Lake Alice Watershed Management Plan

Lakes, Vegetation and Landscaping

October 3, 2024

Wetland Solutions Inc

Stormwater Problems on Campus

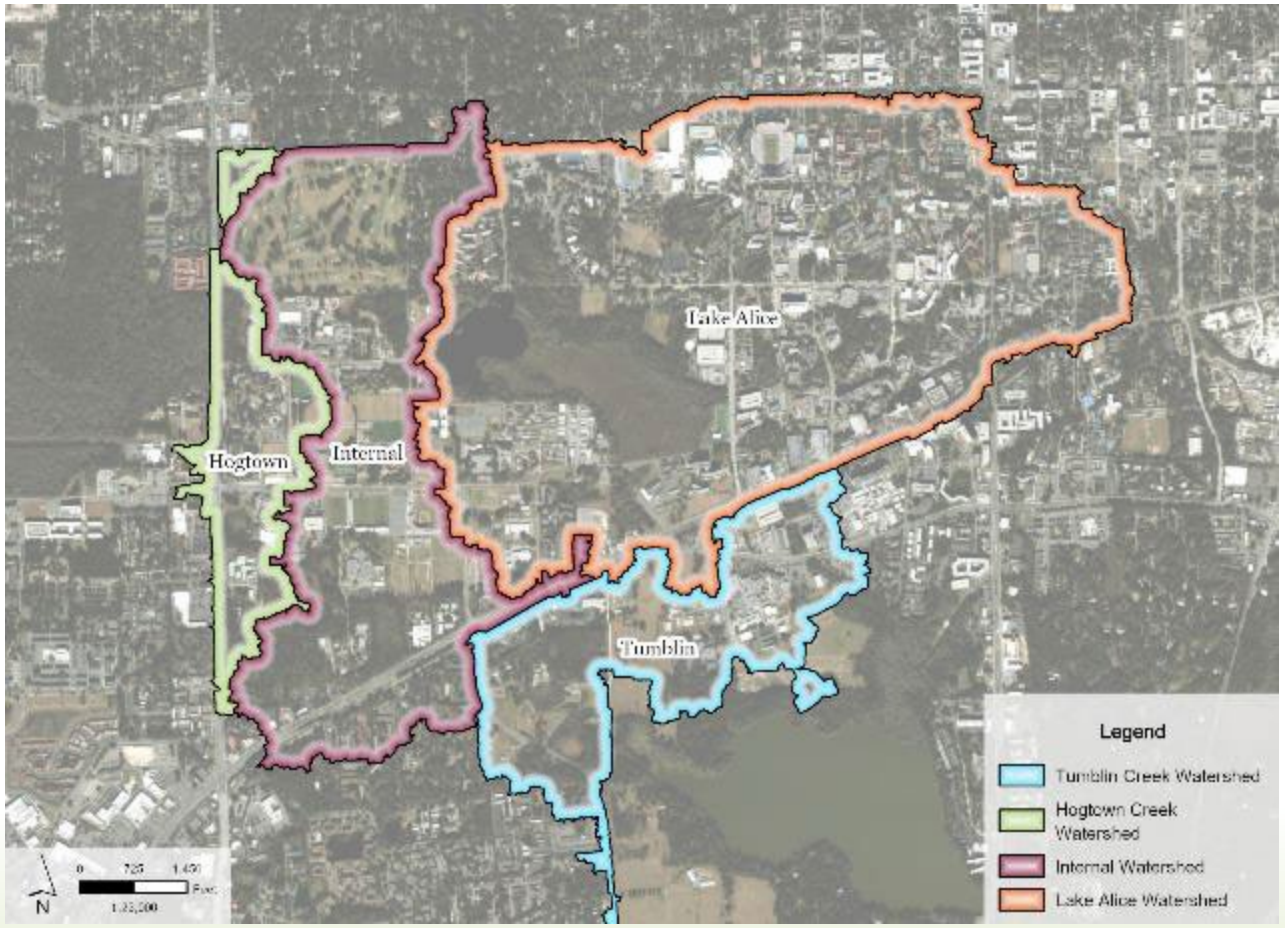
- Identified several critical stormwater issues
- All were related to new construction
- Risk to infrastructure and natural area damage

Other Stormwater Challenges

UF Watersheds

- UF Campus has four watersheds*:
  - Lake Alice
  - Tumblin
  - Hogtown
  - Internally-draining basins

  *All drain to groundwater
- Lake Alice Watershed
  - ~1,000 acres, primarily on main campus
  - ~100 feet of topography



Watershed History

- Lake Alice mapped on the 1890 Arredondo Survey
- 100 years of development
- 2 buildings in 1906 to more than 900 today
- Imperviousness increase from <5% to ~46%
- Major changes in the natural and constructed drainage features
  - Sinkholes filled and blocked
  - Two recharge wells installed in 1959
  - In the 1960's Lake Alice was used for wastewater treatment (1.8 MGD) and once-through cooling water discharge (10 MGD).

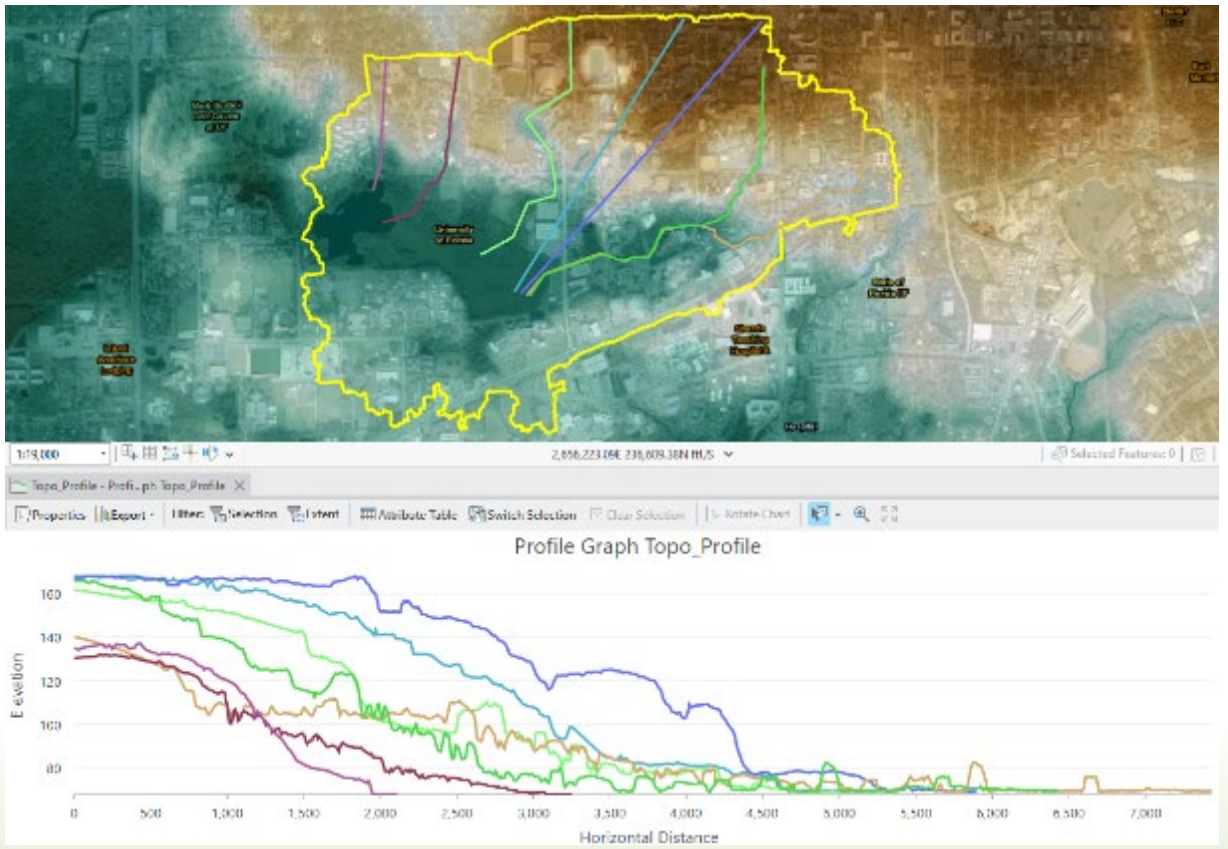
1937

1949

1968

Project Overview

- Holistic evaluation of the watershed
- Watershed Management Plan
  - Lake, creeks, wetlands, and gray stormwater infrastructure
  - Existing studies and available data
  - Permitting and regulatory framework
  - Current and future planning, construction, O&M
  - Funding strategies
  - Vegetation and impacts in Conservation Areas
  - Campus and community outreach



Watershed Vision

Environmental Conditions and Stormwater Management

Lake Alice is the heart of campus and symbolizes the University's dedication to environmental stewardship. The lake and watershed are inextricably linked to successful stormwater conveyance and treatment on campus and provide vital ecosystem services. Incorporation of green stormwater infrastructure, low impact development, and best management practices will reduce flooding, erosion, and sedimentation that impacts the University's assets and the natural environment. A visible, successful, and celebrated stormwater system will further the University's educational mission by telling the stormwater story while showcasing a commitment to innovation and excellence.

Conservation and Biodiversity

The extensive natural areas on campus are an integral part of the University and community experience. The protection and enhancement of these areas is essential to foster biodiversity, protect wildlife habitats, and expand connectivity. These ecologically diverse communities provide a living laboratory for outdoor learning and best management practices for urban stream ecology and wildlife movements.

Recreation, Access and Accessibility, and Education

Lake Alice and the Conservation Areas provide a unique network of natural spaces integrated within the built environment of campus. This proximity offers consistent connection to nature and recreational opportunities that further the University's academic mission and enhance well-being. Increasing accessibility, passive recreation, and intentional programming in and around these areas raises awareness and appreciation for the watershed and University while promoting natural discovery.

Organizational Accountability, Collaboration, and Responsiveness

The University of Florida strives to have well-maintained buildings and a vibrant landscape that is functional and well-used. Extending this standard to all natural areas and stormwater features requires clear coordination, communication, and a responsive organizational framework. Stormwater management is a critical component of preserving and enhancing the campus experience and image. Successful management depends on assigned responsibility and funding that ensures necessary projects and upgrades can be made. Endorsement of an adaptive watershed management plan with dedicated, recurring funding acknowledges the ongoing nature of watershed stewardship.

Report Format

- Main Report – Background, Vision, Permitting, Recommendations
- Attachment A – History and Literature Review
- Attachment B – Data Inventory and Analysis
- Attachment C – Project Facilitation Process and Data
- Attachment D – Stormwater Modeling Updates
- Attachment E – Vegetation Inventory and Recommendations
- Attachment F – Stormwater Project Prioritization and Concepts
- Attachment G – Stormwater Infrastructure Operation and Maintenance Plan

Watershed Recommendation Categories

- Stormwater projects
- Water quality source control
- Design and review
- Operation and maintenance
- Funding
- Data collection
- Total maximum daily load (TMDL) development
- Conservation area and vegetation management
- Plan updates

Conservation Areas and Wetlands – Existing Issues

- These areas are an integral part of the stormwater system and provide functions that cannot be moved
- Avoidance of immediate impacts often results in increased environmental damage
  - Example: Stormwater and roof drain outfalls ending at the top of slopes.
- Energy dissipation and erosion control is the key to protecting these areas

Vegetation Management Recommendations

- Recommendation for LVL to approve an “edge” maintenance and planting aesthetic that can be conveyed to Grounds and students
- Third-party design review to verify that stormwater from new projects is not causing or exacerbating downstream impacts
- Attachment E – vegetation recommendations by community type
  - Targeting invasives
  - Conservation Area edge management
  - Active and ongoing maintenance with monitoring
  - Reducing erosion and sedimentation

Stormwater can be an Asset

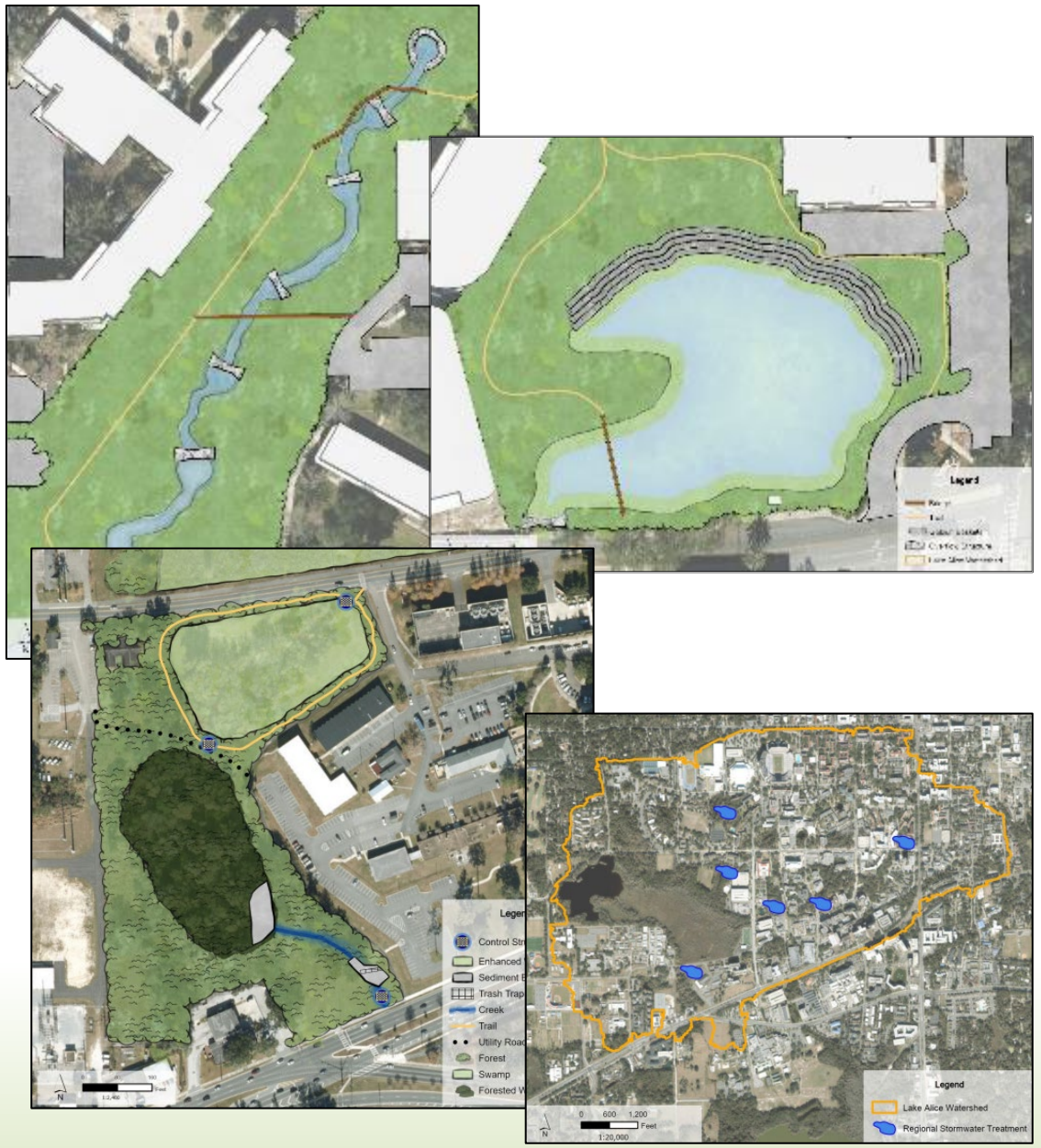
- Lake Alice is considered the most iconic space on campus
- There is an opportunity to beautify campus while improving stormwater management
- Enhanced natural areas that provide conveyance, treatment, storage, and recreational opportunities

Photo: Kimley-Horn

Discussion and Questions

Project Recommendations

- Critical
  - Upper Jennings Creek Step-Pool Stabilization
  - Graham Woods Stabilization
  - McKnight Brain Institute Stabilization
- Near-Term
  - Regional Stormwater Basins
    - 6 proposed
  - Dispersed LID
  - Sediment Traps
- Medium- to Long-Term
  - Creek Stabilization
  - Campus Mitigation Bank
  - Dredging Evaluation



November 7, 2024

PROGRAMMING

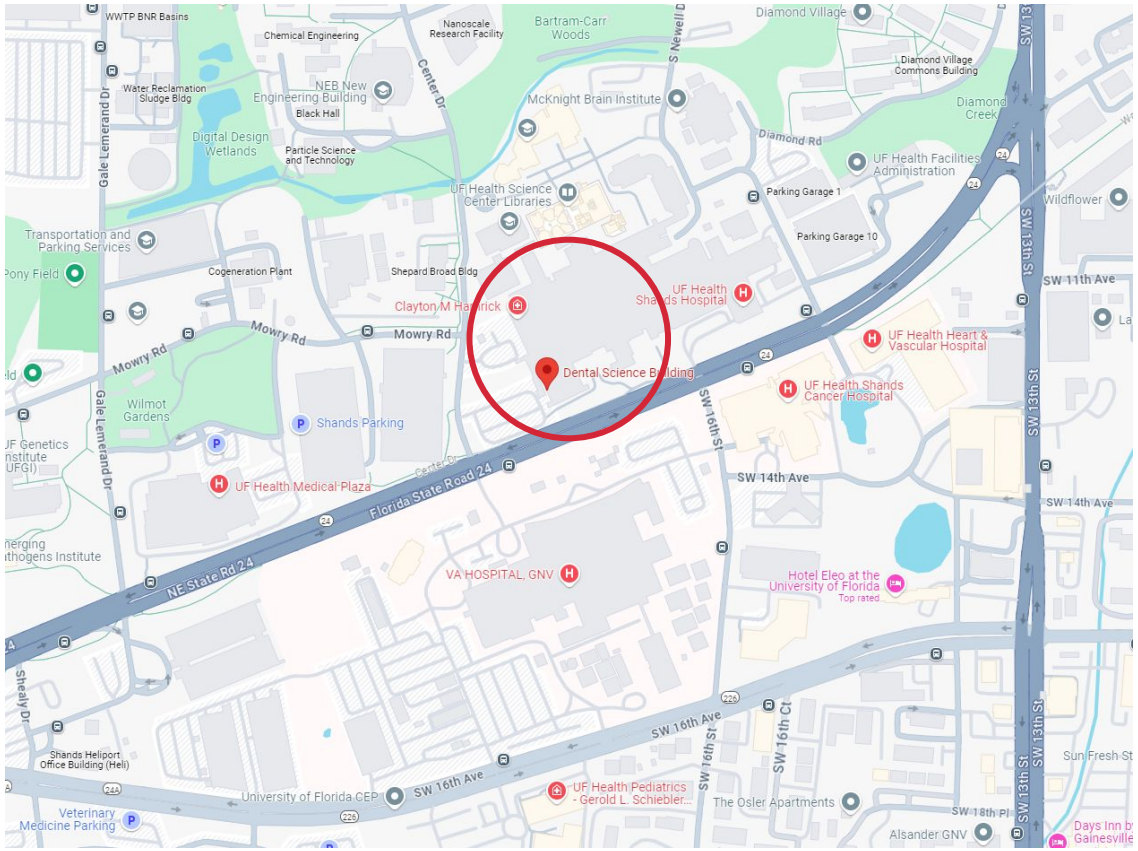
UF-683 Dental Science Building Envelope Repairs

Milo Zapata

UF-683 Dental Science Building Envelope Repairs

Project Overview

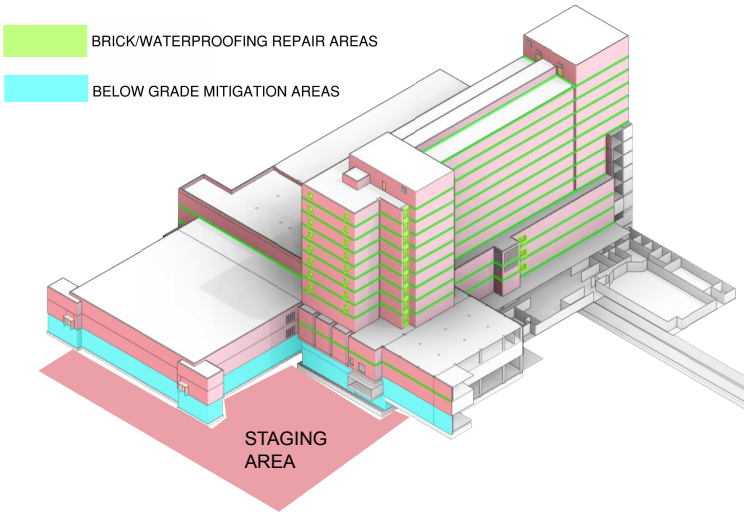
- The project is located at 1395 Center Drive
- The scope of this project is to repair select areas of the building exterior to mitigate water intrusion to the interior.
- This is a deferred maintenance project
- The programming & design phases for this project were fast-tracked

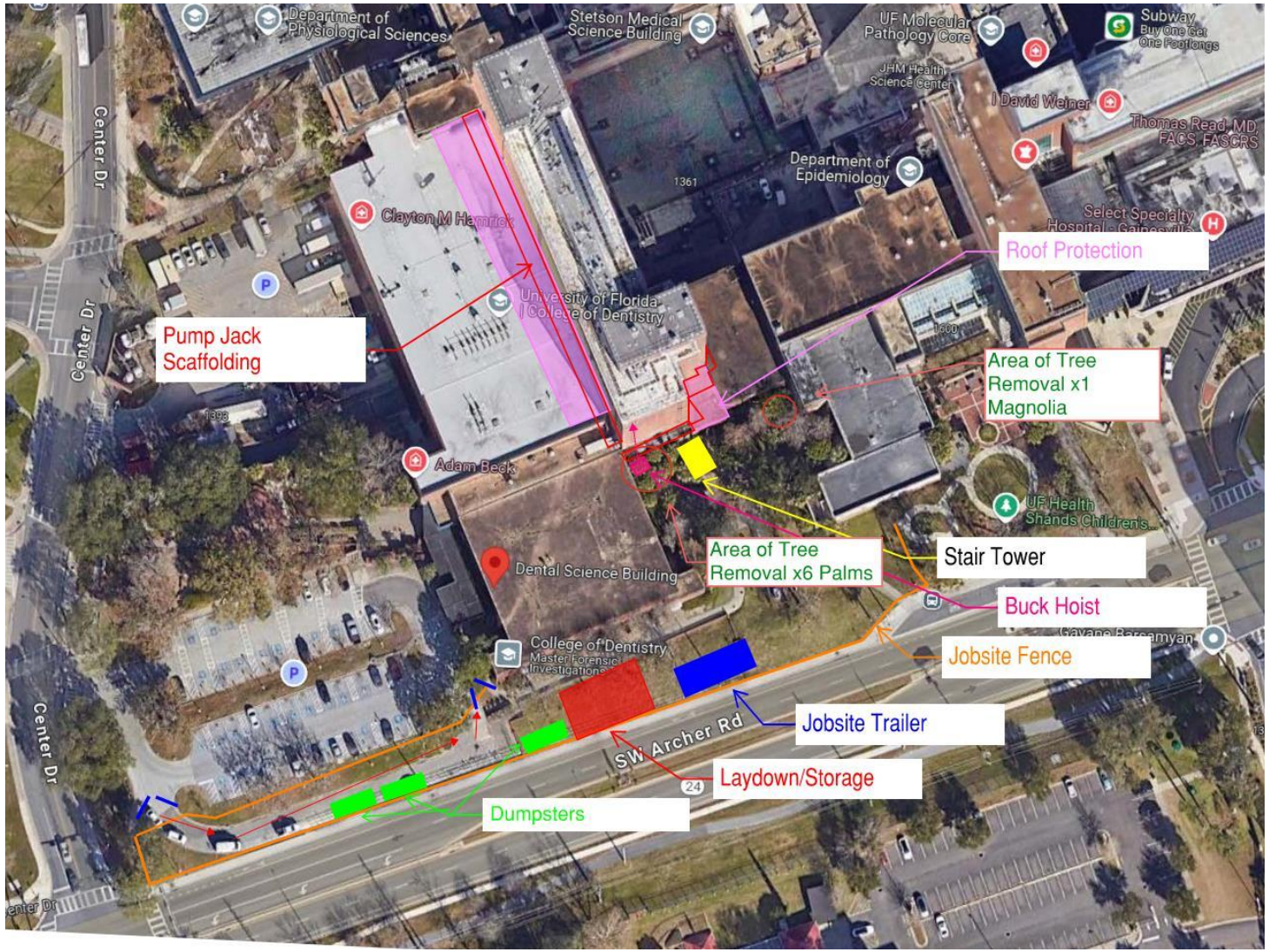


UF-683 Dental Science Building Envelope Repairs

Site Overview

- Currently, the site to the south of the building along Archer Road is used for circulation of building occupants
- The project is proposing the following area for lay-down space during construction





UF-683 Dental Science Building Envelope Repairs

Site Conditions

- The site currently has a concrete path and grass lawn area with several benches and picnic tables
- The tunnel that runs under Archer road is directly below

UF-683 Dental Science Building Envelope Repairs

Additional Site Photos






UF-683 Dental Science Building Envelope Repairs

Tree Removal Plan

- The project proposes 7 total trees be removed for construction staging (6 palm trees, 1 magnolia). No other trees are planned to be disturbed.

PROJECT NUMBER & NAME

Tree Impact & Mitigation Summary

- The project will result in the removal of 7 trees.
- No trees proposed for removal are heritage trees

TREE #	SPECIES	DBH	CONDITION
6	Palm	8”	Good
1	Magnolia	9”	Good
NUMBER OF TREES REMOVED	7	**NUMBER OF TREES PLANTED ON SITE**	0
NUMBER OF HERITAGE TREES REMOVED	0	**NUMBER OF TREES REQUIRING MITIGATION**	7
MITIGATION FEE		**$3,500**	

A motion to approve the project as presented.

UF-683 Dental Science
Building Envelope Repairs

DATE OF LVL COMMITTEE MEETING

DESIGN DEVELOPMENT

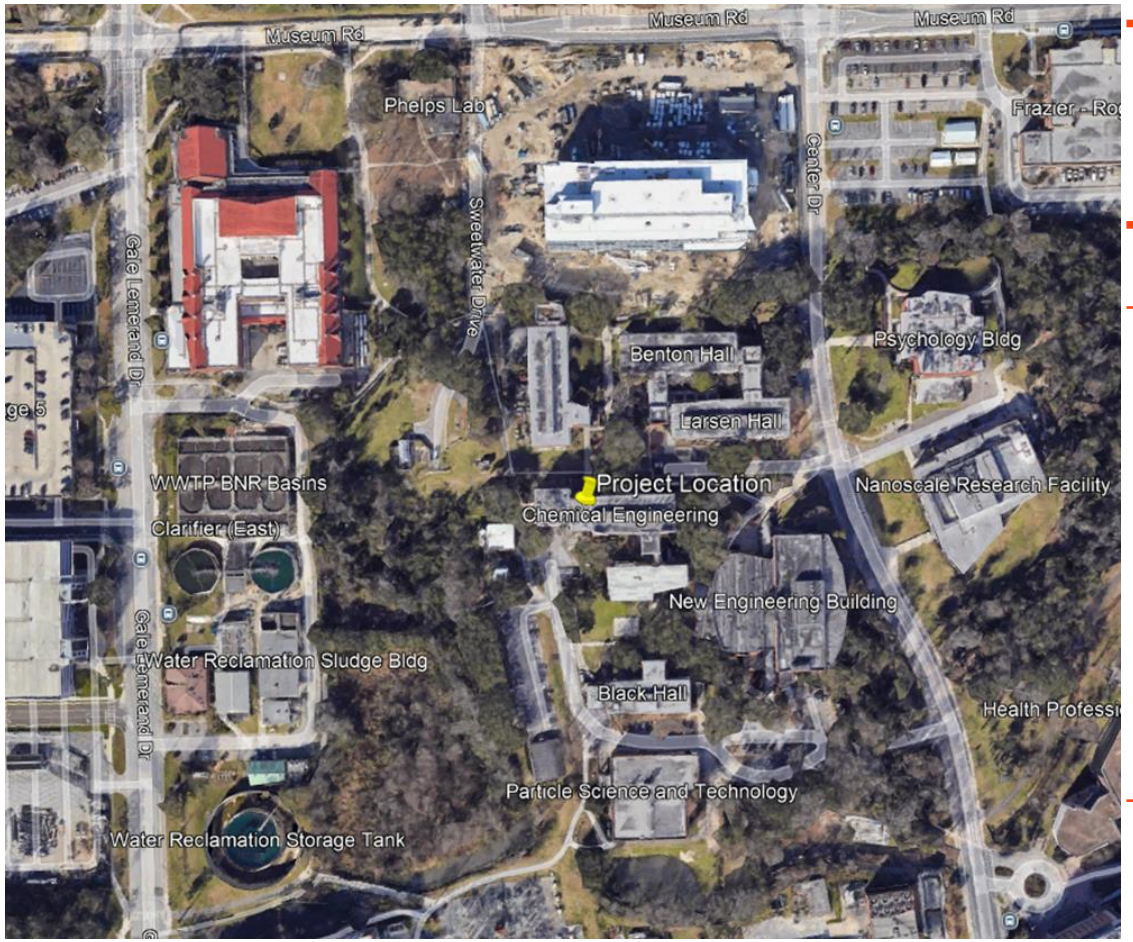
UF-692 Chemical Engineering Renovation & Remodeling

Stephen Caron

UF-692 - Chemical Engineering Renovation & Remodeling

Project Overview

- The project is located at building 0723 Chemical Engineering, 1006 Center Drive, Gainesville, Florida
- The scope of the project is fully renovating the existing building providing upgrades to the labs, student villages, restrooms and building infrastructure.
- This project has not come to the LVL committee. The original scope of work was to fully renovate the interior space of approximately 54,000GSF. The design has evolved, providing a new entrance/lobby at approximately 1,250 GSF



UF-692 - Chemical Engineering Renovation & Remodeling

Aerial View

UF-692 - Chemical Engineering Renovation & Remodeling

Aerial View

North Side of Building

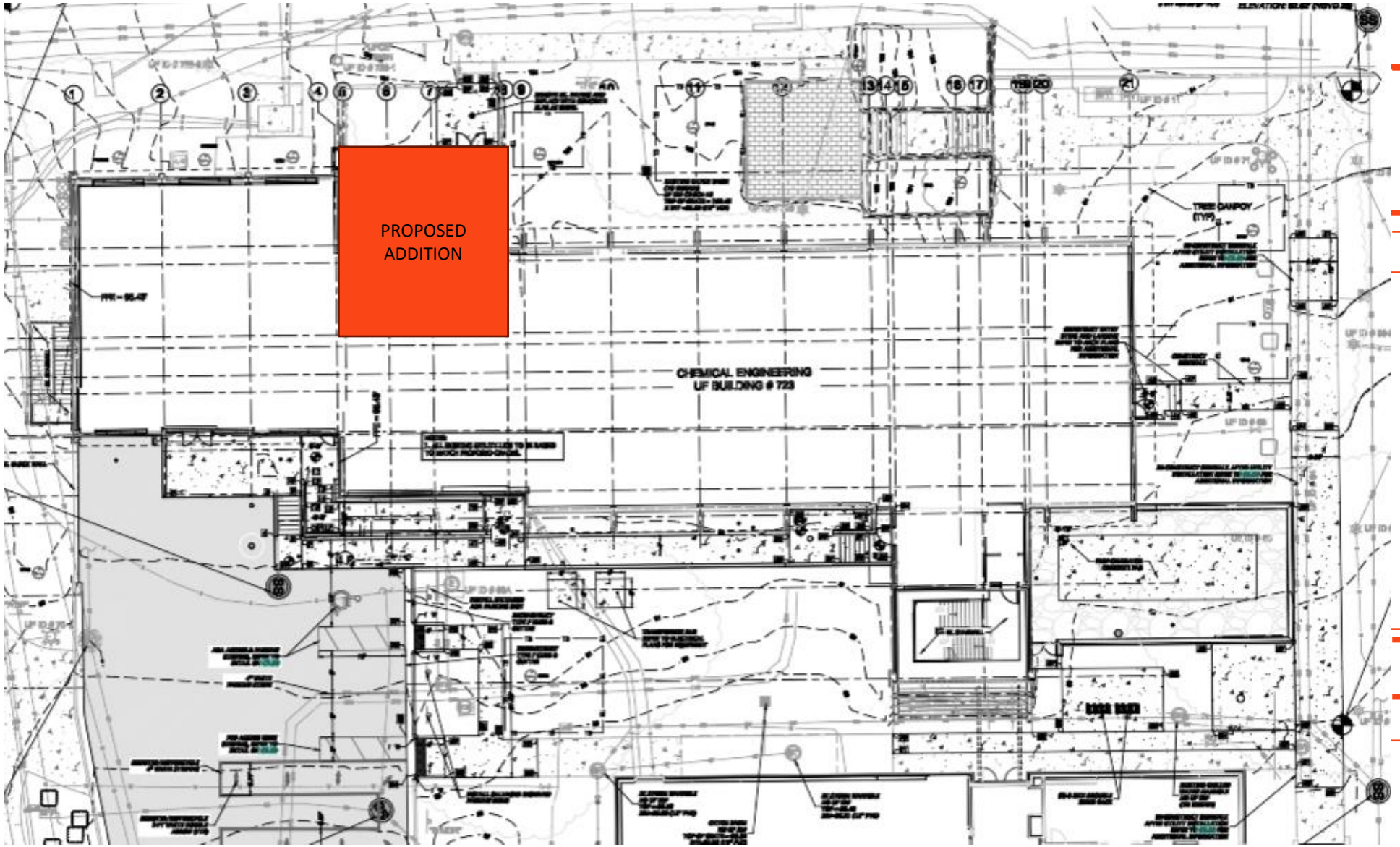
UF-692 - Chemical Engineering Renovation & Remodeling

Tree Impacts

- There are no tree impacts noted at this time
- If tree impacts are required, the following project will be brought back to the LVL Committee

UF-692 - Chemical Engineering Renovation & Remodeling

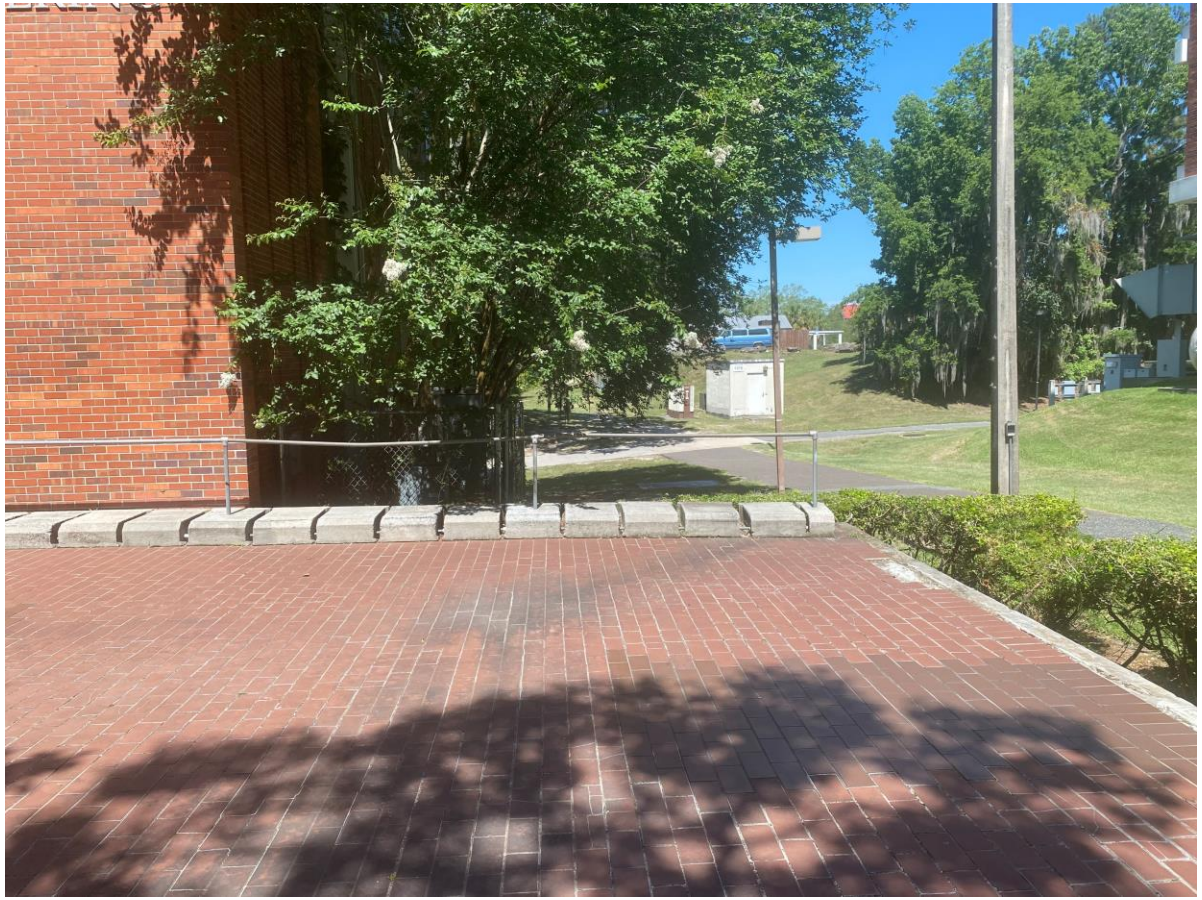
Proposed Site Plan



UF-692 - Chemical Engineering Renovation & Remodeling

Proposed Addition Location on North Side of Builfing

Existing Conditions



A motion to approve the project as presented.

UF-692 - Chemical Engineering Renovation & Remodeling