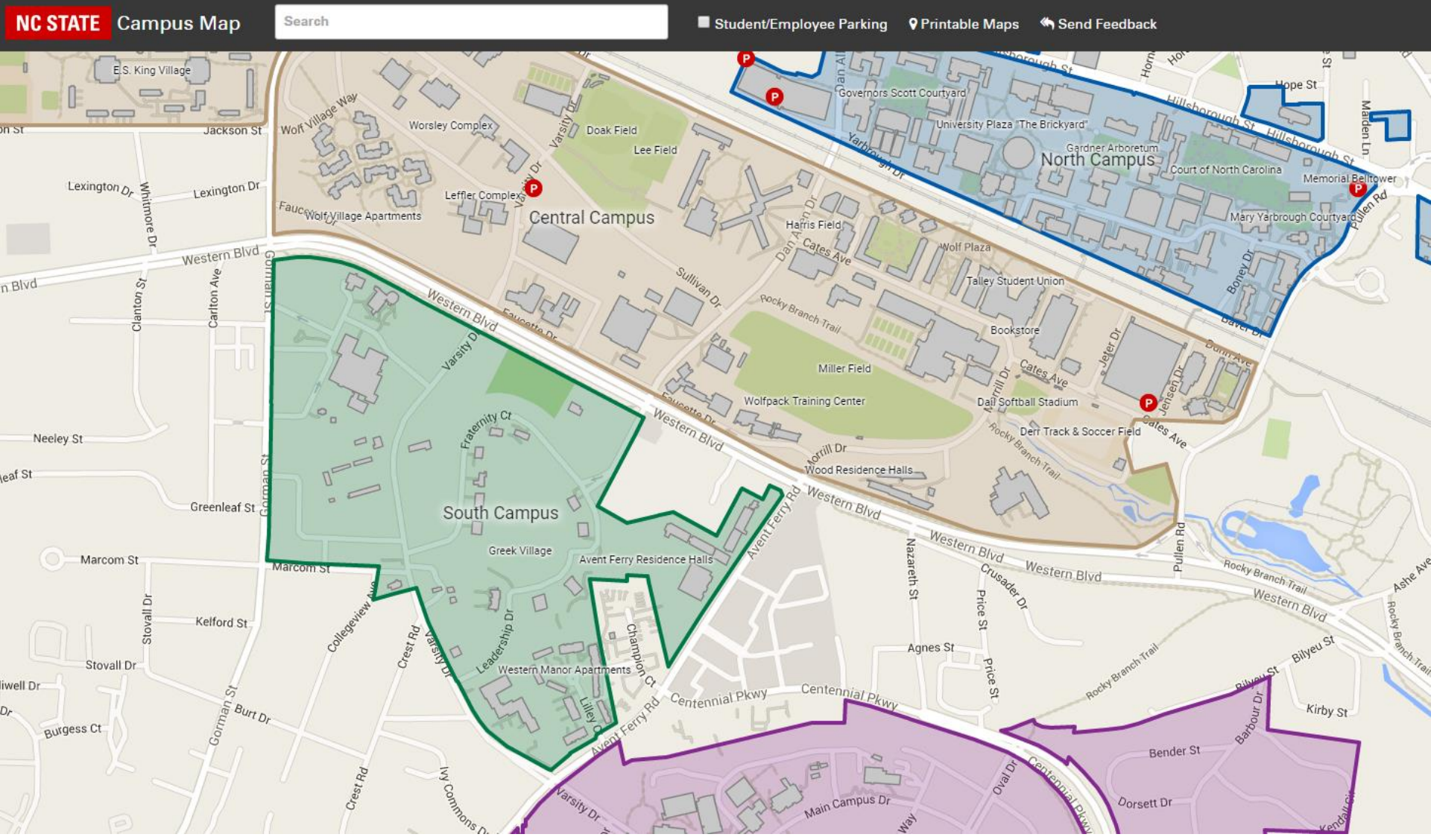


Enterprise Geographic Information Systems (GIS)

September 2016



What is GIS?

Geographic Information System (GIS) – A system designed to capture, store, manipulate, analyze, manage, and present all types of location-based data.

<http://video.esri.com/watch/4954/university-of-minnesota-campus-facilities>

Goals

One master central source of data for use across university faculty, staff, students, and with outside agencies

Allow multiple users to edit the same data sets concurrently

Decrease duplication and foster communication

Create lean, efficient business processes to enhance campus environment and culture



Major Milestones

04/2014 – Established GIS development server hosted by OIT

08/2014 – Researched peer institutions

05/2015 – Needs Assessment completed and project schedule determined

03/2016 – Approved four Open-Ended Service Agreement Designers (OESAD) for GIS Services

06/2016 – Completed first year of Enterprise GIS implementation

Design and Construction Services - Grounds Management

Interview Participants:
Steve Ratzlaff, University Specialist, Planner II

Key Applications in Use:

- o AIM.
- o ArborPro (tree management).
- o Google Maps.
- o FleetMind (for routing for container pickup).
- o AutoCAD.

Need for GIS:

- o Map books.
- o Story maps.
- o Collect and manage more data specific to the department such as acres of turf types, irrigation layouts, storm water network flow.
- o Locate and identify dumpster locations, recycling containers, pads.
- o Locate and identify storm drain locations (for drain clearing efforts).
- o Utilize GIS for more efficient leaf removal, snow removal (sidewalks and streets), and drain clearing.
- o Utilize GIS for better Grounds management for special events.
- o Need current planimetrics (for determining sq. footage of sidewalks, parking lots, impervious surfaces).

Findings:

Findings
Need accurate roads, parking lot, and sidewalk information for inclement weather operations planning.
Need accurate storm drain and hydrant information as well as flow testing schedules so that they can ensure storm drains are cleared ahead of flow testing.
Need accurate dumpster, dumpster pad, trash can, and recycling container location information for more efficient management of those assets.
Need specific GIS and GPS training in order to locate and manage those assets inside of a GIS.

Recommendations:

Phase I (1-2 years)

Task	Timeline	Potential Vendor Costs
Get some GPS and GIS training	6 months	\$7,500.00
Capture dumpster, dumpster pad, trash can, and recycling container location information and store in GIS for further analysis.	2 years	\$12,500.00
Get edge of pavement CAD data for campus roads, parking lots, and sidewalk planimetrics converted into GIS data layers.	6 months	\$4,800.00
Total		\$24,800.00

Phase II (3-5 years)

- o Get access to storm drain and fire hydrants data along with flow testing information in GIS format.

Projects Completed

Established Enterprise GIS Steering Committee:

Jeff Bandini, Associate Vice Chancellor, University Real Estate & Development
Jack Colby, Assistant Vice Chancellor, Energy Systems
Gwen Hazlehurst, Assistant Vice Chancellor, Enterprise Application Services
Lisa Johnson, University Architect
Cathy Reeve, Director, Transportation
Ken Kretchman, Director, Environmental Health and Safety
Andy Snead, Director, Facilities Services
Scott McInturf, Director, Security Applications & Technologies

Formed GIS Working Group:

Andrew Futrell, GIS/AutoCAD Tech, Utilities & Engineering Services
Andy Belcher, GIS Manager, Office of the University Architect
Bill Slocumb, Research Associate, Center for Geospatial Analytics
Dave Hammermann, GIS Coordinator, Transportation
David Wynne, GIS Project Manager, Office of the University Architect
Elisa Lopez, Clery Compliance Officer, NCSU Police Department
Heath Huovinen, University Surveyor, Office of the University Architect
Jeff Essic, Data Services Librarian, NCSU Libraries
Jenny Korreck, GIS Technician, Office of the University Architect
Karen Trimberger, Environmental Affairs Manager, Environmental Health & Safety
Sally Rau, FIS Manager, Office of the University Architect
Steve Ratzlaff, University Specialist, Planner II, Grounds
Thomas Skolnicki, University Landscape Architect, Office of the University Architect

Projects Completed

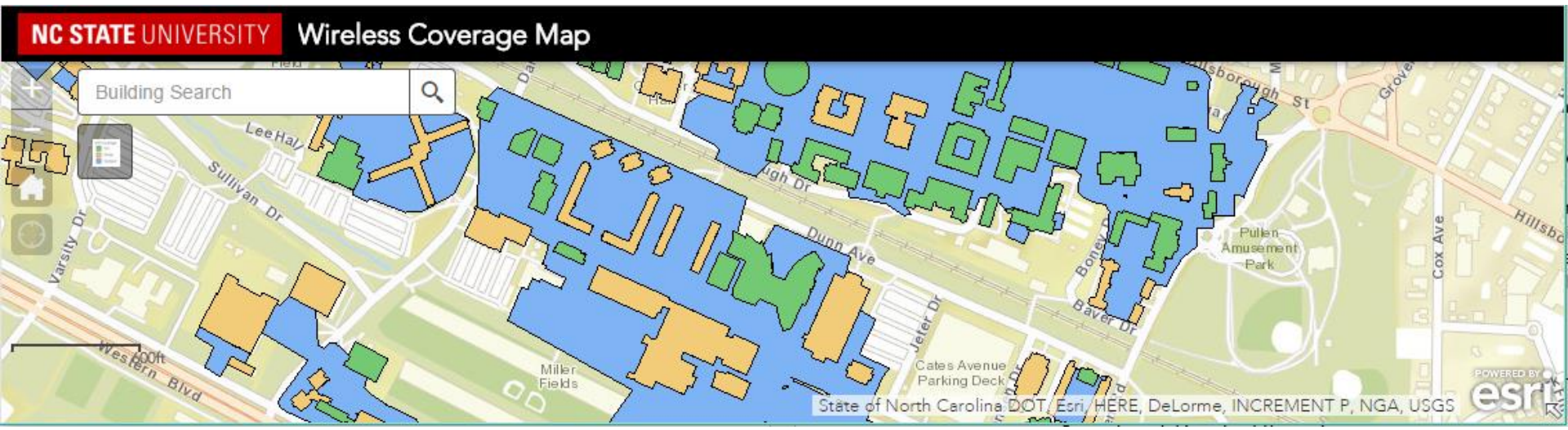
Tasks 3, 4, 5, & 6 of the Needs Assessment:

- Task 3 – Identify GIS Roles and Responsibilities
- Task 4 – Create GIS Data Matrix
- Task 5 – Create GIS and GPS Data Standards
- Task 6 – Establish Data Compilation Goals

Hired GIS Developer.

Set-up two virtual servers for the production environment.

WiFi Data Mapping Project. Set-up a Wi-Fi coverage map.



Projects Completed

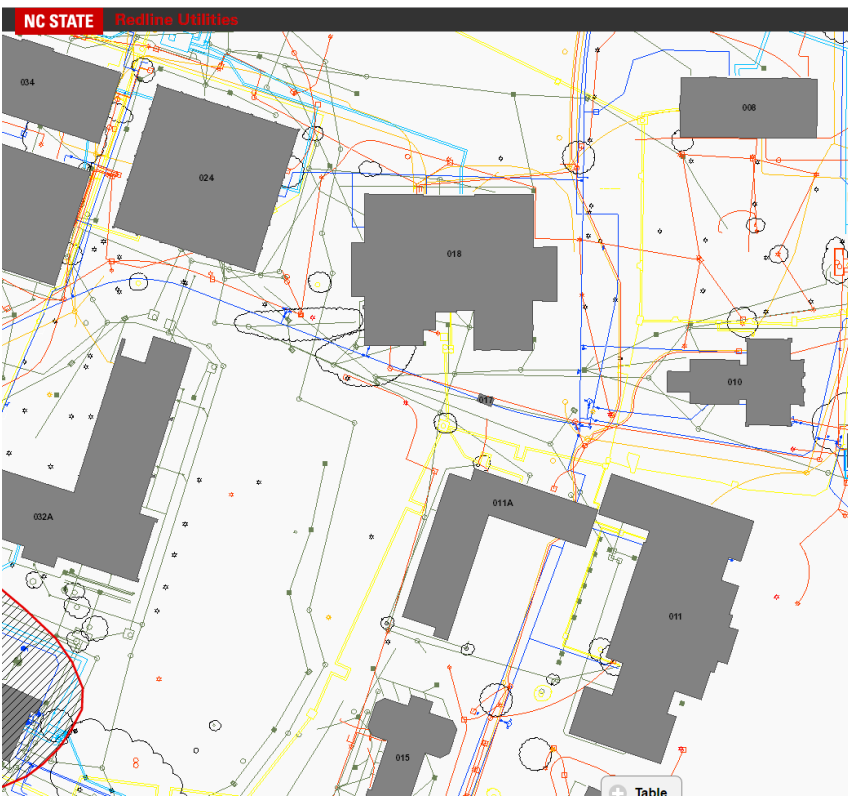
Parcel Fabric Model customization and integration within enterprise.



Projects Completed

CAD and GIS workflow for OUA, U&E, R&R, and UIP&D

Red-lining Application and Red-lining Utilities Application



Details [Close] [Refresh]

Date: Wed Jun 15 2016


Type: Road or Sidewalk

Added By: smroyo

Resolved: No

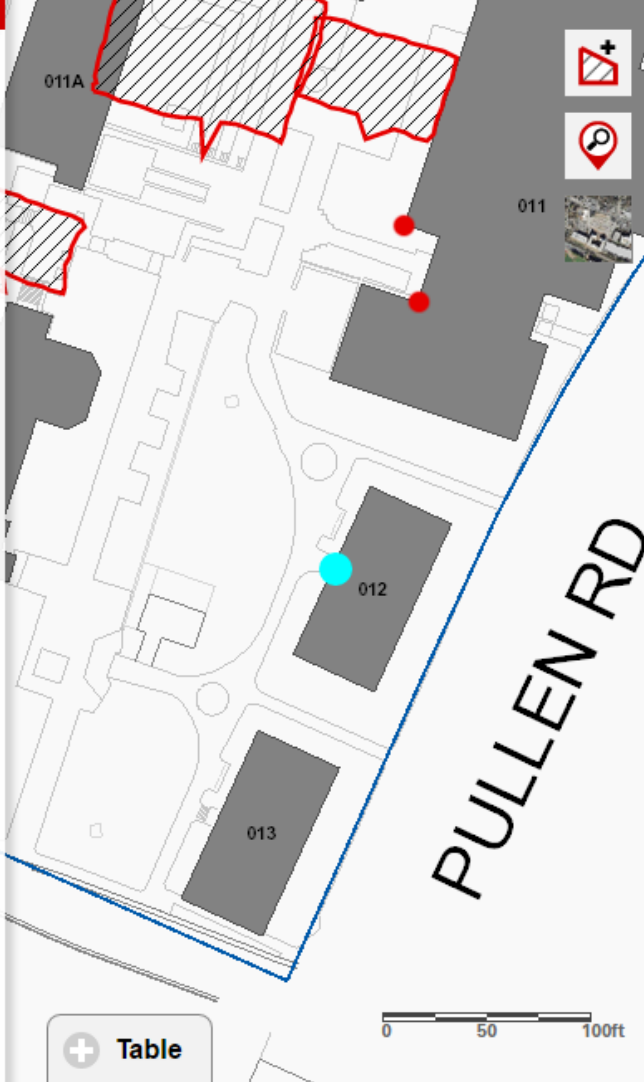
Comments: Bricks broken on front stair

1 Photos:



Edit

Zoom to Redline



Projects Completed

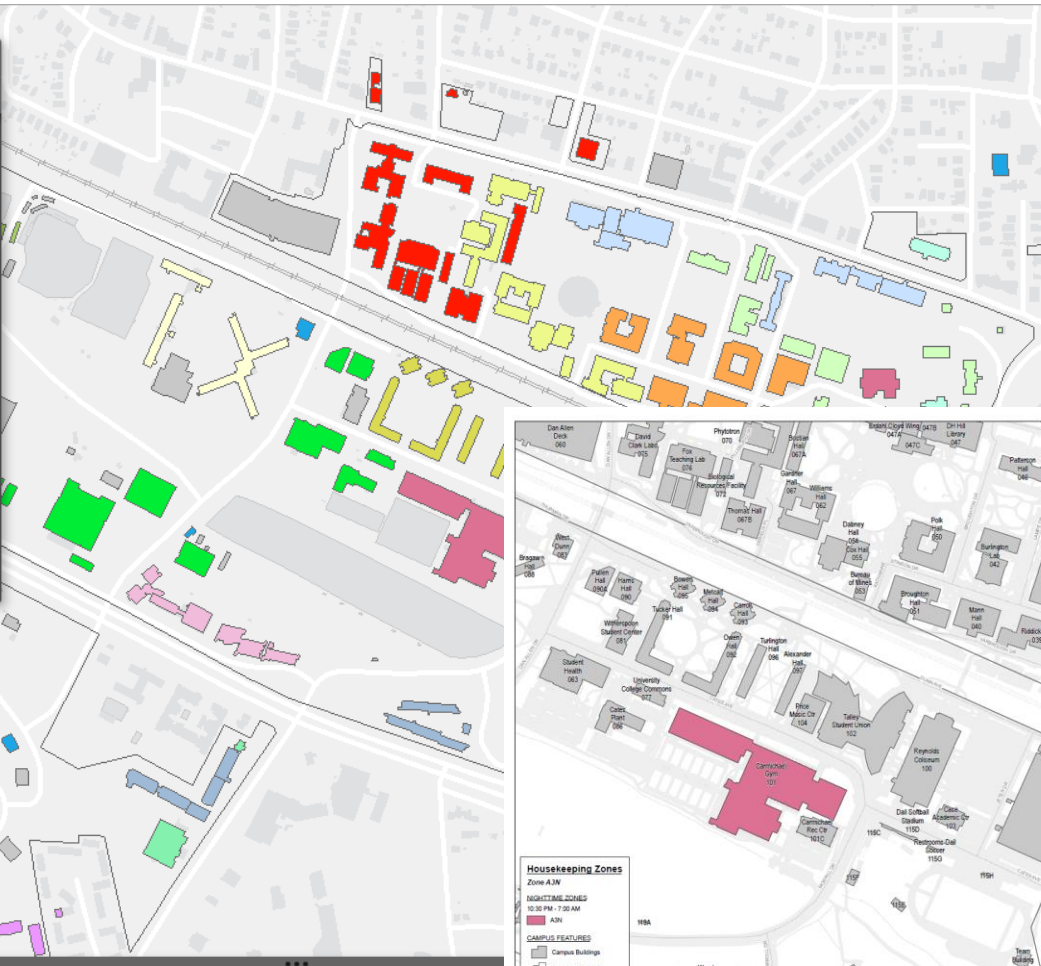
Interactive Housekeeping Zone Map

Legend

Housekeeping Zones

Zone Symbology

- A1
- A2
- A3N
- A4N
- A5
- A6
- A4D
- A7
- A8
- CBC1
- CBC2
- CC1
- CC2
- H1



GIS Website <https://facilities.ofa.ncsu.edu/gis/>



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FACILITIES UNITS

- ALL FACILITIES DEPARTMENTS
- Capital Project Management
- Design and Construction Services
- Facilities Budget Office
- Facilities Human Resources
- Facilities Operations
- Fleet Services
- Grounds Management
- Landscape Construction Services
- Mail Services
- Office of the University Architect
- Waste Reduction & Recycling

CAMPUS PARTNERS

- Campus Design Review Panel
- Campus Environmental Sustainability Team
- College Facilities Coordinators
- Enterprise GIS Steering Committee
- Facilities Liaisons

Download GIS Data

[Building Footprints \(shapefile\)](#) | Revised June 2016

[Campus Perimeters \(shapefile\)](#) | Revised June 2016
includes Central, Centennial, North, South, West, Reedy Creek, and Lake Wheeler precincts

[Campus Existing CAD Map \(AutoCAD file\)](#) | Revised June 2016

Disclaimer

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2016 – 2017 Fiscal Year Proposed Plan

Work on implementing Shibboleth for security, allowing the use of Unity ID authentication.

Continue to develop and enhance standards.

Determine utilities to be maintained in GIS. Define update workflow and attributes. Provide web map for users to view utilities in the field.

Provide viewer of Parcel Fabric model for Real Estate. Work to collect additional parcel data.

Work with ADA Advisory Committee on ADA project data. Define update workflow and attributes.

Move to using Enterprise GIS data within current campus map.

Other Business

Next Meeting: March 2017