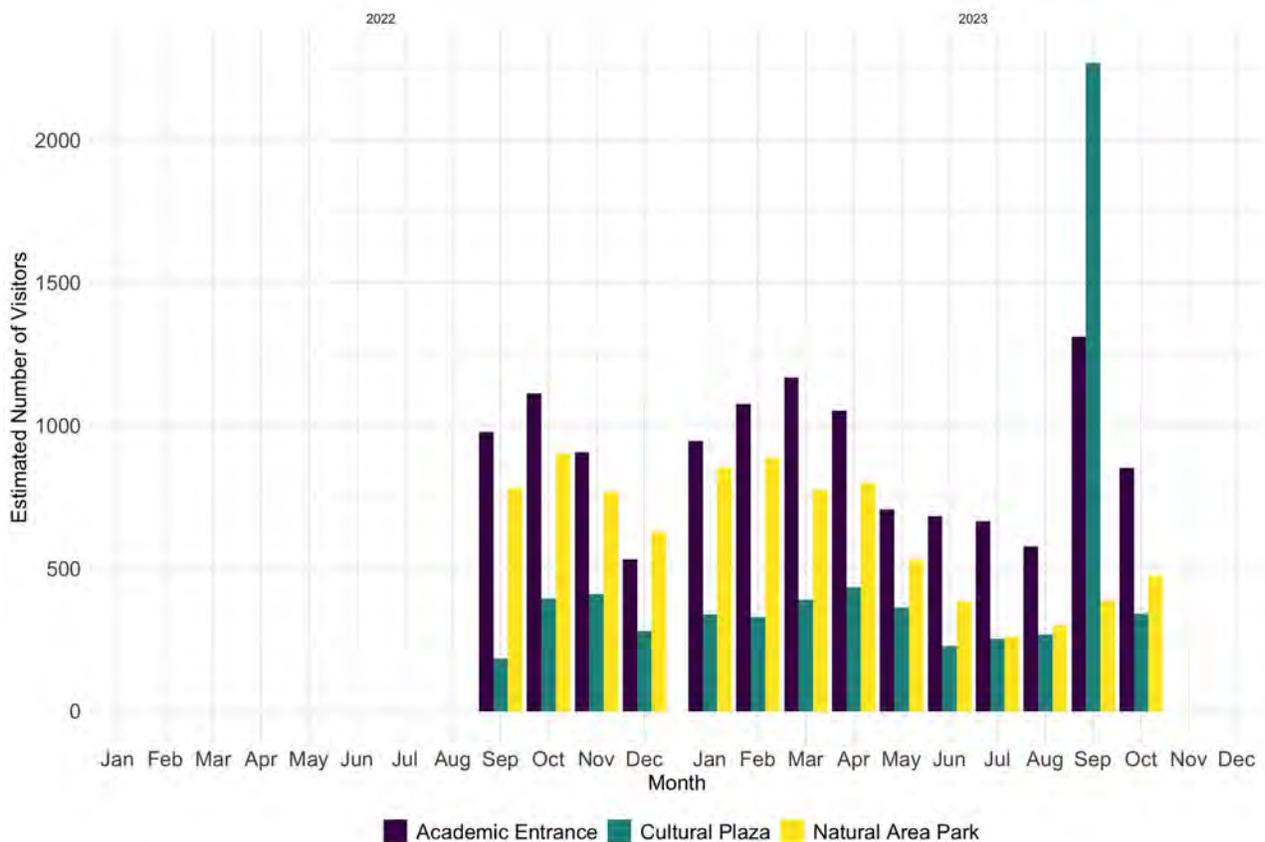


Figure 1: NATL visitor counts, September 2022 – October 2023

In 2015, we distributed a NATL usage survey to members of the UF community, asking them to tell us about how they use NATL. Those survey data indicate that approximately 50 courses at UF use NATL for projects or field trips; these courses span 11 departments in four colleges and have a combined enrollment of over 3,500 students per year. It is likely that these numbers have increased substantially since 2015, as many new instructors have been hired and many new courses have been created since then. An updated survey to capture the current extent of NATL's use by students, staff, and faculty at UF will be a high priority in the coming year.

For many people, their visit to NATL begins at the NATL Pavilion. The pavilion hosts a dry erase board, lockers, seating, Wi-Fi, and outlets which can be reserved for on our website for visitors looking to occupy the space for 1 hour or more. Since September 30th, 2022, the pavilion has been reserved 108 times by 27 users conducting courses, and meetings. Just like the rest of NATL, the Pavilion is open to all our visitors, and we encourage folks to use it when it is not occupied and to share the space whenever possible. Pavilion reservations can be made online here: <https://natl.ifas.ufl.edu/pavilion.php>

B. Events in NATL and Volunteer Summary

Our team continues to engage UF classes, student organizations, and the community at large with small in-person tours. A summary of some of these events is provided below.

On April 19, 2023, NATL tabled at the Santa Fe College Teaching Zoo **Party for the Planet** event where we introduced event attendees to NATL as an education and recreation space. NATL hosted several **Nocturnal Insect Collection Events** in the fall and spring to help students in collection-based entomology courses meet their collection goals and provide the general public with an opportunity to visit NATL after dark. Over the summer, we participated in the 2023 **National Moth Week** where we posted educational materials online and ended the week with a **Pop-Up Moth Collection** event on July 28th. On September 19, 2023, NATL tabled at the **Undergraduate Research Expo**, where we were able to recruit multiple new volunteers as well as raise awareness for NATL as an academic resource on campus. We have also given tours to dozens of homeschoolers, visiting faculty, grade school students, UF organizations, and UF classes, all looking to learn more about the work we do in NATL (and why it is important).

We are also very fortunate to have many dedicated volunteers who have devoted their time to help us restore and maintain NATL's many ecosystems. We welcome everyone interested in volunteering at NATL to join our volunteer mailing list; as of October 1st, we have over **180 interested volunteers** signed up. This past year, NATL was glad to welcome back several recurring "super volunteers," including **Shiala Morales, Ross Barreto, Elysia Lewis, and Josh Helwig**. In September 2023, Josh joined the NATL Operations Team as a paid undergraduate intern, building on many months of dedicated volunteer work. Our volunteers have logged many hours working to install native plant materials from the UF Native Plant Nursery, participating in prescribed burns, and helping in manage invasive plants. Additionally, we continue to welcome volunteer interns who wish to conduct semester-long projects in NATL under the supervision of the NATL Operations Team.

At NATL, we LOVE our volunteers! It is with their support that we can create and achieve significant land management goals. Over the last year, and with the help of our volunteers, we have hosted several events aimed at maintaining and enriching NATL's beauty and accessibility. For the MLK Day of Service, approximately 30 volunteers helped remove invasive plants. For the Gainesville's Great Invader Raider Rally, we coordinated over 50 volunteers to remove invasive plants in Harmonic Woods. Over the summer, volunteers help support our prescribed fire in NATL making it one of the most successful burn seasons in NATL's history. Finally, one of

our undergraduate interns, Blair McLean, coordinated a planting event which gathered over 50 volunteers to plant plugs in 3 locations in NATL. We have also hosted small volunteer groups to help trim trails, pick up trash, and generally support NATL.



Figure 2: Recent events in NATL. Top left & right: Tours for two high schools; bottom left: Moth Week 2023; bottom right: flyer for NATL night collection event.

C. Class Projects and Research in NATL

NATL continues to serve as a valuable resource for students and faculty conducting research at the university. Below are several ongoing projects in NATL that we'd like to highlight; this does not represent all of the research being done in NATL.

Dr. Brett Scheffers, Assistant Professor in Wildlife Ecology and Conservation, resumed a project to sample tree frogs near NATL's wetlands to understand the interaction between native tree

frogs and the invasive Cuban tree frogs. This project was approved in 2018 and renewed in 2023 for one year, after which time we will revisit this proposal.

In Spring 2023, Alan Ivory (student in Wildlife Ecology, and Conservation) set up camera traps in stormwater drains in NATL to identify which species use these waterways. Below is an image captured from one of Alan's camera stations.

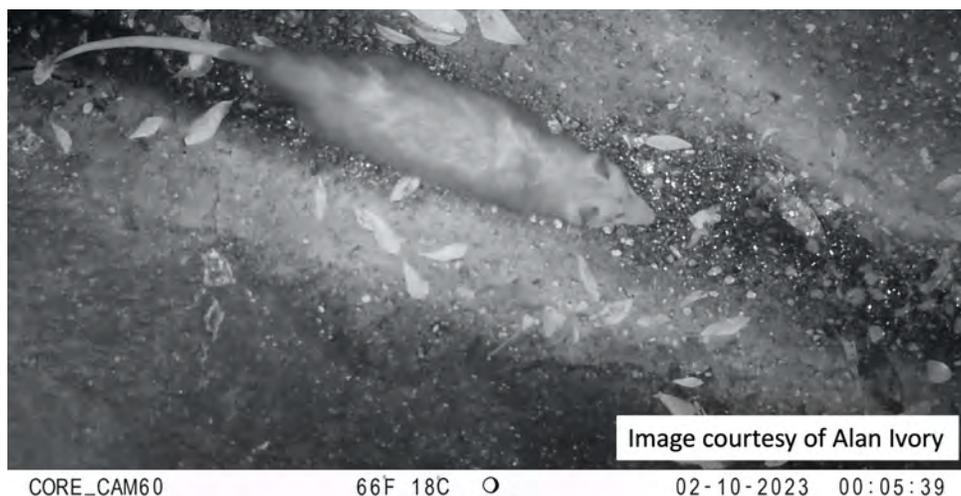


Figure 3: Image from Alan Ivory's project on wildlife in NATL's stormwater drains.

Field-based experiments are essential to many courses here at UF. Each year, faculty lead courses use NATL as a place to conduct these experiments and provide students with valuable research experience. In Spring 2023, Dr. Scott Robinson's Avian Biology course conducted a mist-netting demonstration to humanely capture birds in NATL and teach students about field techniques and the various types of studies that can be conducted using them. Currently, Dr. Jeremy Lichstein's General Ecology course uses NATL for a significant portion of the course to teach students about how ecologists study natural and human modified systems. This is not a comprehensive list of course driven field experiments conducted in NATL each year and we will continue to encourage faculty to reach out to our team if they would like to host a field experiment in NATL.

5. Upland Pine Management

A. Overview of Upland Pine Management

In healthy upland pine communities, the groundcover frequently contains a high diversity of native forbs and grasses. Restoration of the groundcover in NATL's upland pine community is a long-term goal of NATL management. The historical use of this land prior to NATL management has severely limited the variety and abundance of desirable native grass and forb species. Since 2018, various actions have been taken to accelerate the recovery of the upland pine groundcover, including:

- Removal of invasive species via herbicide, fire, and hand pulling.
- Seeding and planting of obligate upland pine species.
- Removal of undesirable non-pyrophytic trees and vines.
- Application of frequent late-spring and summer fire.

B. General Notes on the Use of Long-Term Prescribed Fire

The ecological restoration and maintenance of the upland pine community at NATL depends on annual prescribed fires conducted during late spring and early summer months. Frequent ecologically timed fire reduces the overabundance of undesirable plant species (e.g., ruderal forbs, common vines, and non-pyrophytic trees). Annual fire at NATL also reduces heavy litter accumulation, which helps to minimize smoke issues in the surrounding urban matrix during burn events. Monitoring groundcover via existing permanent plots will also help NATL management to track plant community composition changes over time and inform fire management. In the long-term, we will consider altering the frequency to every two- or three-years after a decade of burn events from every year (or when a desirable plant community composition is reached).

Our ability to perform in-house burns in NATL has significantly reduced the costs associated with our prescribed burns. As opposed to hiring private contractors, in-house burning also allows NATL greater potential to allow student assistants, interns, and classes to learn about prescribed fire. Maintaining the capacity to perform in-house burns in the future after current burn-boss, Gage LaPierre, graduates will be a priority going into 2024.

C. 2023 Burns and 2024 Proposed Burns

NATL management completed four prescribed burns in-house during 2023, totaling over twelve acres. Many UF students were involved in helping with the burns, and Austin Cary Forest as well as Alachua Conservation Trust helped with one of the burns.

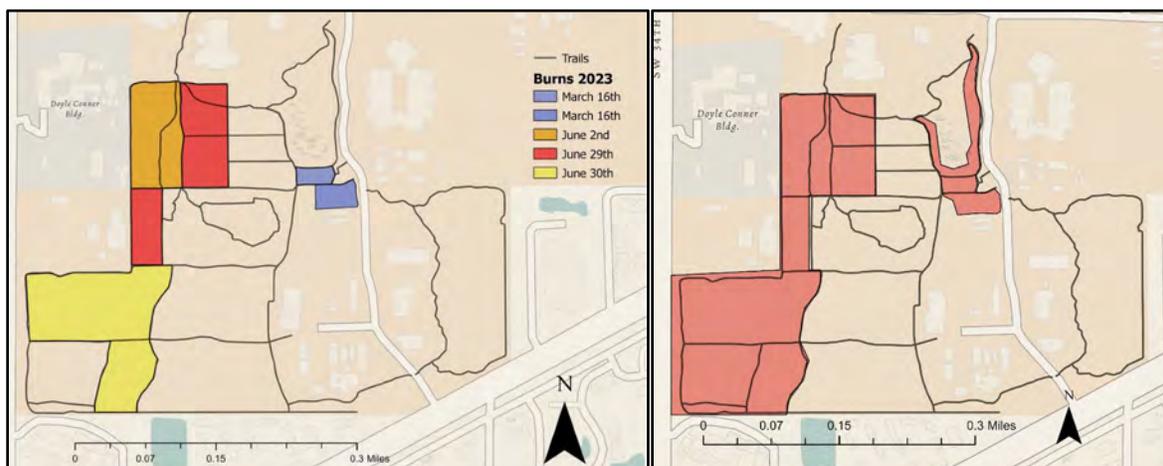


Figure 4: Recent & future burns in NATL. Left: Burns completed in 2023; right: units to be burned in 2024.



Figure 5: Top left: June burn in the Upland Pine area; top right and bottom: resulting fall graminoid and form flowering.

D. Planting Event

A large planting event occurred in October of 2023 in the upland pine unit. Roughly 3,500 plugs of native plant materials were installed within the upland pine unit by 37 volunteers. Most of the plant materials were installed within units near grid points F4 and D9. Plant materials consisted of several native bunchgrass species and were donated by the UF Native Plant Nursery. Blair McLean planned and coordinated this event.



Figure 6: Photos from the planting event in October 2023.

6. SEEP and Pavilion Area Management

A. Overview of Enhancement Projects in SEEP

Biodiversity in SEEP has undoubtedly improved since its construction in the 1990s. Further improvements in this respect can be made by the addition of desirable native species and the removal of certain nonnative and weedy native species. NATL management is also seeking to continue efforts to use prescribed fire along SEEP in 2024. The use of prescribed fire is desired to help promote groundcover diversity and to help maintain open vista points. The pavilion slope area and neighboring dry retention basin was burned in March of 2023. Units will be burned again in 2024 to encourage groundcover diversity and maintain an open vista. Additional out planting efforts will follow as plant material becomes available via donation from the UF Native Plant Nursery.



Figure 7: Left: March 2023 burn in the pavilion slope area; right: pavilion slope area post burn.

7. Old Field & Meadow Management Update

A. Overview of Old Field & Meadow Management

NATL management changed the layout and management of old field in 2020 (see previous NAAC reports). In the past, demonstrating ecological successional theory was a major goal. Our current goal has shifted to reducing the dominance of invasive species in this area and increase native graminoid and forb diversity for the benefit of wildlife and pollinators. In 2021, a section of old field was converted to a wildflower meadow (“meadow” is defined here as a human-constructed and maintained plant community dominated by native forb and graminoid species). This was made possible via a grant from the Florida Wildflower Foundation. The meadow is now an established part of NATL and maintaining it will be a major priority going forward.

B. Proposed Changes to Old Field & Meadow Management

Going forward, we plan for the meadow unit to be managed independently of the rest of the old field area. The meadow will be maintained annually with prescribed fire or with mowing (via a sickle bar or flail mower) to promote dominance of desirable forbs and graminoids. The meadow was mowed in March 2023 via a flail mower borrowed from the Citrus Lab, and again

in August via sickle bar. Future management should continue the process of eliminating invasive and harmful non-native species and consider expansion of meadow units.

We propose that the remaining two units of the old field area (shown in the figure below as “Old Field A” and “Old Field B”) be managed by separate mowing/fire intervals every 2-5 years, based on the rate of woody and invasive species encroachment as well as the judgment of the management team.

The northernmost part of the old field area will be managed as a spring wildflower field (shown in green in the figure below). This field should be maintained with annual mowing or fire, supplemented periodically with the addition of spring-blooming wildflowers.

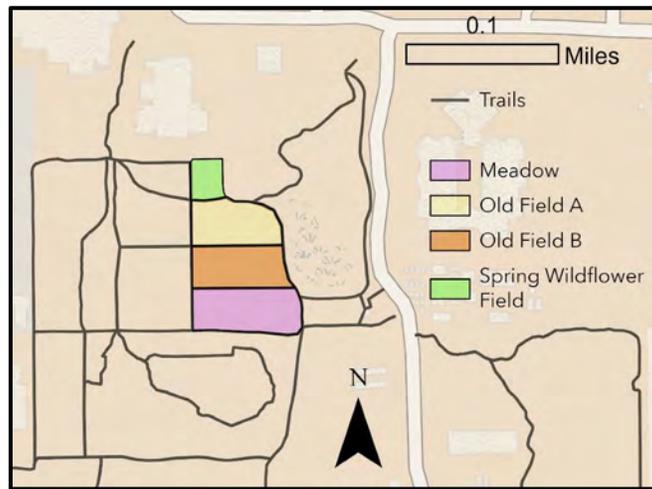


Figure 8: Map showing the new organization of the Old Field area.



Figure 9: Spring Wildflower Field in November 2020 (left) vs. May 2023 (right).



Figure 10: Meadow unit in Spring 2023 (top) and late Summer 2023 (bottom).

8. Upland Hardwood Management

A. Overview of Upland Hardwood Management

Management of the Upland Hardwood community was previously limited to invasive species control. More recently, we have also begun to focus on restoring and enhancing the understory of the Upland Hardwood community via planting of obligate Florida species. Future management should continue the process of establishing rare or threatened Upland Hardwood within NATL.

In 2023, additional herbicide treatments and reduction of *Syngonium podophyllum* and *Ficus pumila* were achieved. There were no further planting efforts made of desirable natives in the upland hardwood forest unit due to low plant material availability. However, previously installed *Trilium maculatum* and *Torreya taxifolia* populations are healthy.

9. Invasive Species Management

A. Invasives Removal in NATL

Guinea grass (*Megathyrsus maximus*) continues to be the most common invasive species in NATL and has been the primary target of our invasive management in 2023. Patches are being continuously treated with herbicide in the old field and upland pine sections of NATL, with some hand pulling in upland pine areas with dense, well developed native groundcover. In these same sensitive areas of upland pine, routine prescribed fire has been a helpful tool in removing guinea grass without long term damage to the native plant community. These treatments have been generally effective at suppressing guinea grass, but resurgence has been high in the academic upland pine section north of the gas line trail. This area has a large store of guinea grass seeds stored in the soil and will need continuous management for several years to deplete the seed bank before eradication is possible.

A patch of sweet tanglehead grass (*Heteropogon melanocarpus*) was identified in the northwest portion of the upland pine habitat this year and was completely removed by hand pulling. Coral ardisia is still present in NATL, but in reduced abundance and distribution than in previous years. Currently, coral ardisia is limited to the north and south sides of the gas line trail within the hardwood hammock. Less attention has been given to ardisia in recent months due to reduced numbers and visibility, but it should be revisited and treated before the end of 2023 to prevent resurgence.

Other previously identified threats which are still under management include climbing fig (*Ficus pumila*) and escaped houseplants from the buildings bordering NATL's South Trail. These houseplants include arrowhead (*Syngonium podophyllum*), pothos, and English ivy as well as a commonly seen Gainesville invasive, *Tradescantia* sp. Our management efforts are proving to be successful, with limited resprouts and few surviving plants after herbicide application. Despite effective removal, the apartments serve as a consistent source for reintroduction of these species from outside of NATL, and the southern border of NATL will require continued attention.

Top Florida Invasive Species Council (FISC) Category 1 plants which have been found in NATL include: cogongrass (*Imperata cylindrica*), coral ardisia (*Ardisia crenata*), skunk vine (*Paederia foetida*), air potato (*Dioscorea bulbifera*), Japanese climbing fern (*Lygodium japonicum*), camphor tree (*Cinnamomum camphora*), wild taro (*Colocasia esculenta*), mimosa (*Albizia julibrissin*), shrub verbena (*Lantana strigocamara*), invasive tradescantia, glossy privet (*Ligustrum lucidum*), arrowhead vine (*Syngonium podophyllum*), and Caesar's weed (*Urena lobata*). Category 2 plants include, but are not limited, to Guinea grass (*Megathyrsus maximus*).

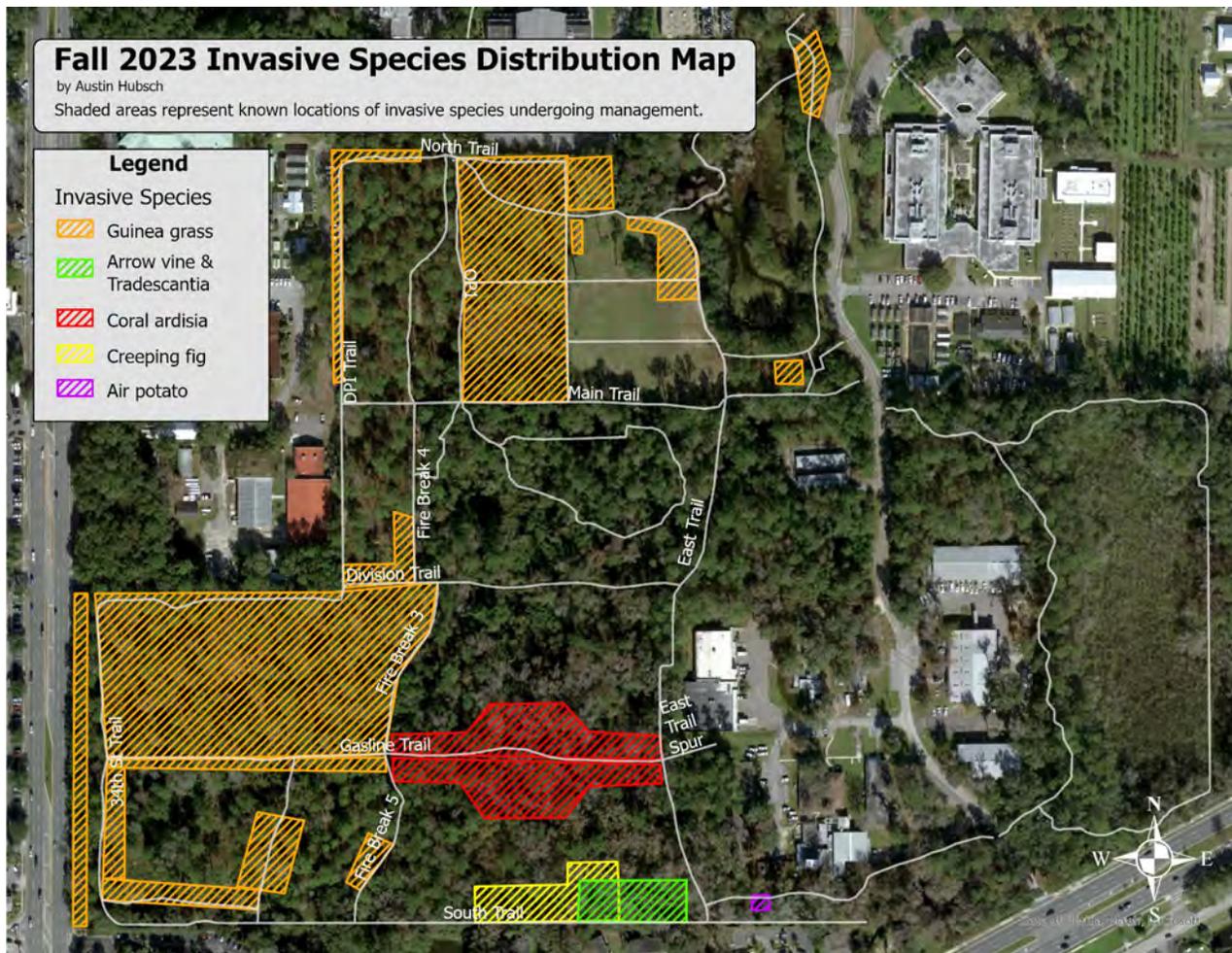


Figure 11: Comprehensive map of current and controlled invasive plants in NATL as of Fall 2023.

Common Name	Species Name	Count Method	2018	2019	2020	2021	2022	2023
Coral ardisia	<i>Ardisia crenata</i>	Patches and individuals by mature and (juvenile)	15 patches & 50 (1114)	22 patches & 3 (19)	6 patches & 17 (48)	36 patches & 59 (11)	5 patches & 500 total	2 patches & 50 (100)
Cogongrass	<i>Imperata cylindrica</i>	Patches	2	2	3	3	2	1
Guinea grass	<i>Megathyrsus maximus</i>	# of patches and (# of applications)	6 (28)	7 (58)	35 (159)	37 (50)	25 (ND)	19 (140)
Japanese climbing fern	<i>Lygodium japonicum</i>	Patches	3	1	14	5	3	<5
Mimosa	<i>Albizia julibrissin</i>	Individual trees	15	4	11	0	3	<10
Camphor tree	<i>Cinnamomum camphora</i>	Individual by mature and (stem)	12 (1)	7 (0)	11 (4)	3 (20)	2 (0)	2 (0)

Table 1: Top invasive species removed in NATL from 2018 - 23. Values indicate the number of plants or patches managed. See [Appendix 2](#) for a more in-depth table with additional species.

B. Campus-Wide Invasives Removal

In Fall 2022, the NATL Operations Team began assisting with the management of invasive species in McCarty and Harmonic Woods. Funding from the UF Office of Sustainability, UF Biodiversity Institute (UFBI), and Florida Museum of Natural History (FLMNH) paid for an intern (Austin Hubsch) to work in these areas from Fall 2022 – Spring 2023, and a donation from Donna Legare has provided additional funding for a new intern (Katya Kasprzak) to continue this work in Fall 2023 – Spring 2024.

The primary management objective for McCarty Woods is to reduce cat's claw below 5% total coverage. These 2.9 acre woods host a narrow variety of invasive species and managing these invasive plants is realistic and attainable if given continuous effort. Eradication of cat's claw is unlikely given the close proximity of other invaded urban spaces near McCarty Woods, but it is possible if management continues in McCarty Woods and is initiated for the surrounding areas. Managing cat's claw and other invasives in coordination with the replanting of native plants led by Doug and Pam Soltis will preserve the native ecology of McCarty Woods and enhance its value as a teaching area for UF courses. These goals are only achievable through continuous management to prevent invasive resurgence.

The primary management objective for Harmonic Woods is to protect the population of rare native plants which have been found in the center of the forest, most notably spotted wakerobin (*Trillium maculatum*) and Jack-in-the-Pulpit (*Arisaema triphyllum*). Harmonic Woods is approximately three times the land area of McCarty Woods, and its management issues are more complex due to a large population of coral ardisia, cat's claw, and confederate jasmine. Managing these invasive plants will require significantly more labor, time, and money to reduce their impact and mitigate the damage they have done to the native plant ecology. As such the current management plan focuses on protecting the remaining rare plants by monitoring the area and maintaining a border of exclusion around them, essentially "holding the line" to preserve this small site until more comprehensive interventions can be initiated. The long term management goal for Harmonic Woods (assuming additional funding) will be to reduce the coverage of invasives throughout the site.



Figure 12: Spotted wakerobin and jack-in-the-pulpit in Harmonic Woods, surrounded by invasive ardisia before removal.

10. Nature Trail & Boardwalk Updates

A. Trail Maintenance & Signage

NATL management routinely mows and trims all trails (80" width) and footpaths (20" width) as needed. In 2023 NATL management began reductions in woody vegetation encroachment along the sides of trails; this work will continue into 2024. The signs on our self-guided nature trails are updated seasonally. Signs are routinely cleaned, and species-specific signs are set throughout the NATL public areas as seasons change and species become present. Recently, the NATL team has been working to replace, update, and create new trail signs and kiosks. Below is an image of the 16 SEEP signs that will be replaced by the end of the calendar year; higher resolution images are available upon request.

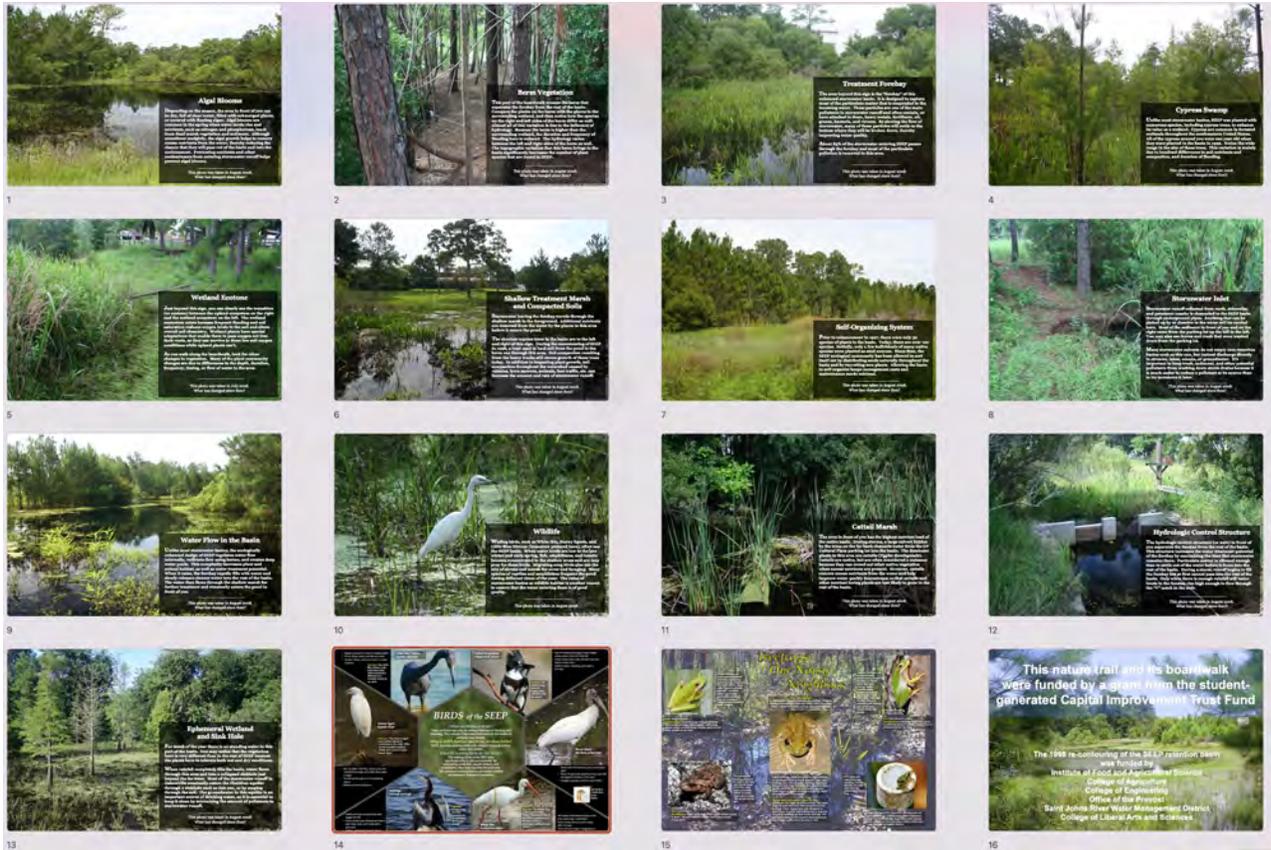


Figure 13: Updated SEEP signs; higher resolution images are available upon request.

B. Boardwalk Repairs & Maintenance

Short term repairs to the boardwalk continued in 2023. The need for funding significant renovations or a new boardwalk increases each year as continued water inundation damages the wood. Recently, NATL management reached out to the Capital Improvement Trust Fund (CITF), the UF Student Government treasurer, and Jeanna Mastradacasa (Senior Associate Vice President for Agriculture and Natural Resources) to discuss funding to support boardwalk renovations. These discussions are still ongoing. Going forward, we would also like to work with the UF Foundation to solicit donations to help fund the boardwalk, e.g., as part of the Gator Nation Giving Day.



Figure 14: SEEP Boardwalk in 2023

11. NATL Digital Presence

A. Social Media Updates

Below is a summary of our social media accounts from September 30th, 2022, to October 1st, 2023:

Facebook:

- 136 New followers (2,067 total)
- 480 Page and profile visits

Instagram:

- 234 New followers (1,538 total)
- 666 Profile visits

If you use social media, please follow NATL on [Facebook \(facebook.com/NATL.UF\)](https://www.facebook.com/NATL.UF), [X / Twitter \(@UFNATL\)](https://twitter.com/UFNATL), and [Instagram \(@NATL.UF\)](https://www.instagram.com/NATL.UF) and use **#teamNATL** when sharing photos, videos, or stories about NATL.

The NATL Operations team posts about activities going on in NATL. We also love posting about researchers, classes, and visitors that use NATL, so please share any pictures or observations with us on any of these social media accounts. You can also email them to James Brown (jamestbrown5@ufl.edu), who manages our social media presence.

B. Website Updates

The NATL website is extensive and hosts historical, archival, and empirical data, some of which is not available anywhere else. It also serves as a source for members of the community to learn more about the area and plan their visits. Maintaining the NATL website ensures that it can continue to serve as a resource that functions appropriately for a diverse group of users. Maintenance has been reduced to correcting misleading information and high priority updates as we prepare to transition to our T4 site (see below).

We are in the process of transitioning the NATL website from HTML to Terminal4 (T4). Terminal4 is a web content management system that we can use to update the look and functionality of the NATL website. This transition will take time to install, and the updated website will not go live until it is finished and has been checked for proper functionality. Once the updated website is installed, the HTML version of the website will be archived and saved, permanently. Finally, bookmarked pages will be unaffected and will automatically redirect to the appropriate page on the new website.

There are many important reasons for making this transition. It will greatly improve the accessibility of our website for all our users. It will also make our website compliant with current university-wide standards for branding and design. Thus, a move to Terminal4 is the next natural step for the NATL website and we are looking forward to sharing the updated website with everyone once it is ready. James Brown is spearheading the transition in collaboration with IFAS Web Services; please contact him (jamestbrown5@ufl.edu) with any questions or concerns.

Appendix 1: Current NAAC Roster

(Individuals in **bold** are members of the NATL Operations Committee)

First	Last	Representing	Email	Phone
Anthony	Auletta	NATL Chair; Entomology & Nematology	anthonyauletta@ufl.edu	(352) 273-3954
Eben	Broadbent	Geomatics; Spatial Ecology and Conservation Lab	eben@ufl.edu	(650) 204-1051
James	Brown	NATL Graduate Teaching Assistant	jamestbrown5@ufl.edu	
Mark	Clark	Soil and Water Science	clarkmw@ufl.edu	(352) 392-1804 ext. 319
Jaret	Daniels	McGuire Center, Florida Museum of Natural History	jdaniels@flmnh.ufl.edu	(352) 273-2022
Linda	Dixon	Facilities Planning and Construction	ldixon@ufl.edu	(352) 273-4010
Gail	Hansen de Chapman	Environmental Horticulture; LVL Committee Chair	ghansen@ufl.edu	
Josh	Helwig	NATL Undergraduate Intern	helwigjoshua@ufl.edu	
Austin	Hubsch	NATL Undergraduate Intern	austinhubsch@ufl.edu	
Katya	Kasprzak	NATL Undergraduate Intern	katyakasprzak@ufl.edu	
Nick	Keiser	Biology	ckeiser@ufl.edu	(352) 273-4981
Gage	LaPierre	NATL Vice Chair & Graduate Teaching Assistant	gagemo@ufl.edu	
Marcus	Lashley	Wildlife Ecology and Conservation	marcus.lashley@ufl.edu	(352) 846-0870
Jeremy	Lichstein	Biology	jlichstein@ufl.edu	(352) 339-3509
Blair	McLean	NATL Undergraduate Intern	mcleanb@ufl.edu	
Scott	Robinson	Florida Museum of Natural History	srobinson@flmnh.ufl.edu	(352) 273-1965
Christina	Romagosa	Wildlife Ecology and Conservation	cmromagosa@ufl.edu	(352) 273-3996
Matthew	Smith	Plant Pathology	trufflesmith@ufl.edu	(352) 273-2837
Tom	Walker	Friend of NATL	tjw@ufl.edu	(352) 273-3920

Appendix 2: Status of Control of Invasive Plants in NATL

The table below is a summary of some of the top invasive species removed in NATL. The numbers indicate how many individual plants were managed in each year.

Threat Status		Species	Category	Worst documented	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022*	2023
Most threatening	Coral ardisia	Mature Plants	2009: >1200	316	81	5	7	2	2	20	33	50	3	17 & 3 patches	59 & 36 patches	500 indiv. in 5 patches	50 in 2 patches	100
	Ardisia crenata	Juvenile plants	2009: >8400	ND	ND	ND	1366	2968	1150	530	548	1114	19	48 & 3 patches	11	3	2	1
	Cogongrass	Patches treated	2005: >20	ND	17	10	7	5	3	1	0	2	2	3	3	2	1	
	<i>Imperata cylindrica</i>																	
	Guinea/Johnson grass	Blocks/Areas treated		ND	ND	ND	ND	ND	ND	6	4	6	7	35	37	25	19	
	<i>Megathyrsus maximus/Sorghum halepense</i>	# of times areas have been treated	2018: 28							15	17	28	58	159	50	ND	140	
	Mimosa	Counted, treated trees	2017: 496	ND	366	78	13	10	168	168	496	15	4	11	0	3	<10	
	<i>Albizia julibrissin</i>																	
Lesser threats	Air potato	Major patches treated	2009: 4	1	1	0	0	0	0	2	0	0	1	0	2	3	0	
	<i>Dioscorea bulbifera</i>	Patch remnants treated	2010: 5		5	1	ND	2	0	0	0	1	ND	ND	ND	ND	<5	
	Japanese climbing fern	Patches treated	2012: 17	1	3	7	4	0	1	3	2	3	1	13	8	3	<5	
	<i>Lygodium japonicum</i>																	
	Camphortree	Mature trees	2011: 7	ND	7	3	0	2	0	3	21	12	7	11	3	2	2	
	<i>Cinnamomum camphora</i>	Stems	2016: 798	ND	11	31	3	2	4	798	48	1	0	4	20	0	0	
	Arrowhead vine	Major patches treated	2016: 3	0	0	0	0	0	0	3	1	0	0	0	4	0	1 (large)	
	<i>Synгонium podophyllum</i>	Patch remnants treated	2009: 3	3	3	3	3	3	1	0	0	0	0	0	2	0	0	
	Chinese tallowtree	Mature trees	2012: 7	ND	1	7	0	1	0	0	2	0	0	0	0	0	0	
	<i>Sapium sebiferum</i>	Stems	2011: 15	ND	15	7	2	0	1	1	1	0	0	0	2	0	0	
	Glossy privet	Mature trees	2016: 40	ND	ND	10	2	0	0	0	40	5	0	0	3	0	1	
	<i>Ligustrum lucidum</i>	Stems	2016: 92	ND	ND	5	1	ND	0	0	92	3	0	0	0	0	0	
Eradicated	English ivy	Major patches treated	2017: 31	0	0	2	1	0	0	31	13	3	ND	0	ND	0		
	<i>Hedera helix</i>	Patch remnants treated	2014: 3	0	0	0	2	3	1	0	1	0	3	ND	0	ND	1	
	Asparagus Fern	Major Patches treated	2015: 1	ND	ND	ND	ND	ND	1	0	0	0	1	ND	1	ND	0	
	<i>Asparagus setaceus</i>	Patch remnants treated		ND	ND	ND	ND	ND	ND	0	0	0	0	0	0	0	1	
	Negundo chastetree	Multistem clump	2011: 23	ND	23	2	0	0	0	0	0	0	0	0	0	0	1	
	<i>Vitex negunda</i>																	
	Cat's claw	New sites found	2006: 1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	
	<i>Dalichandra unguis-cati</i>	Sites treated	2011: 2	1	2	2	2	1	1	0	0	0	0	0	0	0	0	
	Chinaberry tree	Mature trees	2012: 5	ND	4	5	1	0	0	0	0	0	0	0	0	0	0	
	<i>Melia azedarach</i>	Stems	2011: 9	ND	9	0	0	0	0	0	0	0	0	0	0	0	0	
Silverthorn	Mature shrubs	2012: 7	ND	ND	ND	7	1	0	0	0	0	0	0	0	0	0		
<i>Elaeagnus pungens</i>																		
White leadtree	Mature trees	2000: 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
<i>Leucaena leucocephala</i>	Stems	2012: 43	ND	8	43	18	15	0	0	0	0	0	0	0	0	0		
Negundo chastetree	Multistem clump	2011: 23	ND	23	2	0	0	0	0	0	0	0	0	0	0	0	1	
<i>Vitex negunda</i>																		
Paper mulberry	Mature trees	2011: 47	ND	ND	>30	ND	47	0	2	16	0	0	0	0	0	0		
<i>Broussonetia papyrifera</i>	Stems	2014: 480	ND	29	15	ND	480	2	69	0	1	0	0	0	0	0		
Loquat	Mature trees	2012: 3	ND	ND	3	1	0	0	0	0	0	0	0	0	0	0		
<i>Eriobotrya japonica</i>	Stems	2014: 30	ND	ND	7	6	30	0	5	1	0	0	0	0	0	0		
Skunkvine	Major patches treated	2016: 15	1	0	0	1	0	0	15	0	0	0	1	0	0	0		
<i>Paederia foetida</i>	Patch remnants treated	2014: 3	1	1	0	0	3	0	0	0	0	0	0	0	0	0		

Appendix 3: Summary of Work in Harmonic and McCarty Woods

Report Summary

McCarty Woods - 2.9 acres

- Approximately **70%** of the total land area of McCarty Woods has received herbicide treatment.
- Herbicide treatment has resulted in a **40% reduction** of cat's claw cover in the west block (A, B, and C), and a **75% reduction** in the east block (D and E). **Overall 60% reduction** across the whole of McCarty Woods.
- McCarty Woods volunteer cleanups are attended by **20-30 attendees** and are hosted once a month during Spring of 2023.
- The UF Native Nursery has provided native grasses and vines that have been planted on the east side of McCarty.

Harmonic Woods - 10 acres

- Over **80 volunteers** have attended the two Harmonic Woods Cleanup days hosted during Spring of 2023.
- Volunteer cleanups have **removed 100%** of coral ardisia within the 0.3 acre trillium site, and **75%** of coral ardisia from an area of 0.7 acres.
- Harmonic wood's **trillium and Jack-in-the-pulpit populations have been protected** through hand removal of all coral ardisia within 10 feet of the main stand.
 - Herbicide has been used to create a **buffer zone** in a ring around these species, insulating them from further invasion.



Left: *Trillium maculatum*. Right Jack-in-the-pulpit

View the full report: <https://docs.google.com/document/d/1xlyXRzndB3KrtVpPA6jpfD4UMbm6lo1blACRaXuZ5xs/edit>