

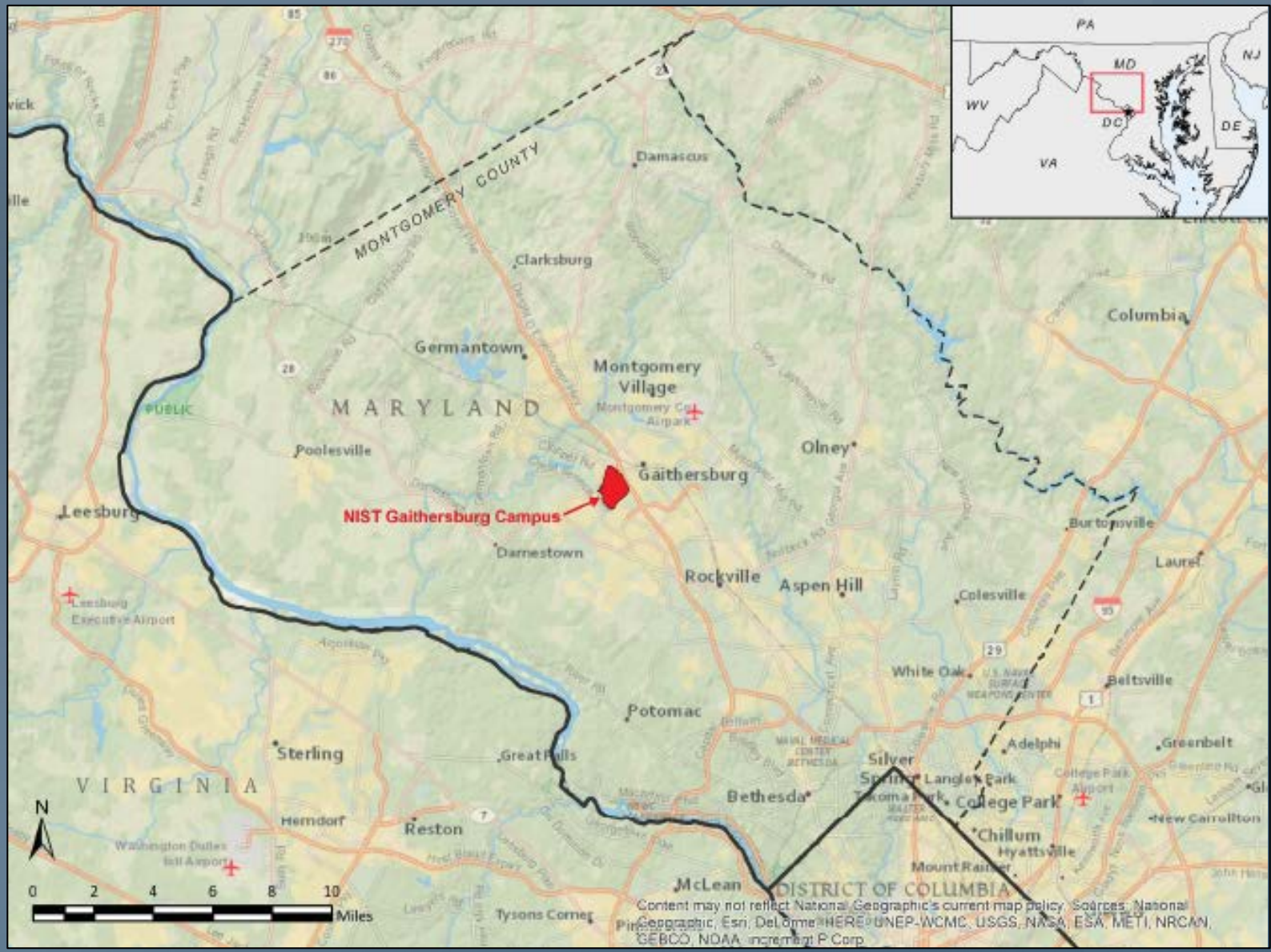
National Institute of Standards and Technology Campus Master Plan

Gaithersburg, Maryland

Submitted by the National Institute of Standards and Technology

April 5, 2018

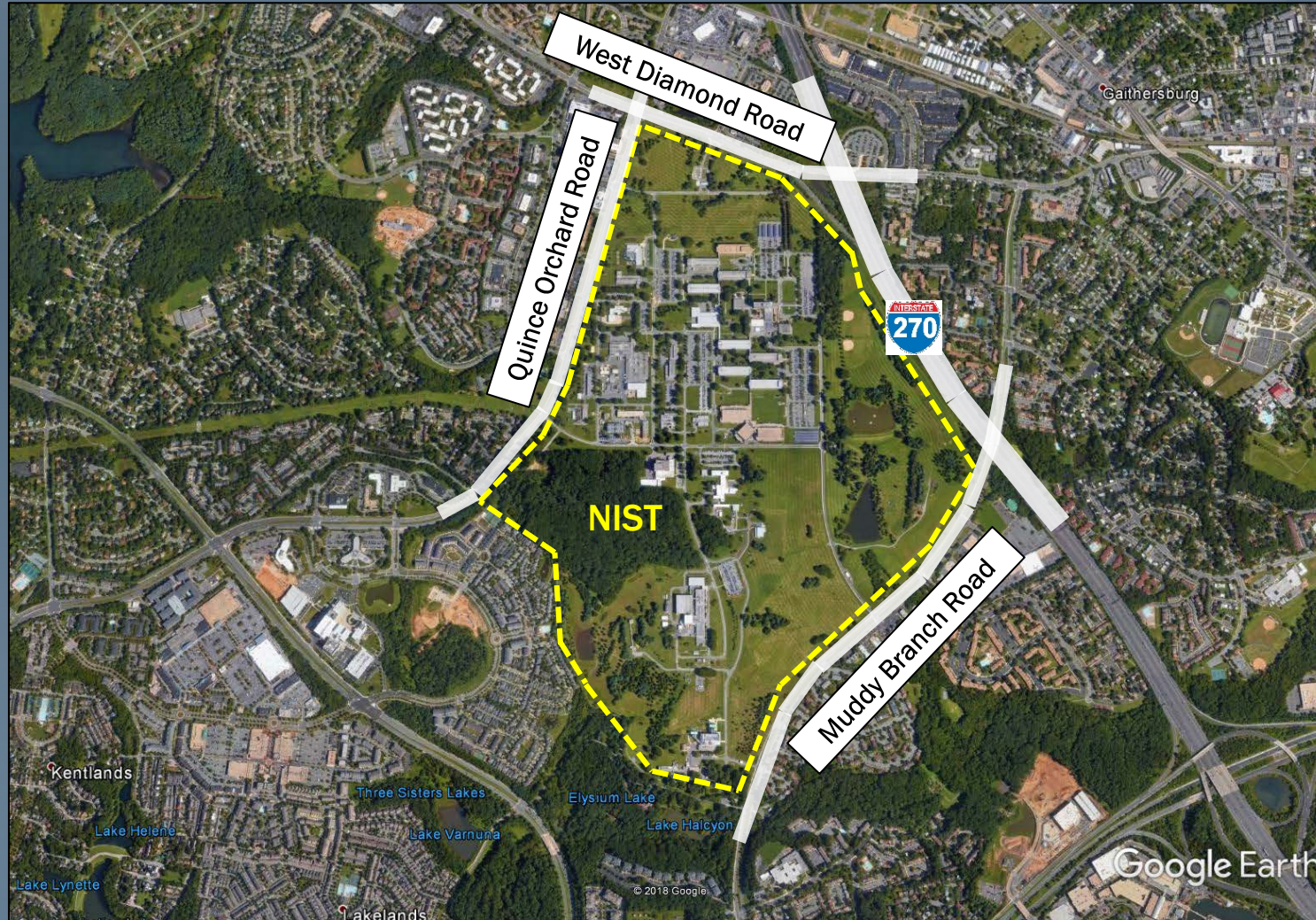
Draft Review



“To promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life.”

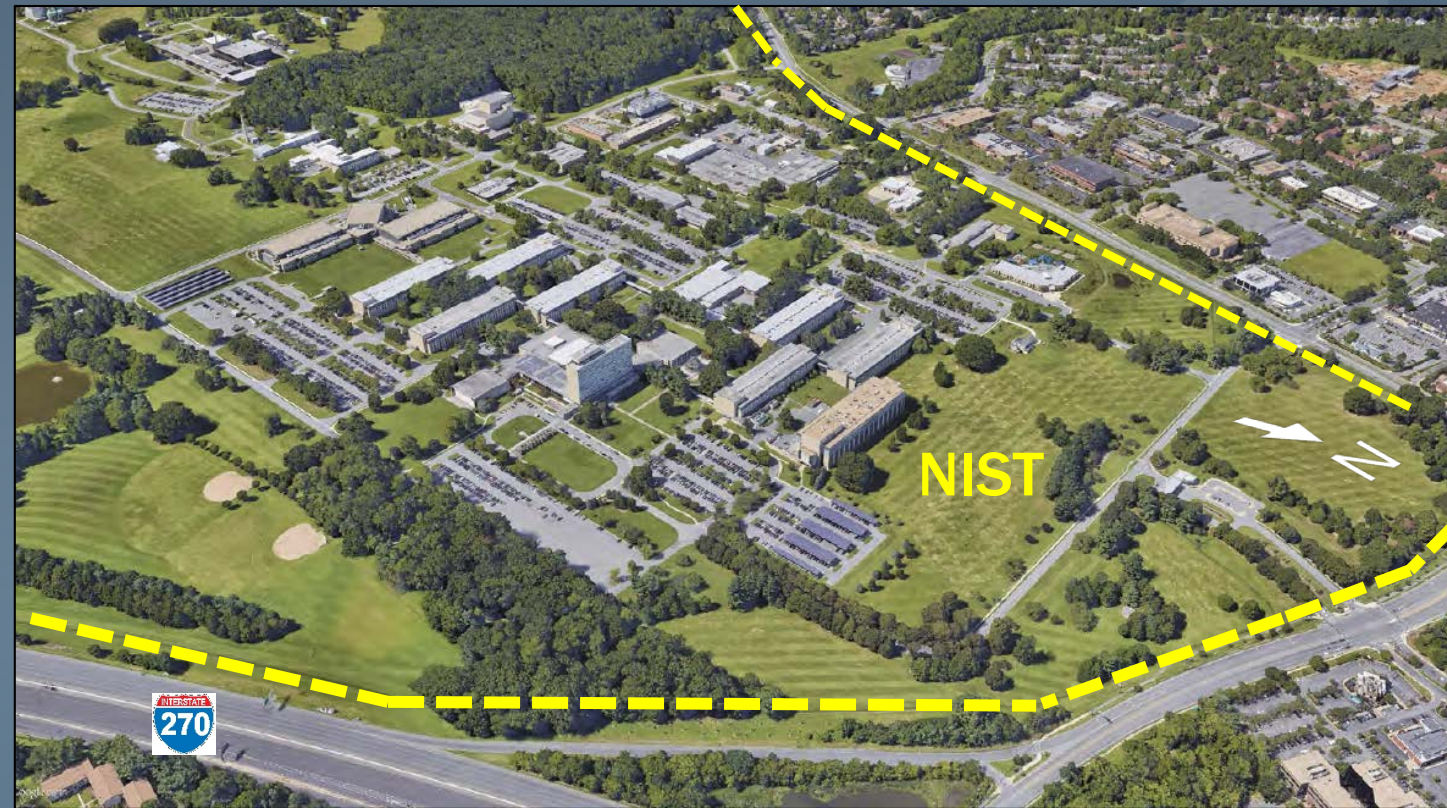




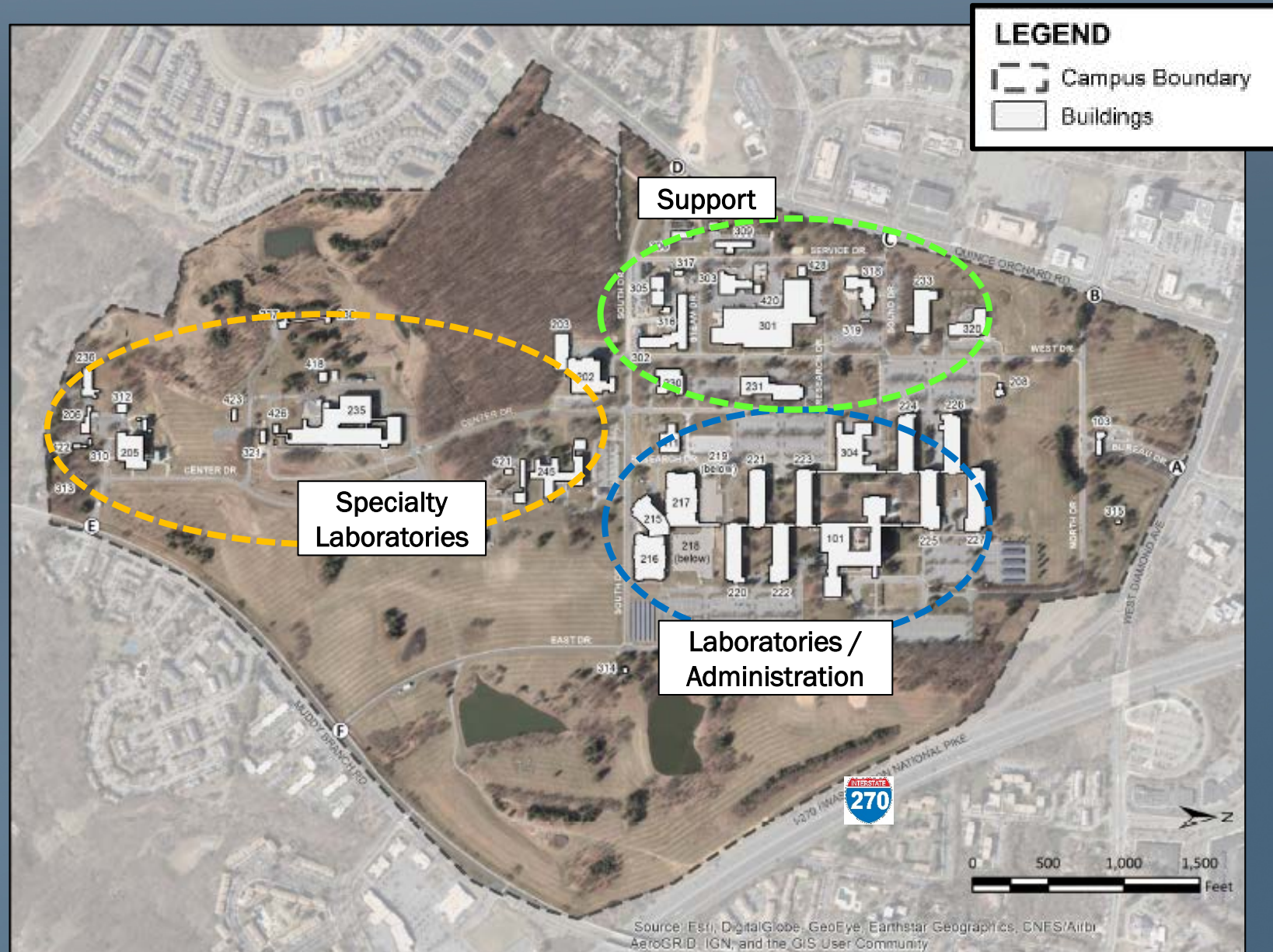


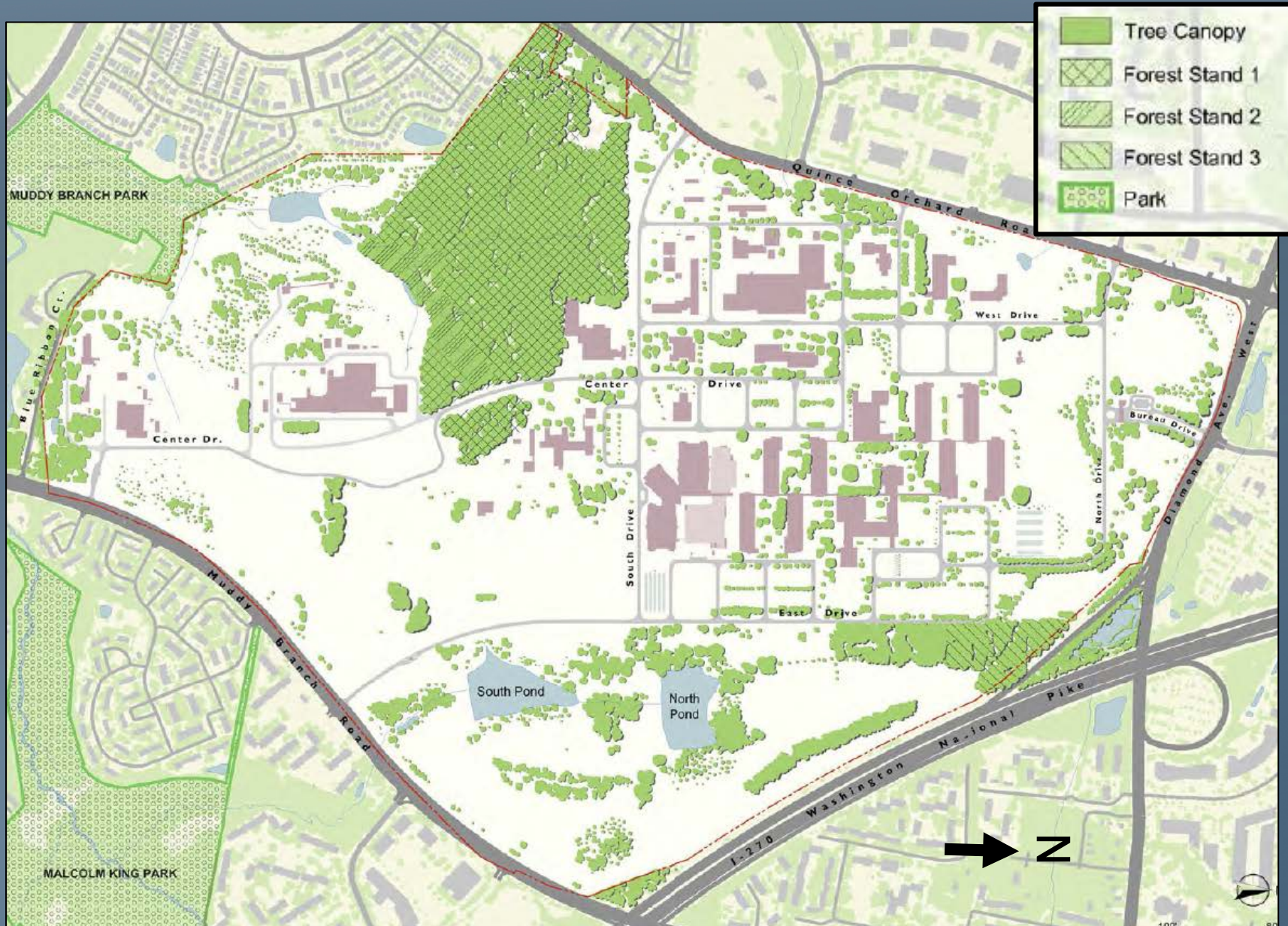


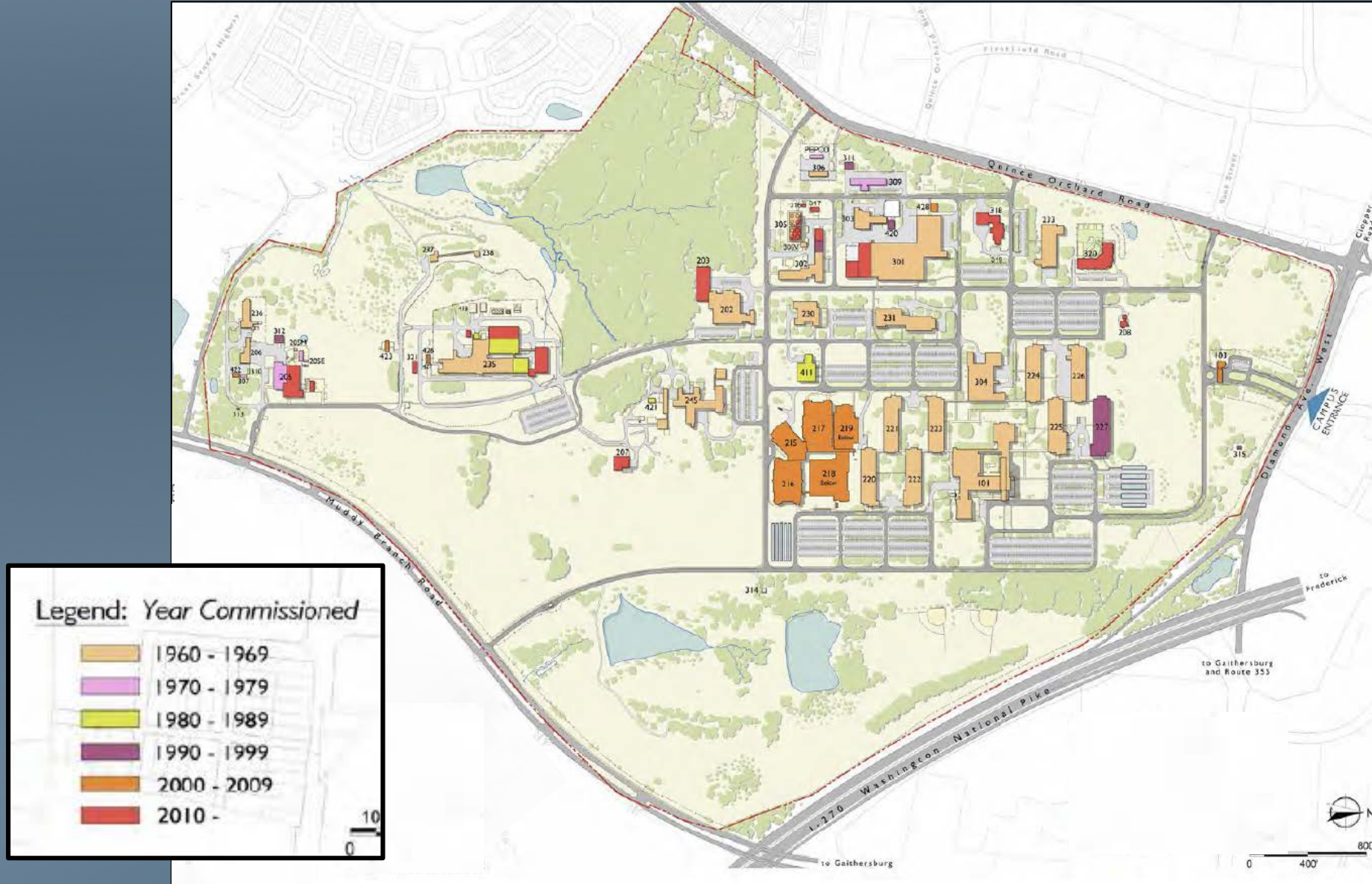
- Rolling terrain, dotted with trees and wooded areas
- 62 buildings and structures, totaling over 3.6 million gross square feet of space
- 4,000 personnel (both employees and associates)
- Approximately half of the permanent buildings are currently over 50 years old
- Campus features modern architectural design of the late 1950s and the 1960s

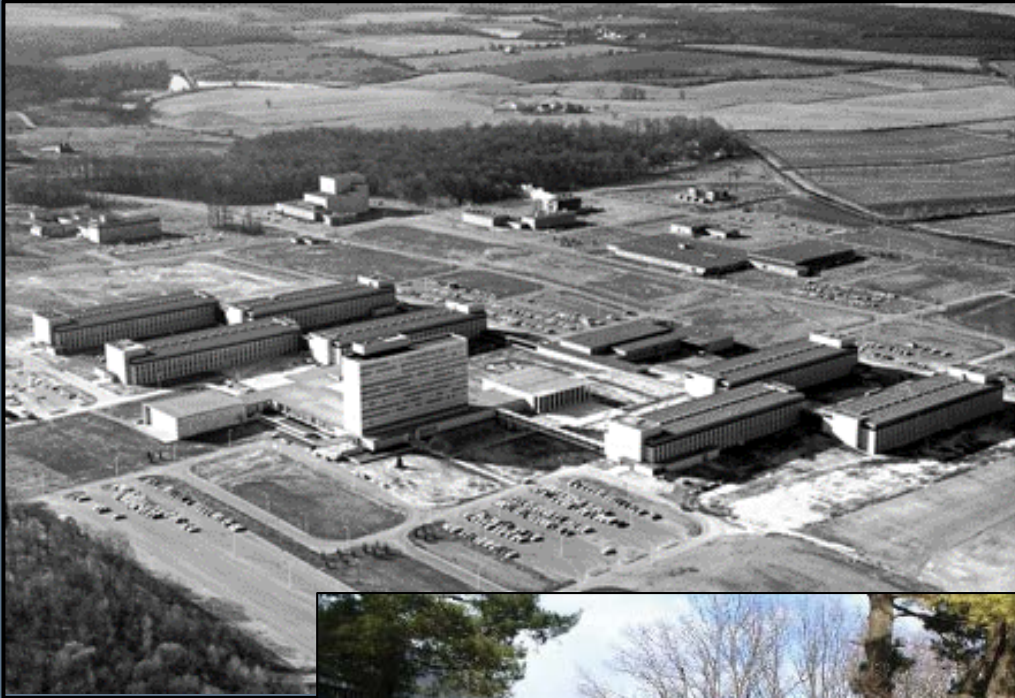


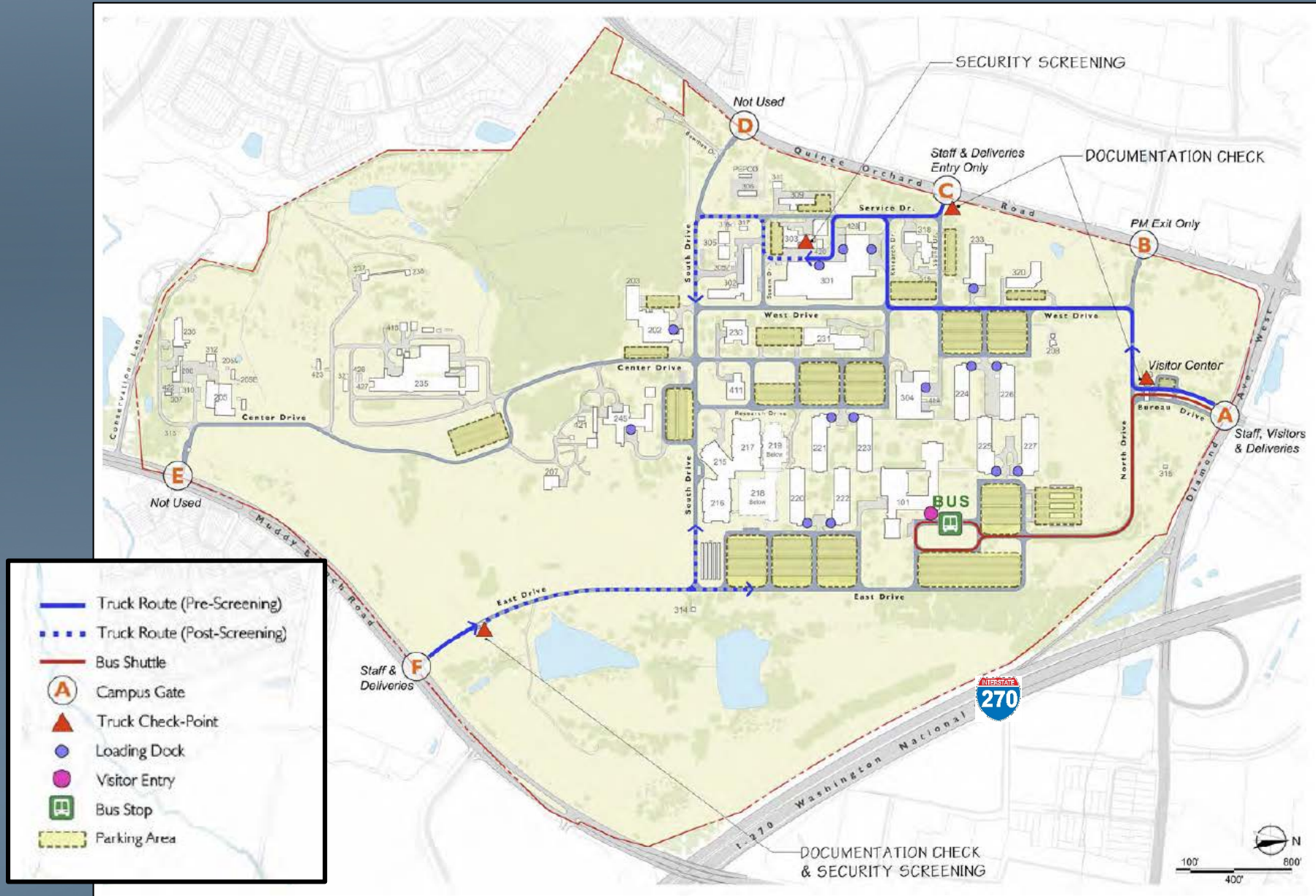


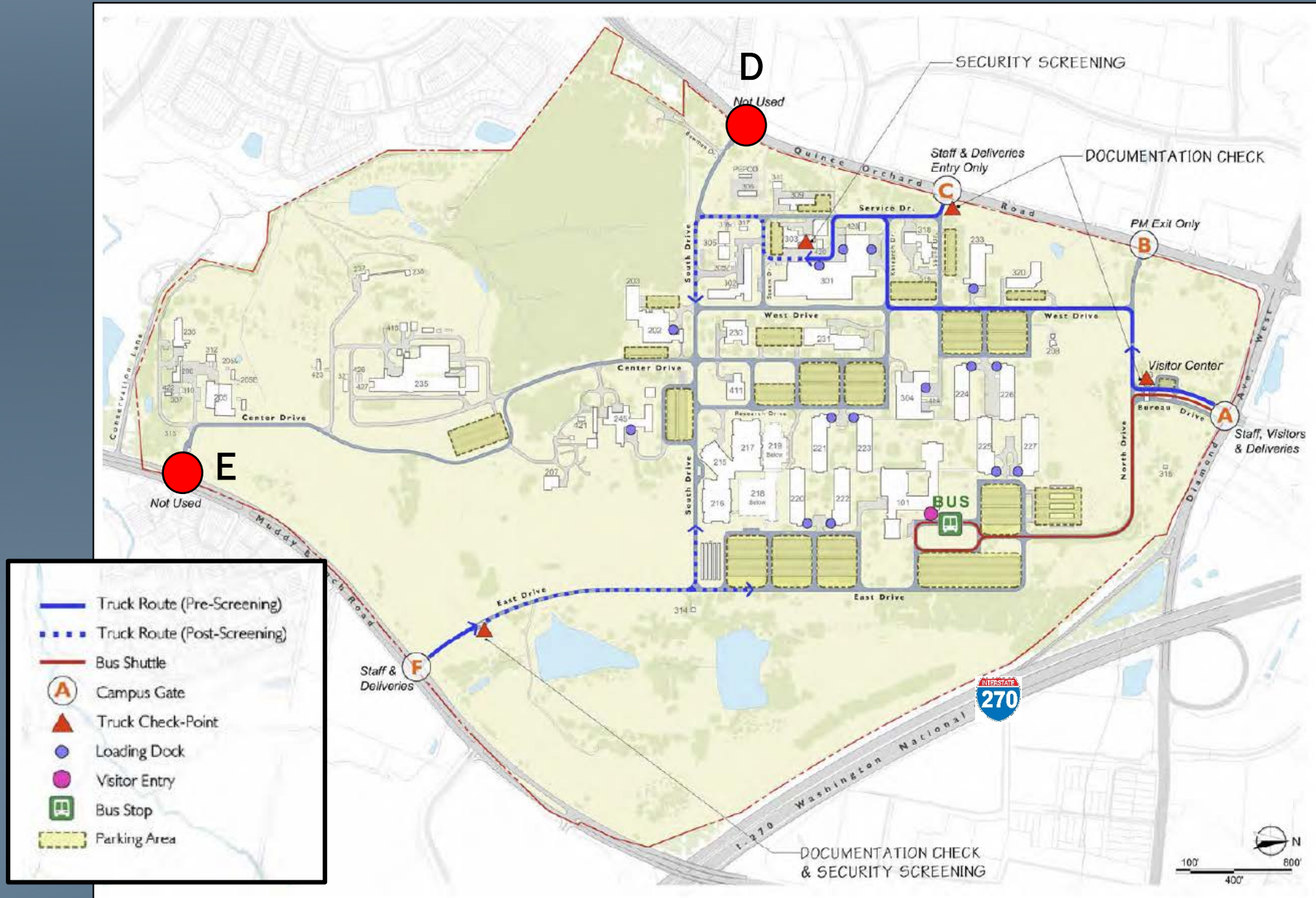


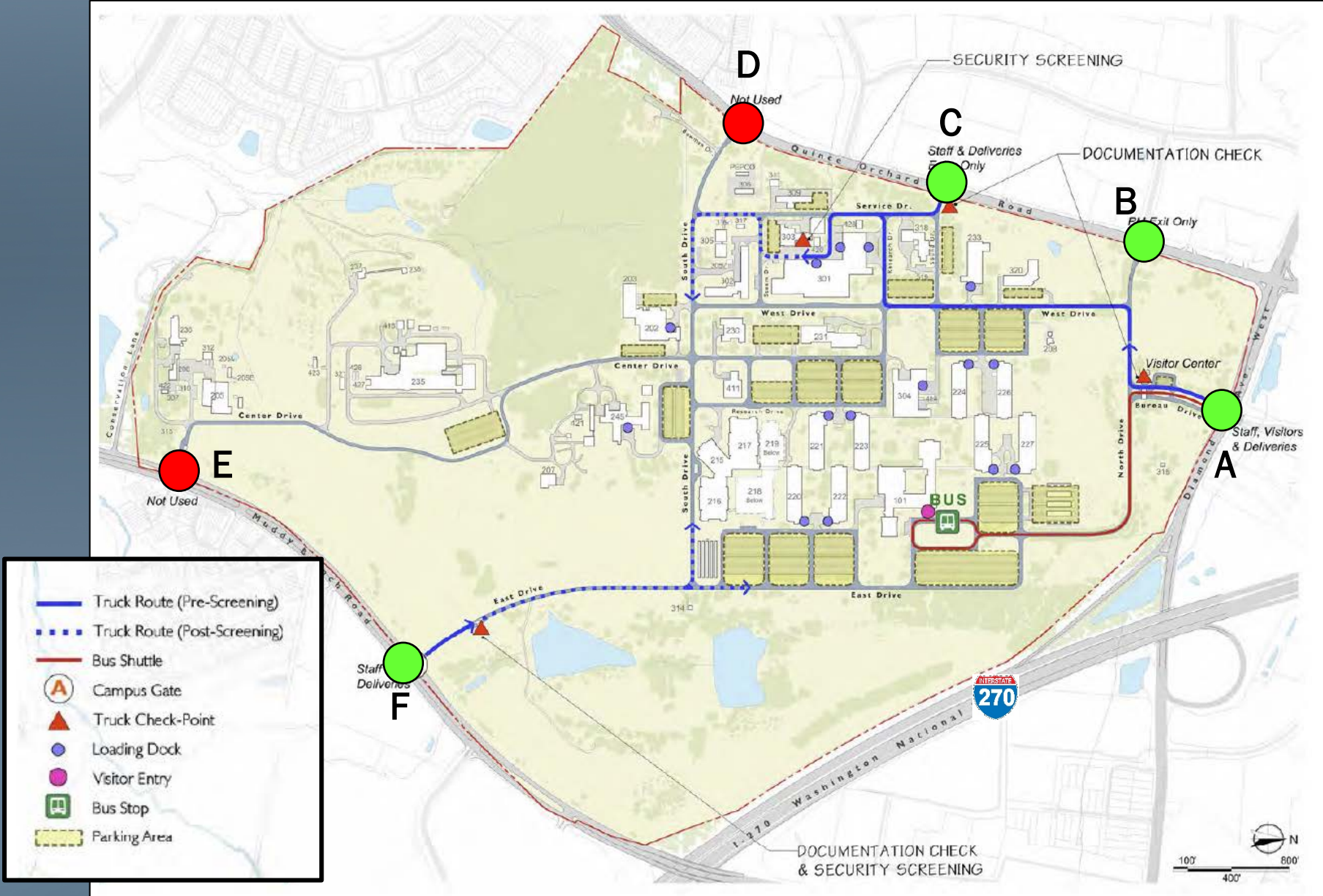


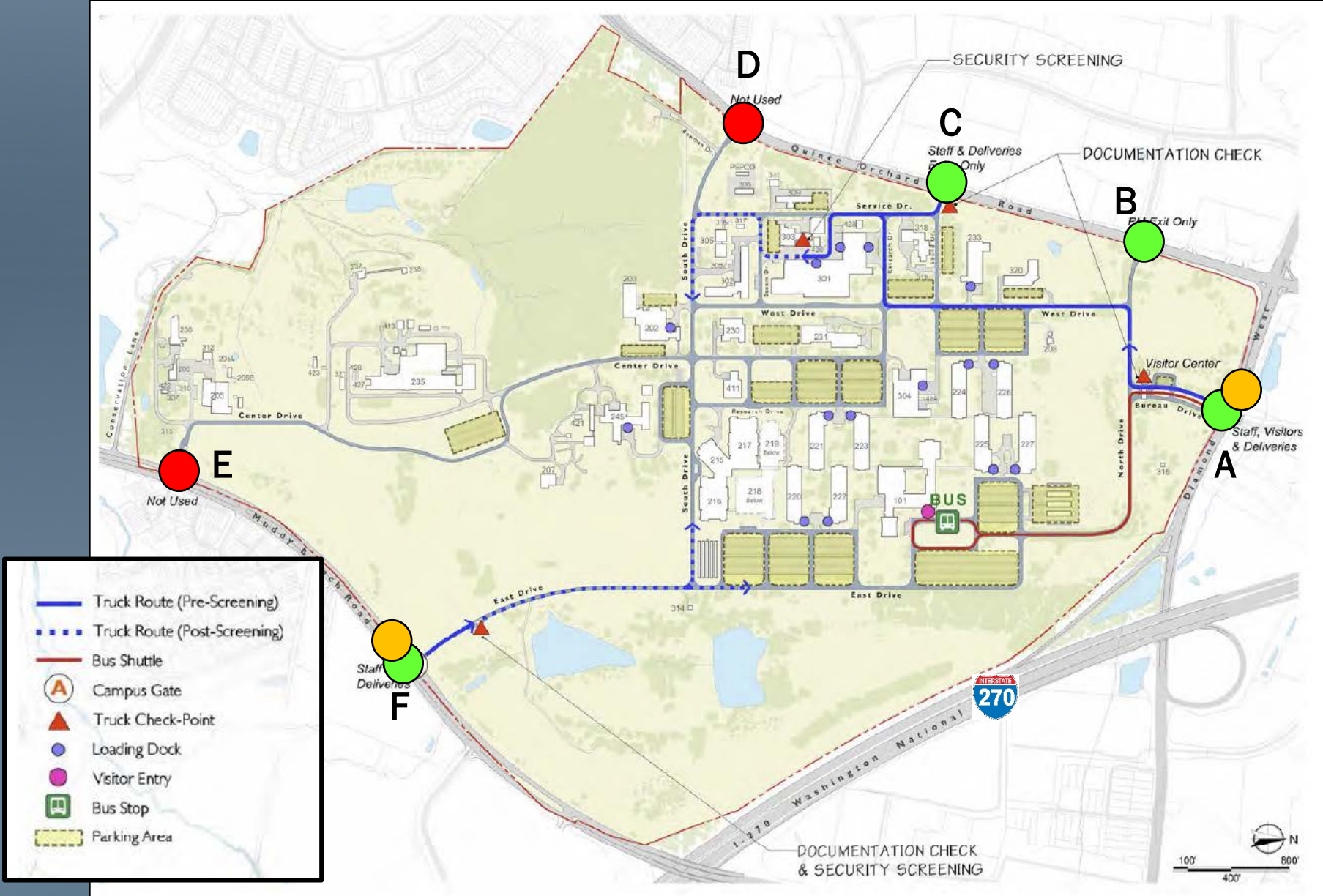


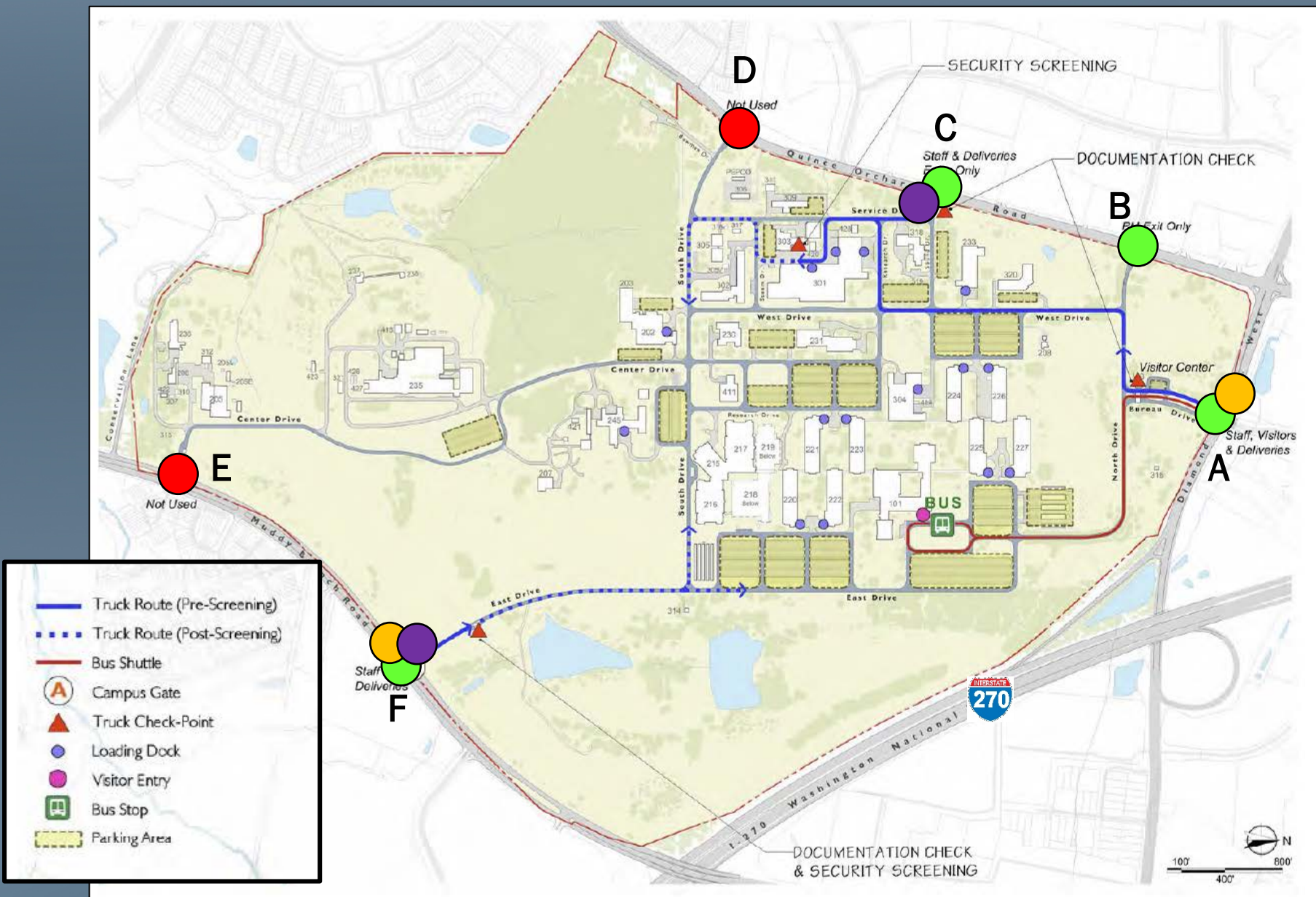




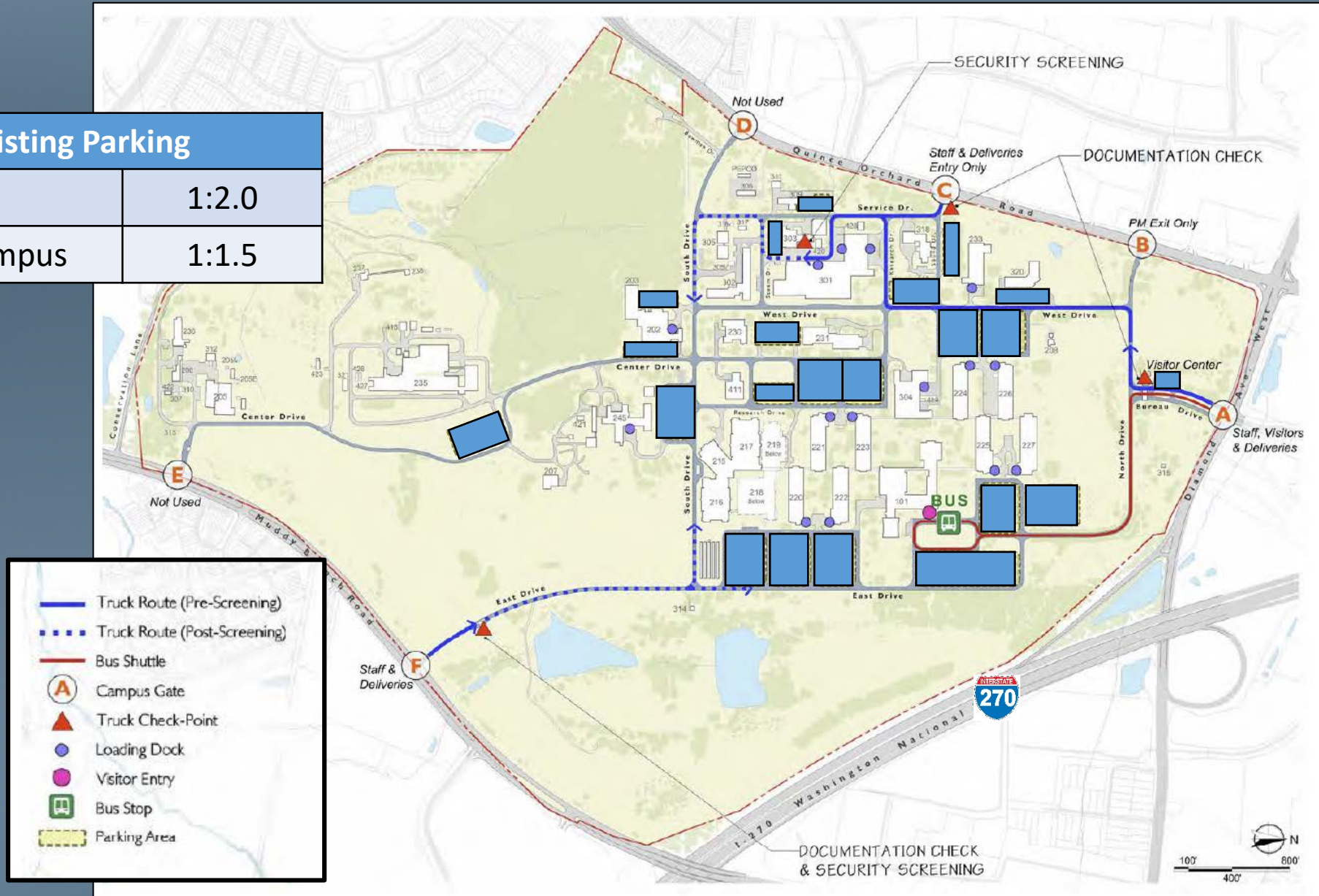








Existing Parking	
NCPC Goal	1:2.0
Overall Campus	1:1.5





Assumptions

- Future programming requires **1.4 million gross square feet of new space**
- **1,100 employee increase**



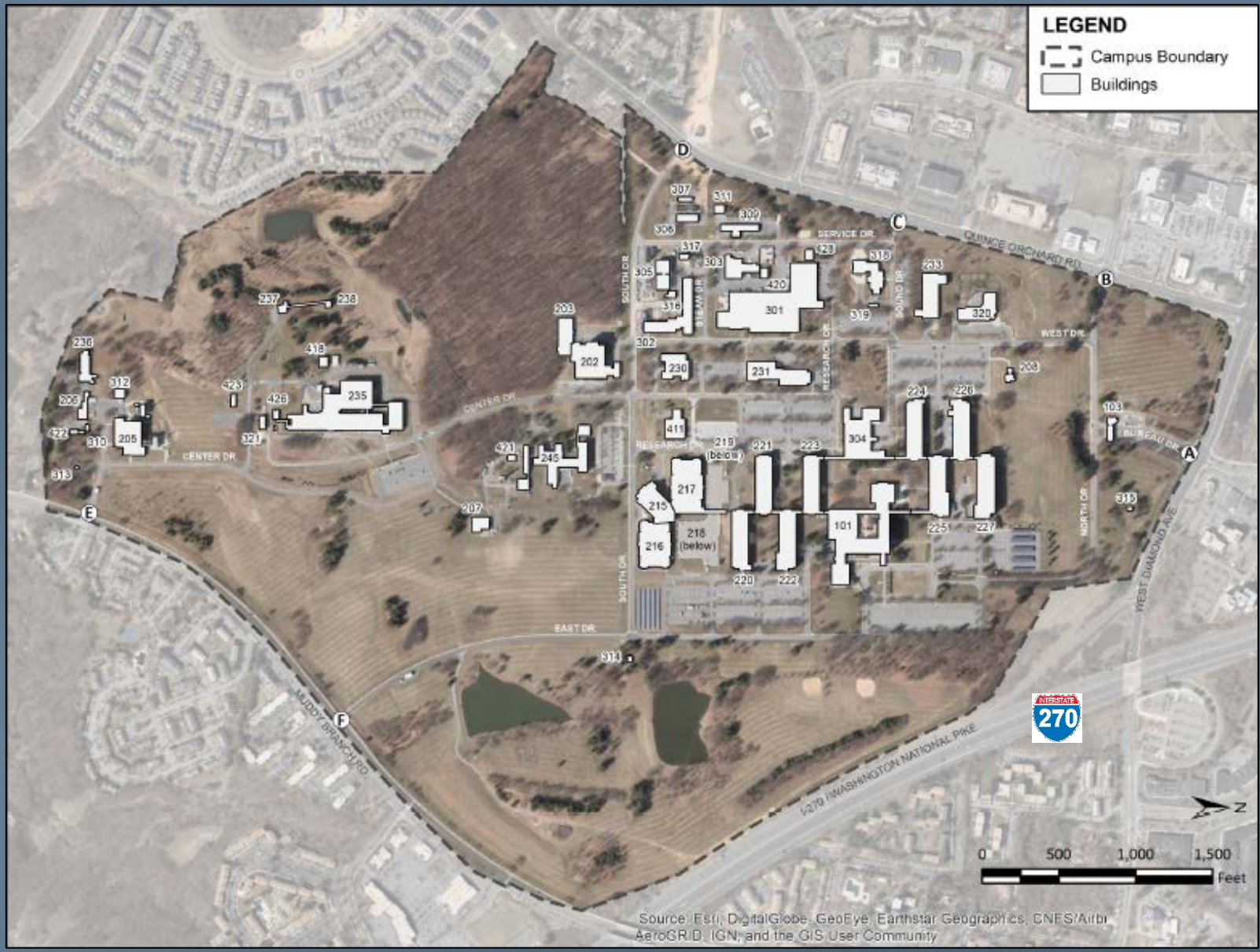
Outcomes

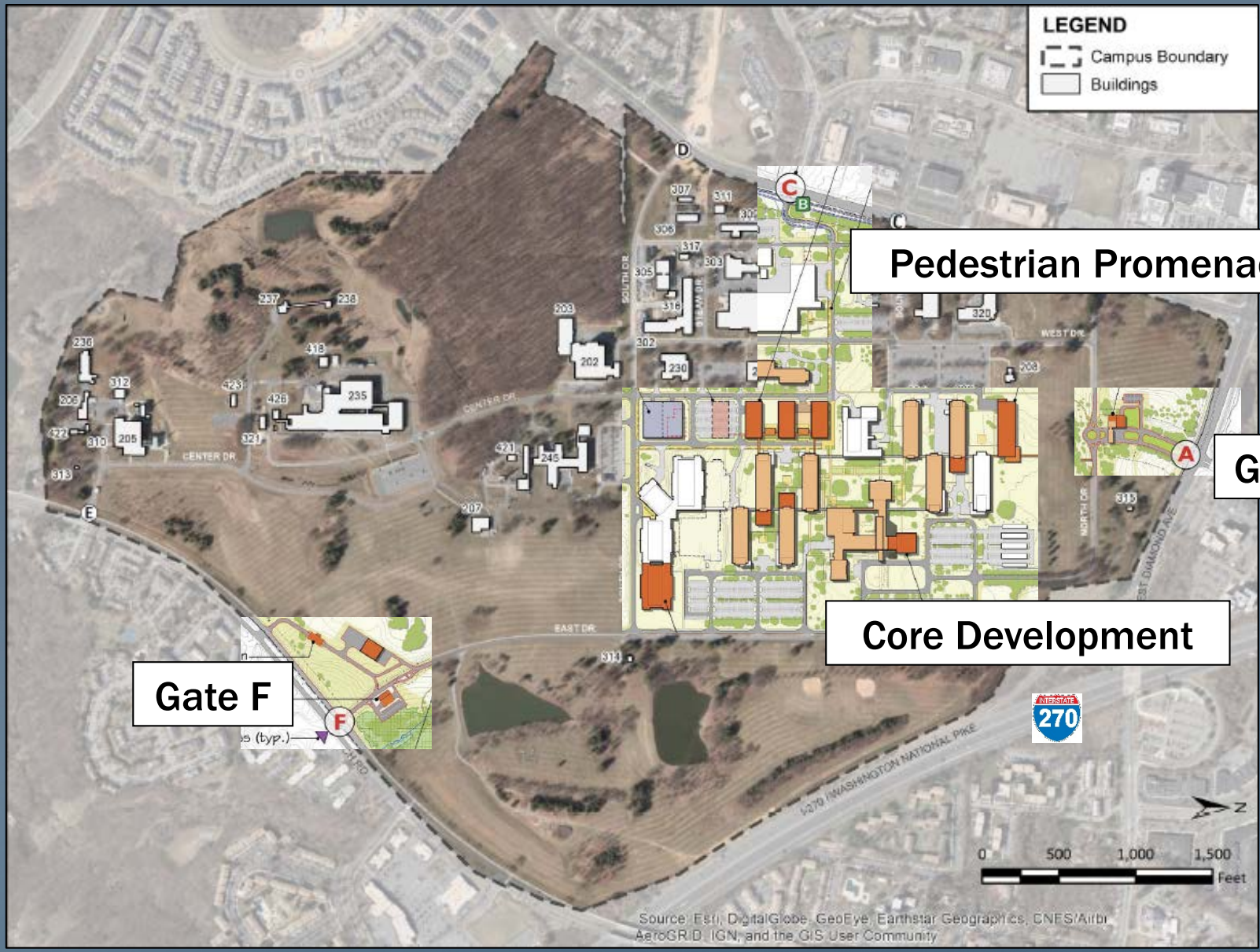
- Energy conservation
- Growth in a flexible manner
- Consolidated delivery/shipping and receiving/ and conference visitor processing
- Better campus security
- More environmentally sustainable, active campus.



Goals

- Increase total forest land area to **15%** (*Maryland-National Capital Park and Planning*)
- Increase total tree canopy area to **40% by 2025** (*Maryland Department of the Environment*)
- Treat **20%** of all future impervious surface area runoff (*Maryland Department of the Environment*)
- Reduce nutrient / sediment stormwater runoff loads equivalent to treatment of **20%** of pre-1985 impervious surface area by **2025** (*Chesapeake Bay Preservation Act*)
- Attain the following NIST building performance goals:
 - Daylight **75%** of all regularly-occupied interior building space
 - Supply **30%** of campus hot water demand with solar technology
 - Supply **30%** of campus electrical needs with renewable sources by **FY25**
 - Reduce energy intensity by **25%** by **FY 25**





LEGEND

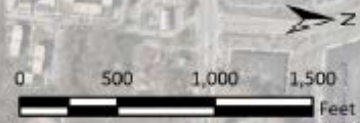
- Campus Boundary
- Buildings

Pedestrian Promenade

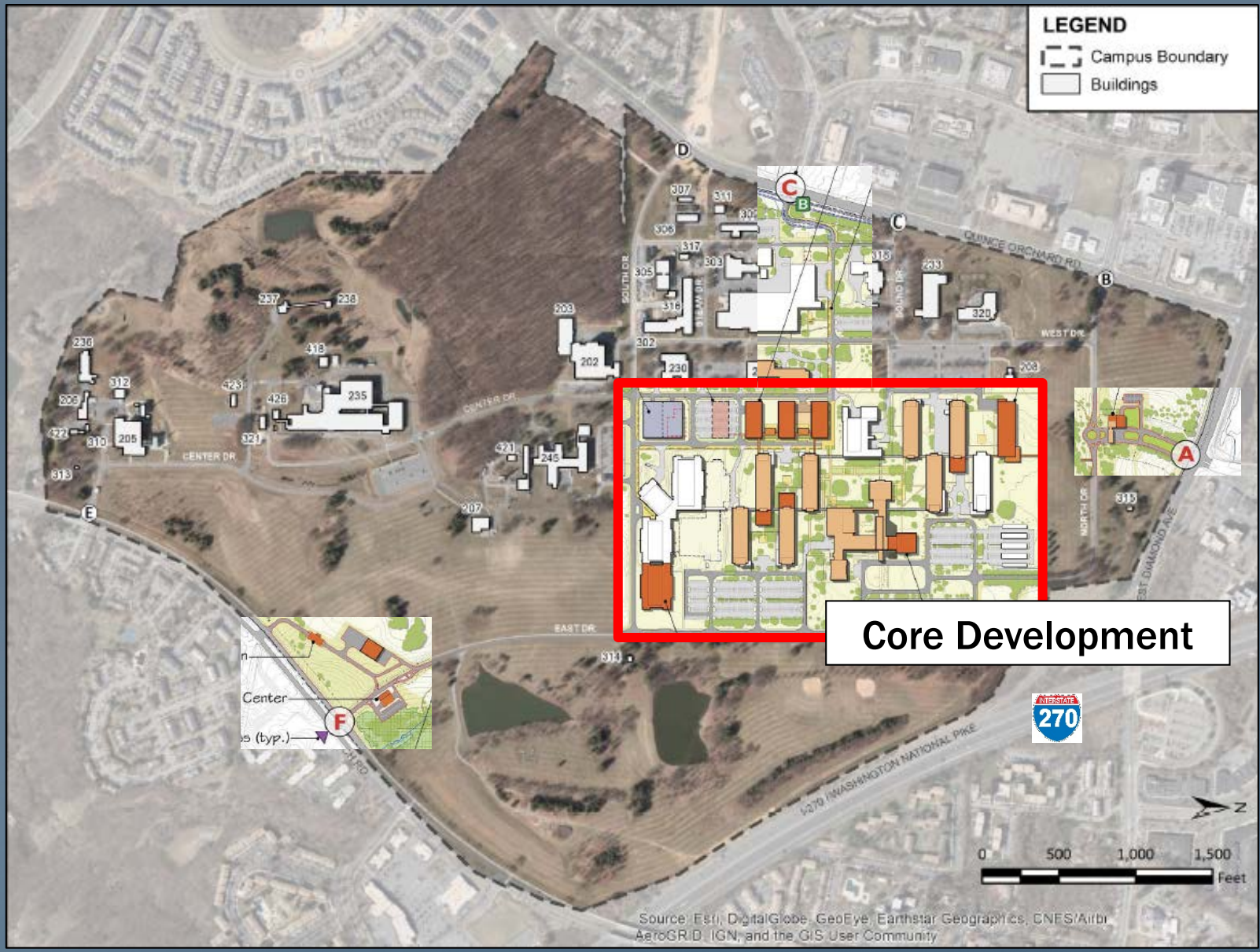
Gate A




Core Development

Gate F



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus, AeroGRID, IGN, and the GIS User Community



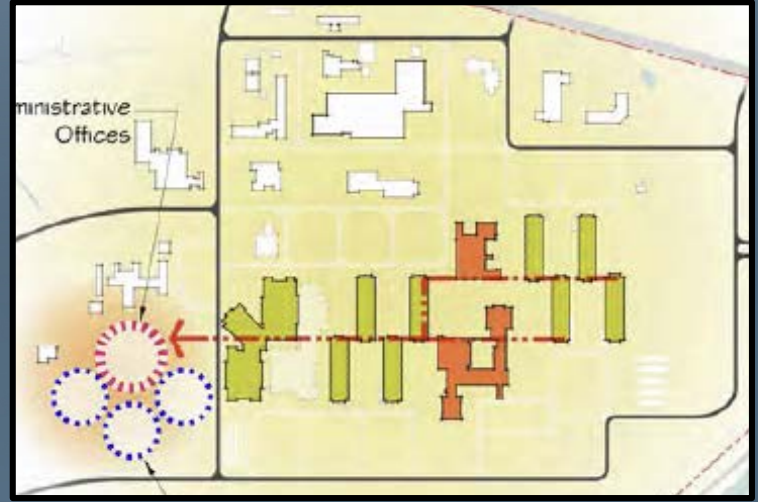
-  new research space
-  new administrative space
-  renovation
-  concourse



Alternative A



Alternative B



Alternative C



Alternative D







Alternative E



Alternative F

Capturing the Courtyards

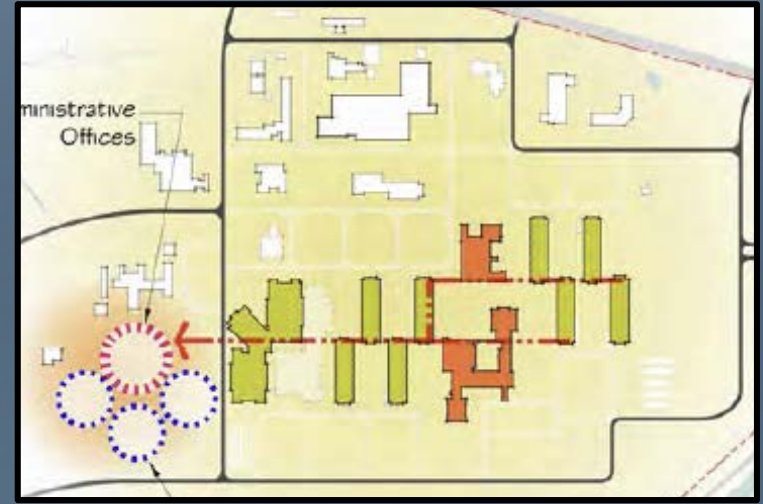
-  new research space
-  new administrative space
-  renovation
-  concourse



Alternative A



Alternative B



Alternative C



Alternative D







Alternative E



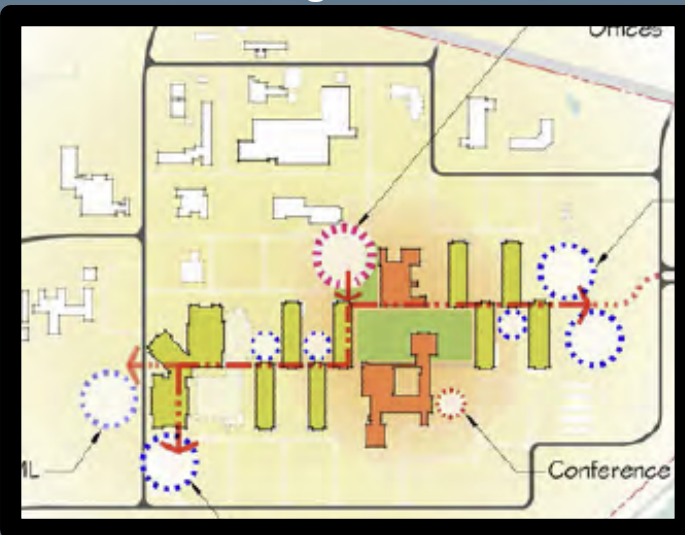
Alternative F

Extending Connections

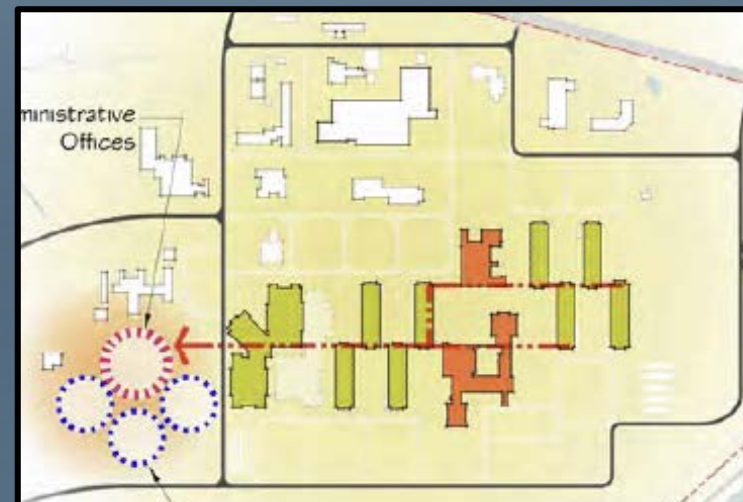
-  new research space
-  new administrative space
-  renovation
-  concourse



Alternative A



Alternative B



Alternative C



Alternative D





Alternative E



Alternative F

Creating a New Precinct

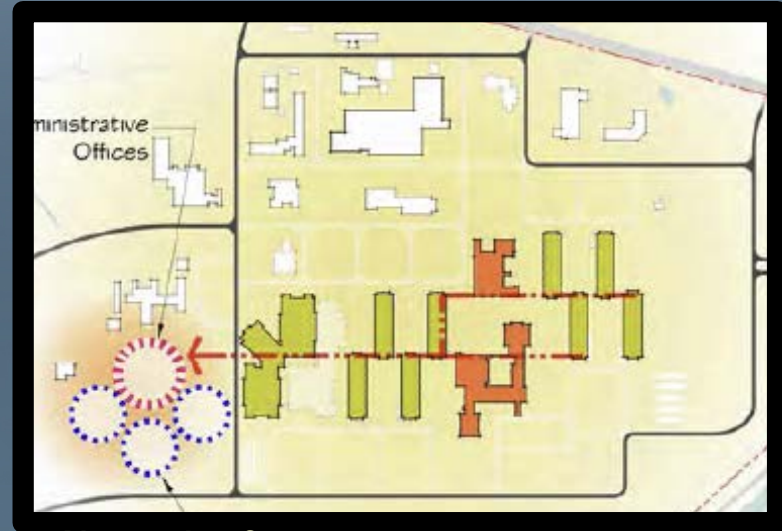
-  new research space
-  new administrative space
-  renovation
-  concourse



Alternative A



Alternative B



Alternative C







Alternative D



Alternative E



Alternative F

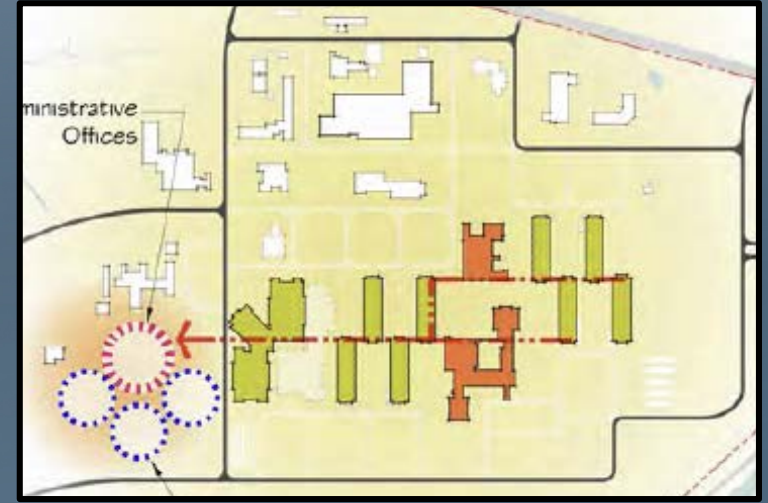
-  new research space
-  new administrative space
-  renovation
-  concourse



Alternative A



Alternative B



Alternative C

Capturing the Center







Alternative D



Alternative E



Alternative F

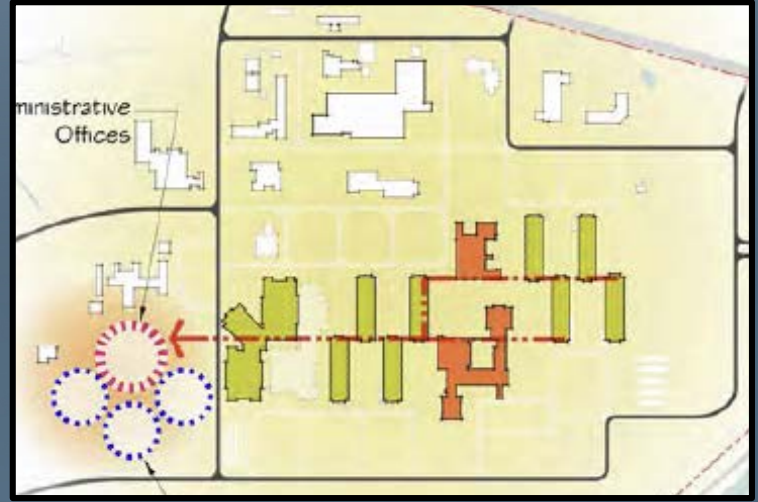
-  new research space
-  new administrative space
-  renovation
-  concourse



Alternative A



Alternative B



Alternative C

Functional Organization







Alternative D



Alternative E



Alternative F

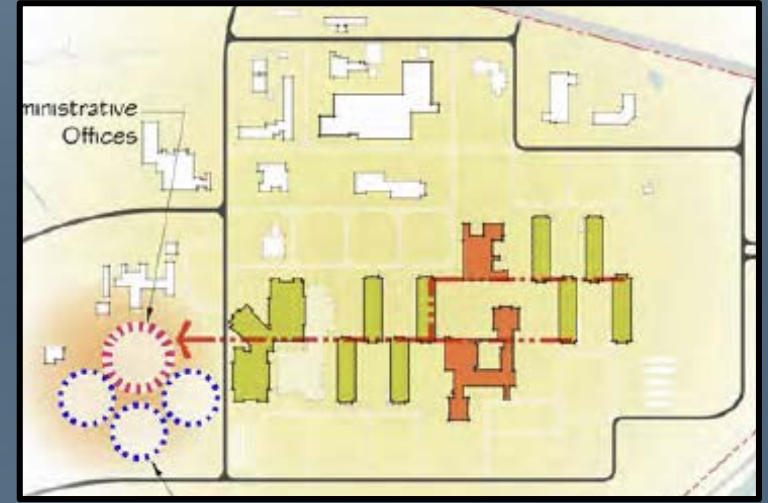
-  new research space
-  new administrative space
-  renovation
-  concourse



Alternative A



Alternative B



Alternative C

New Research Emphasis







Alternative D



Alternative E



Alternative F

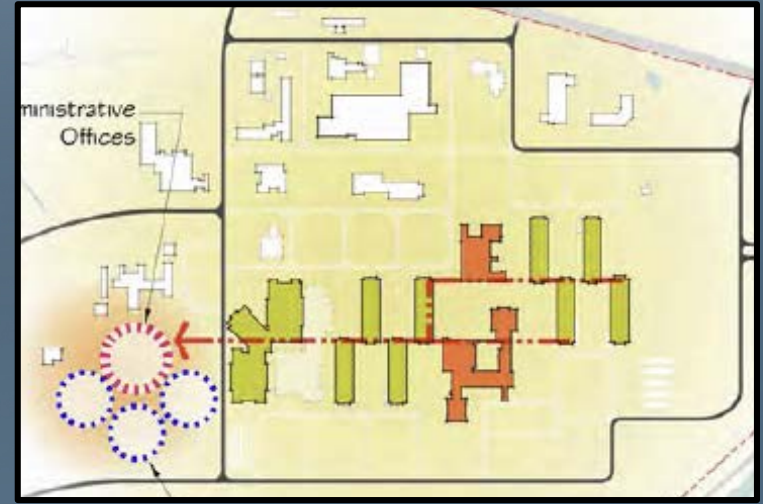
-  new research space
-  new administrative space
-  renovation
-  concourse



Alternative A



Alternative B



Alternative C

New Research Emphasis







Alternative D



Alternative E



Alternative F

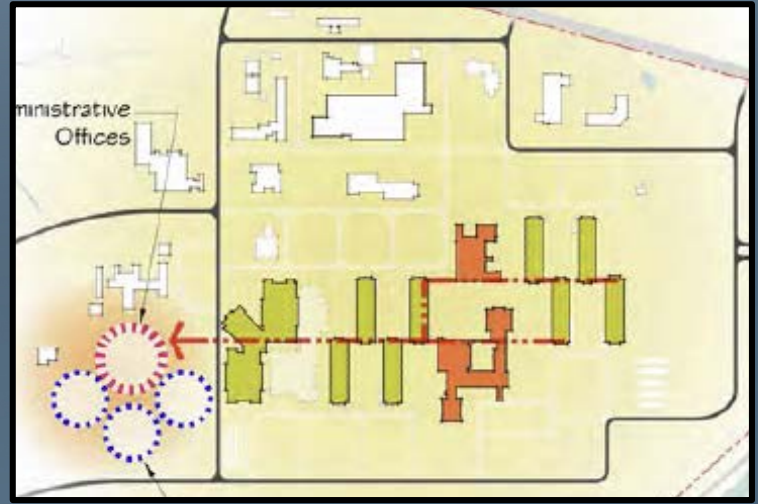
-  new research space
-  new administrative space
-  renovation
-  concourse



Alternative A



Alternative B



Alternative C

New Research Emphasis







Alternative D



Alternative E



Alternative F

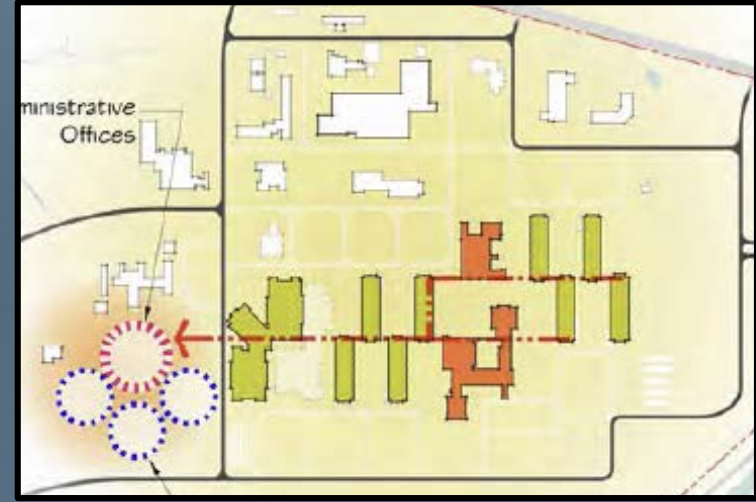
-  new research space
-  new administrative space
-  renovation
-  concourse



Alternative A



Alternative B



Alternative C

New Research Emphasis



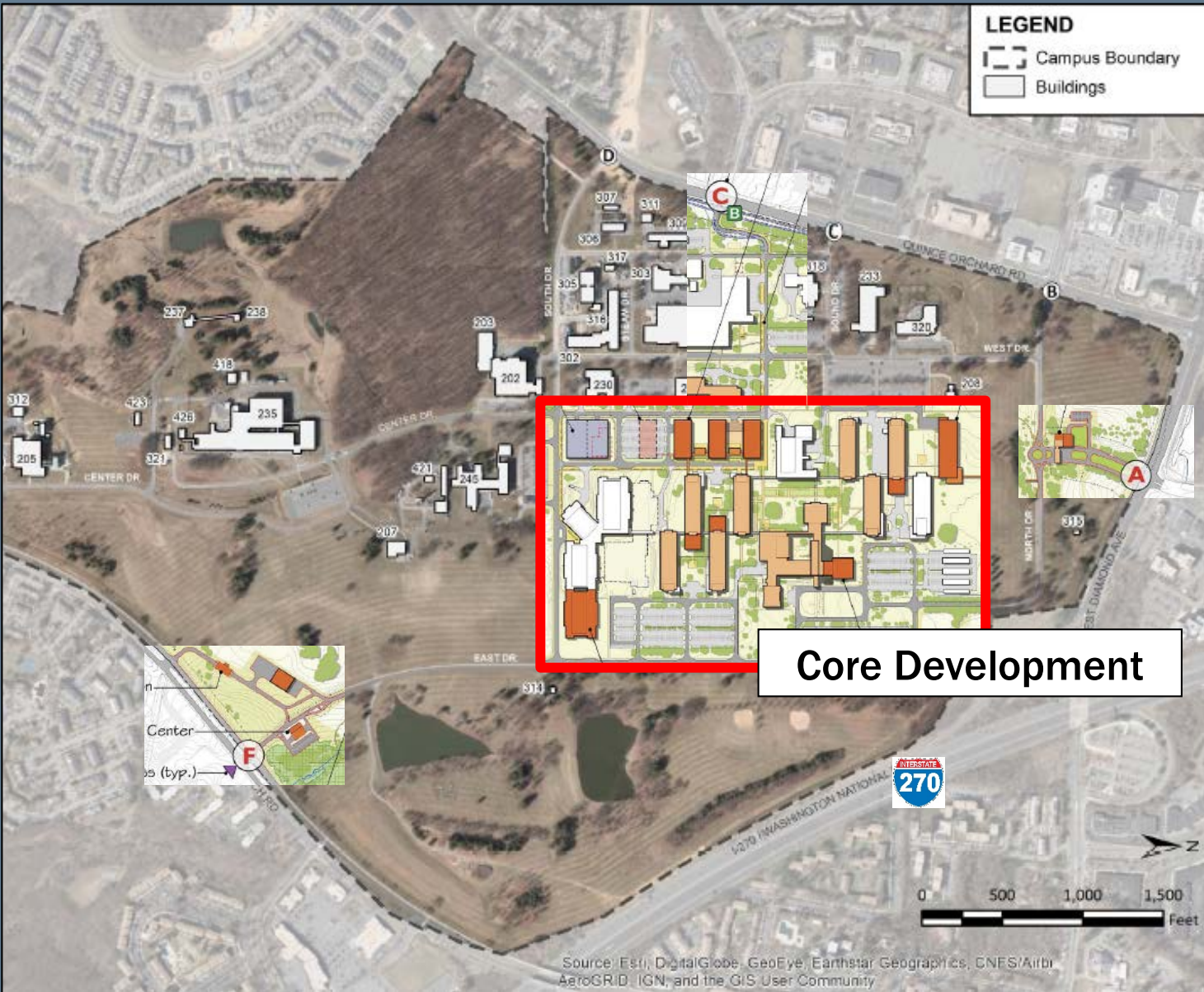
Alternative D



Alternative E



Alternative F



- All new construction for research uses
- Reinforces pedestrian concourse spine
- Respects traditional historic core boundary
- Redevelops largest area of surface parking



Alternative F



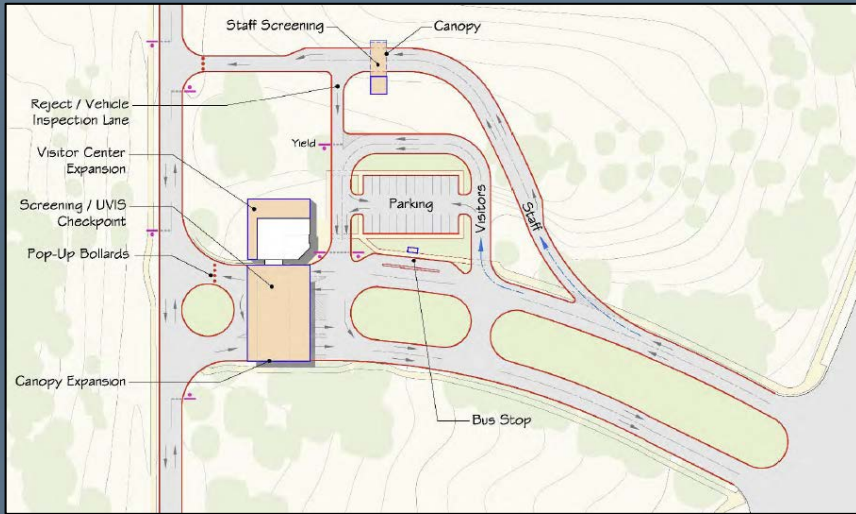
LEGEND

- Campus Boundary
- Buildings



Gate A

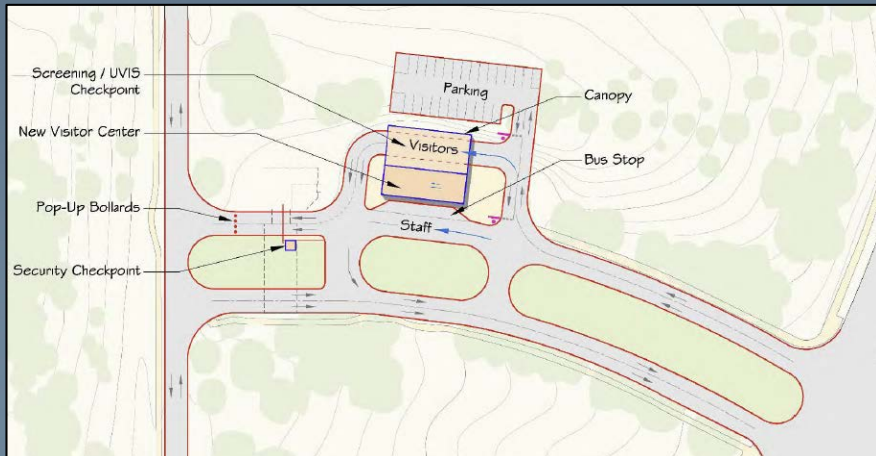
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus, AeroGRID, IGN, and the GIS User Community



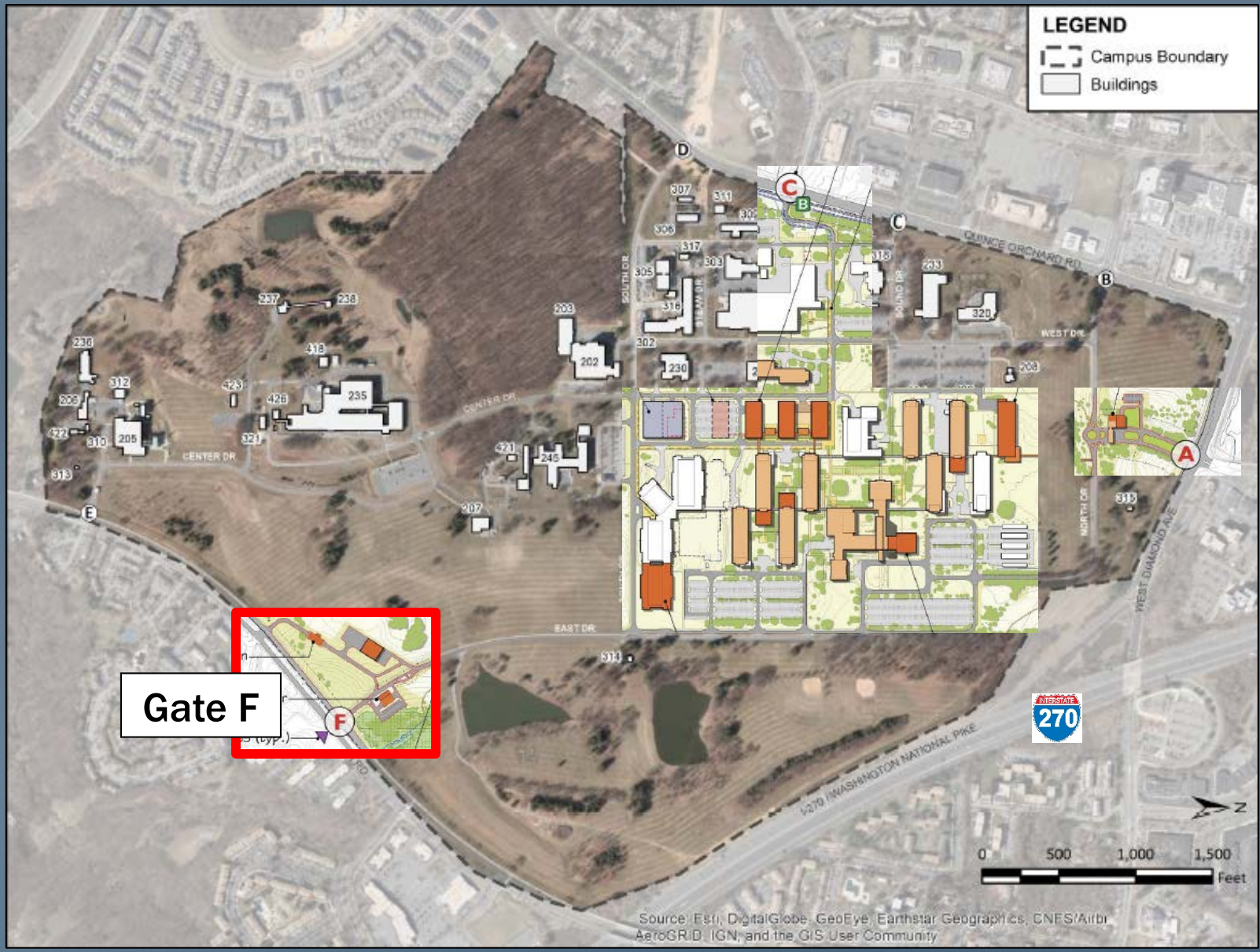
Option 3

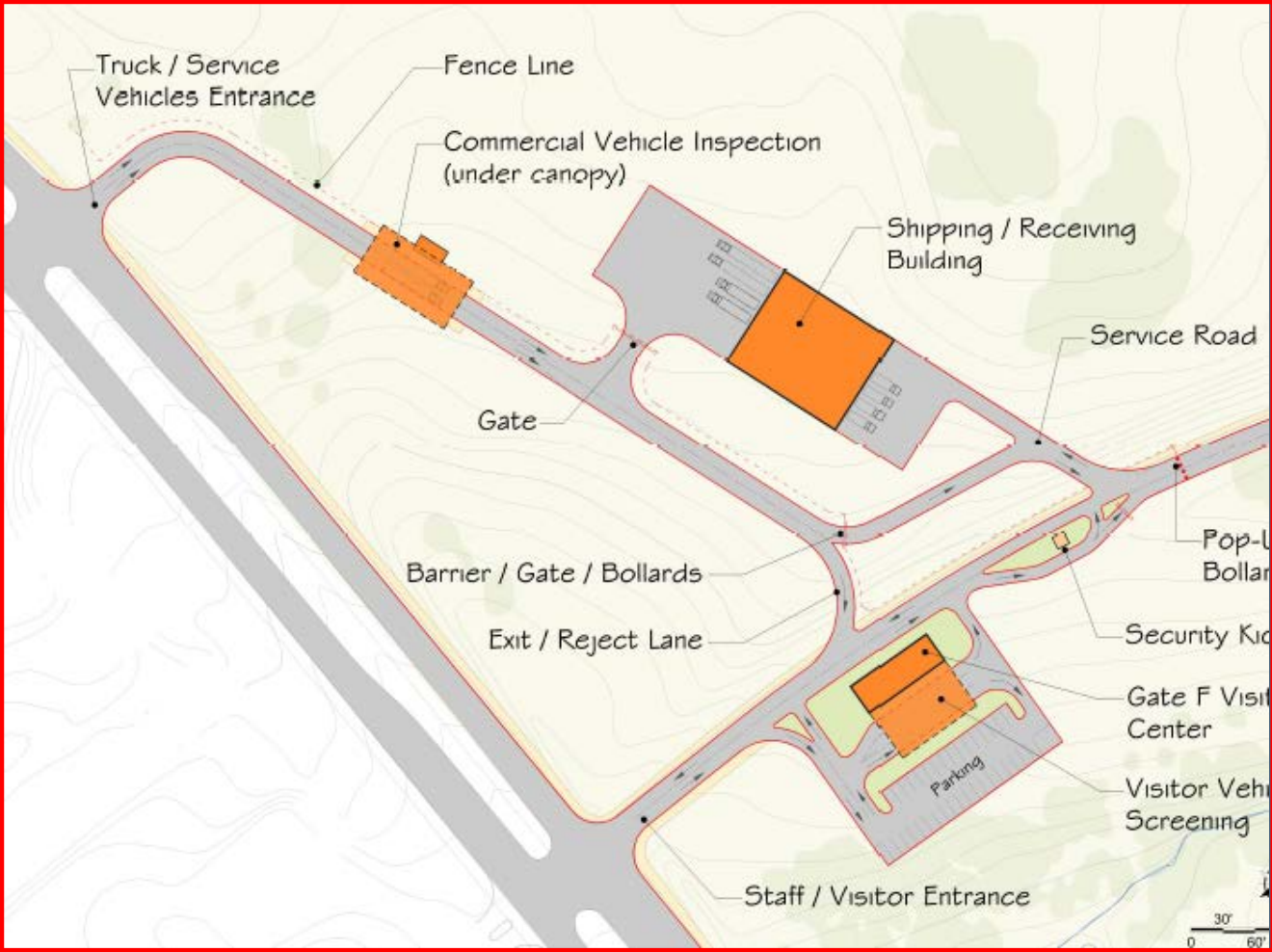


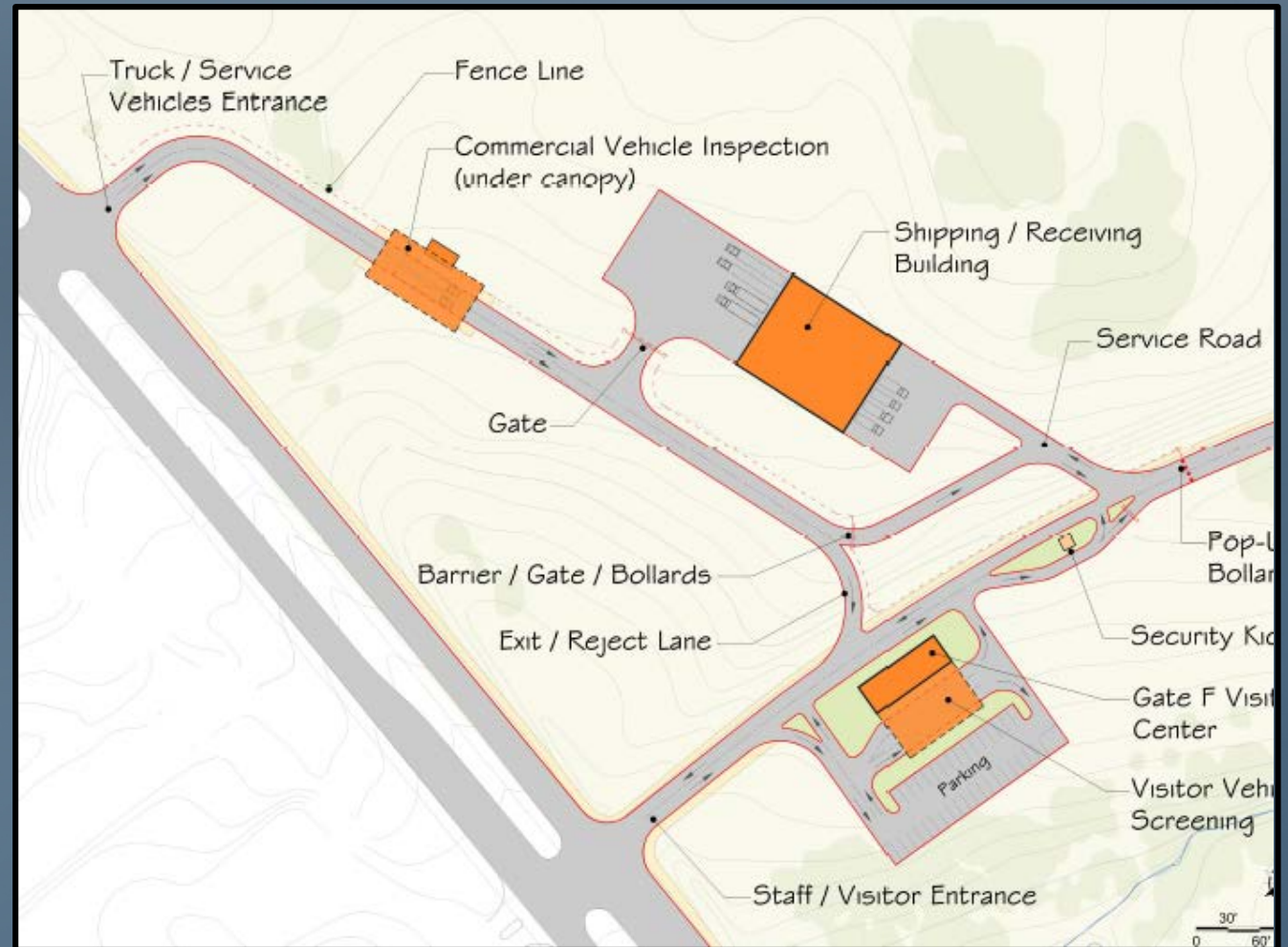
Option 2

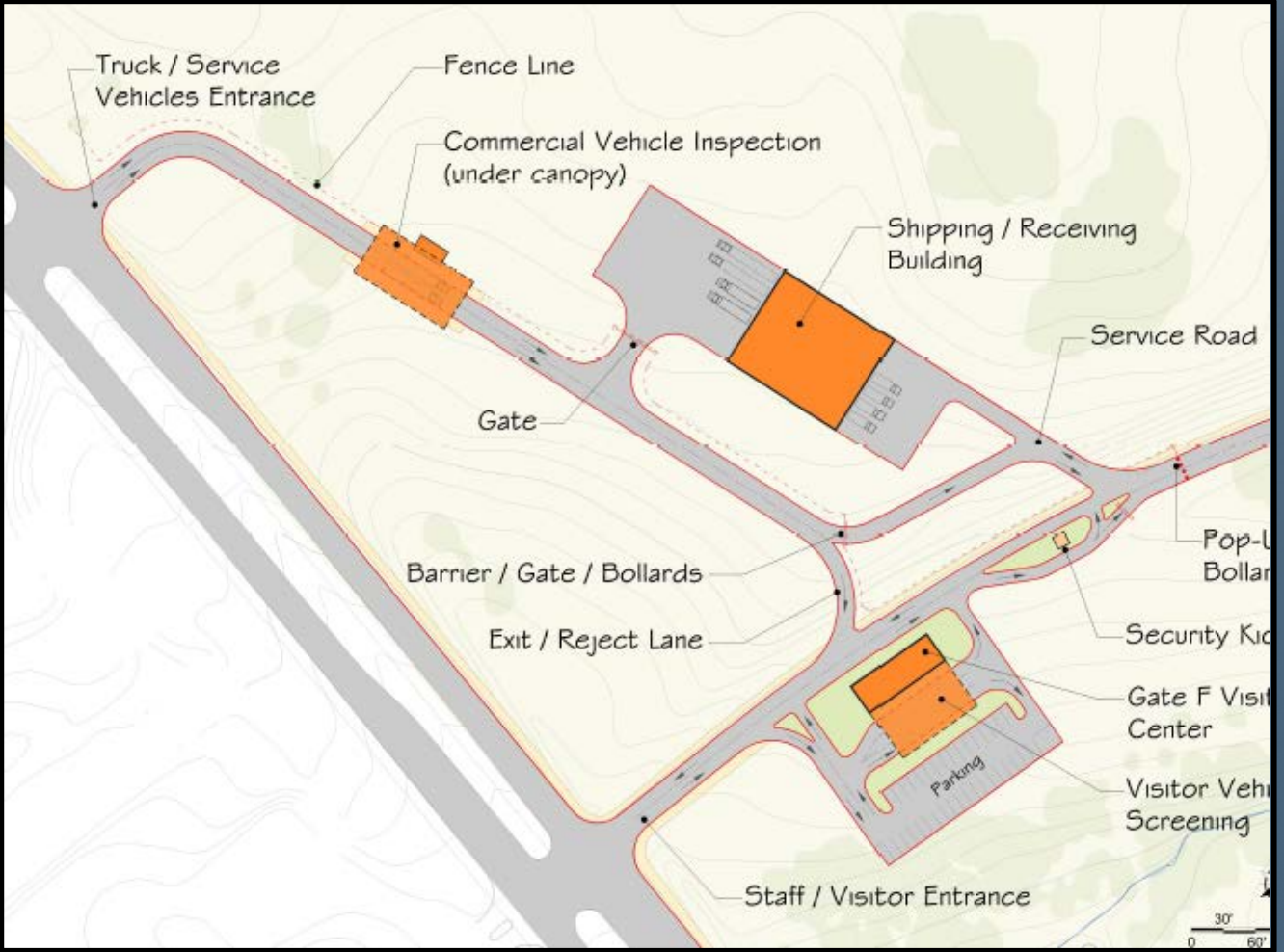
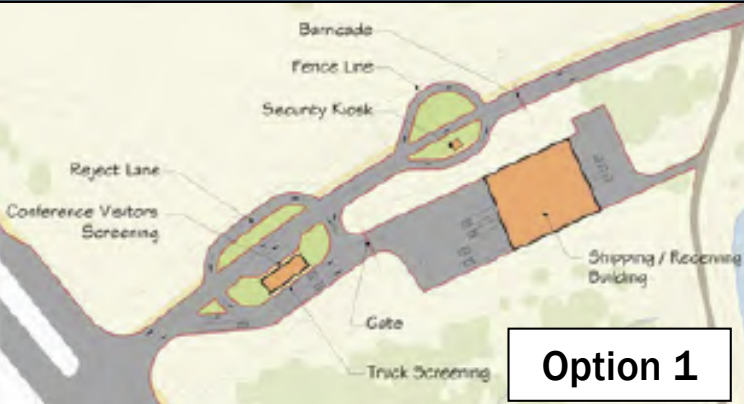


Option 1

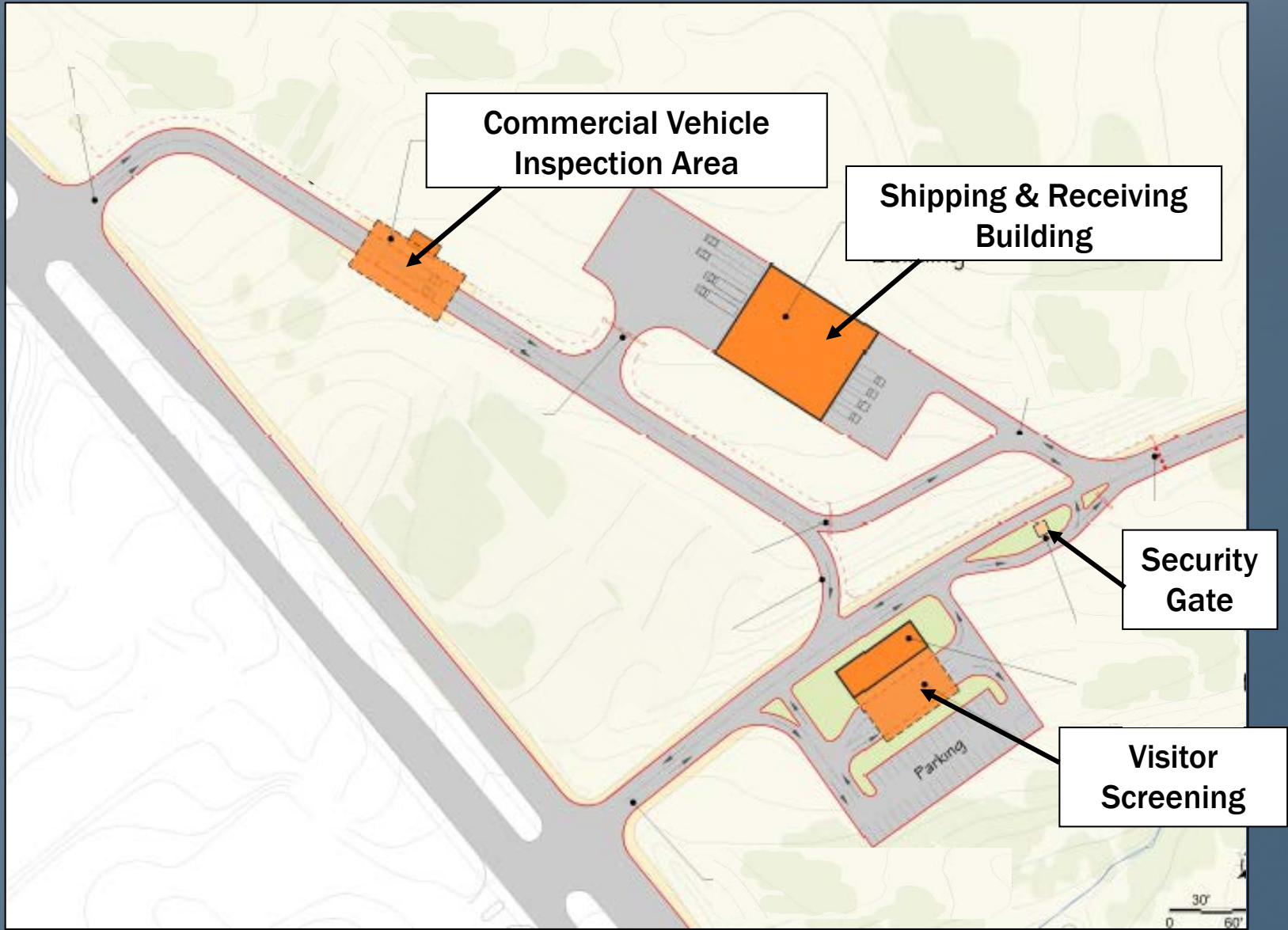




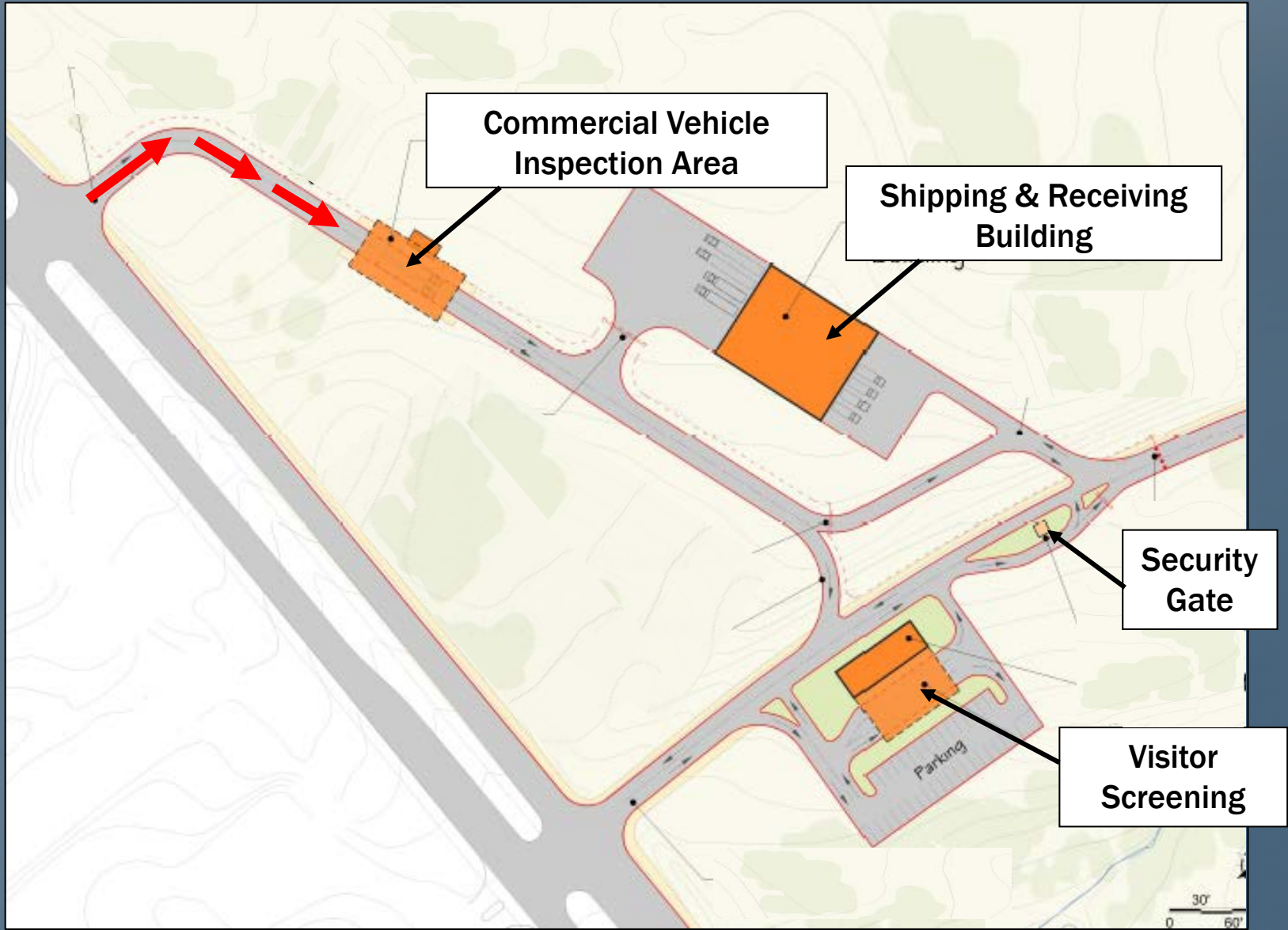




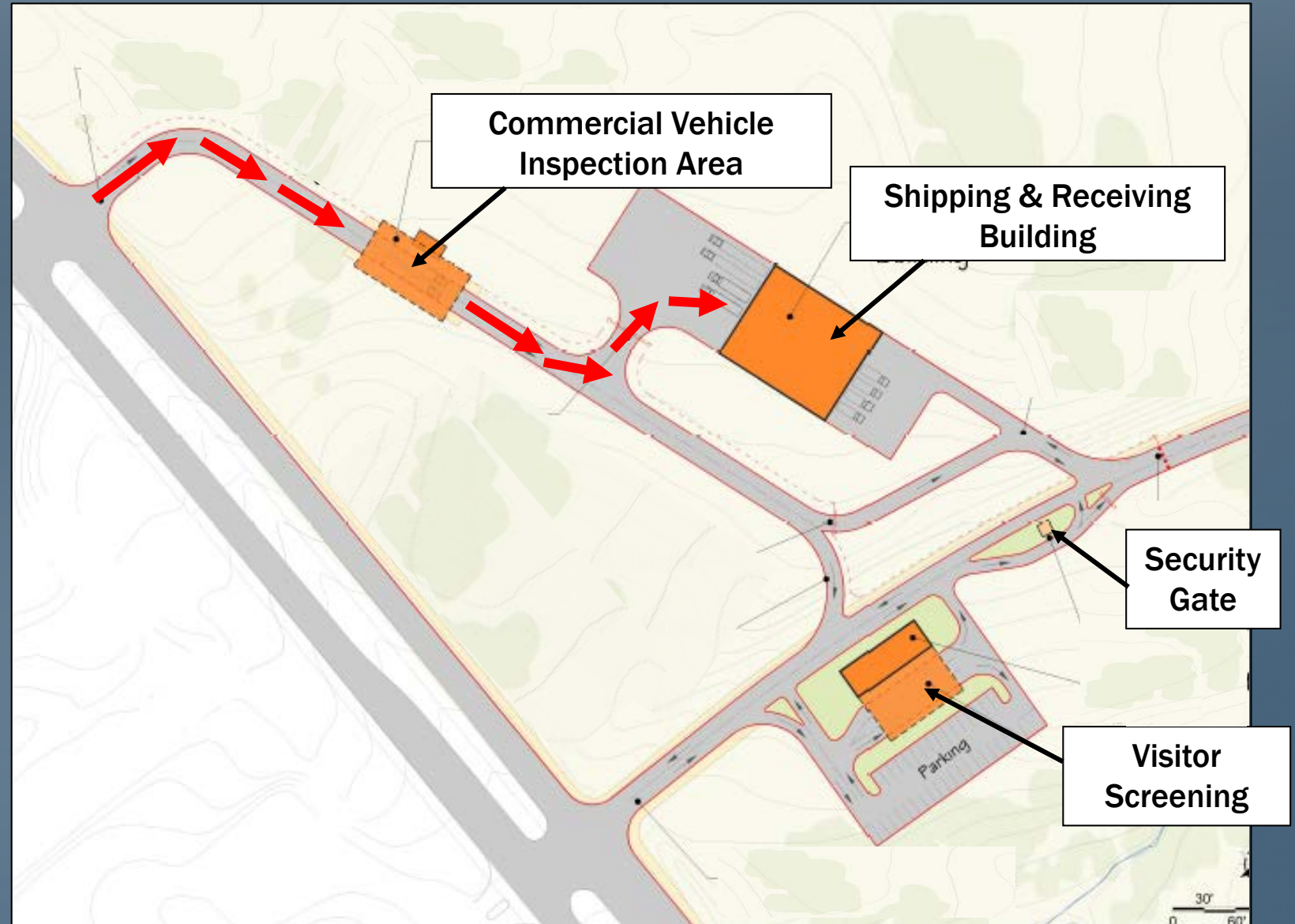
Option 4



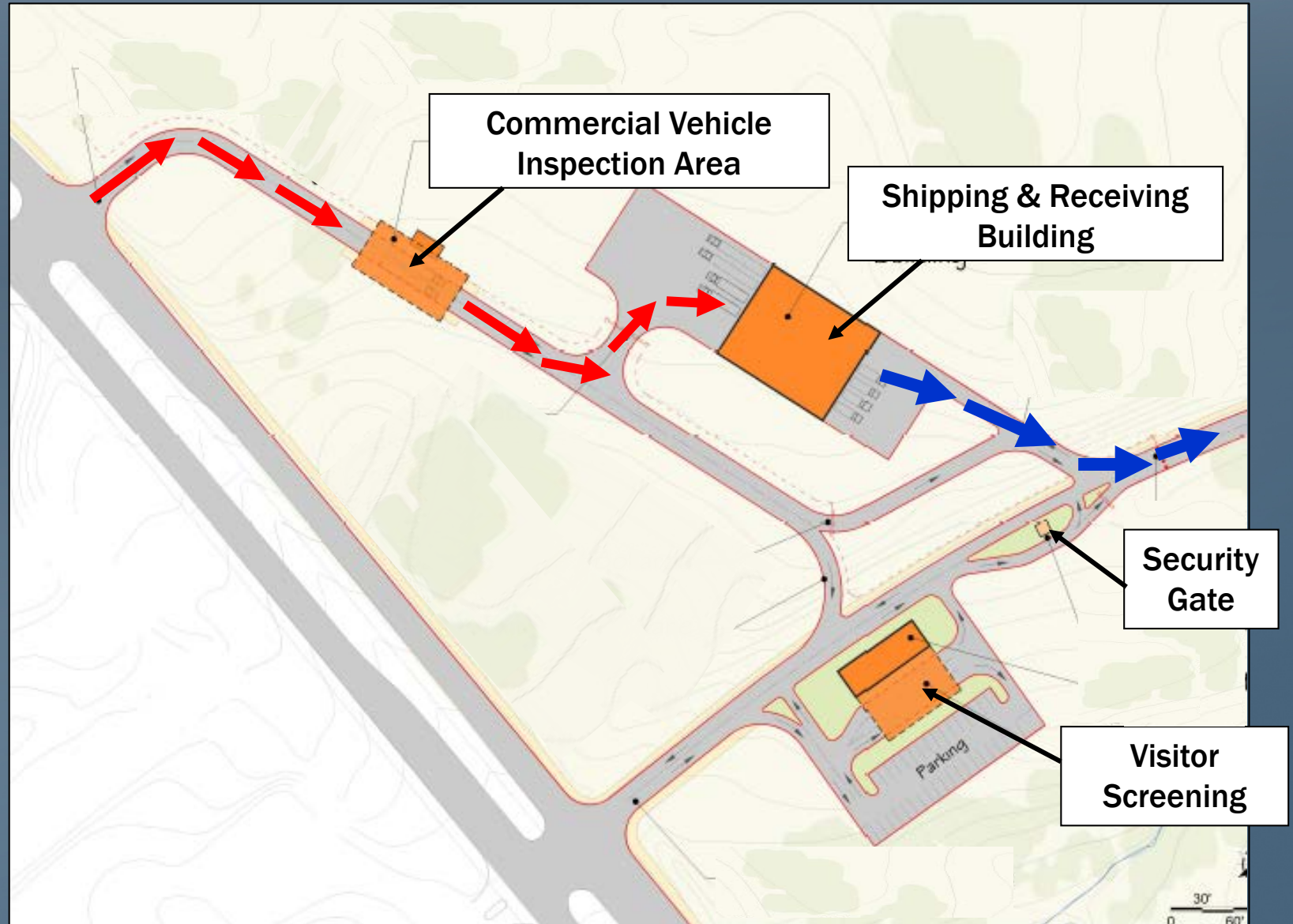
Option 4



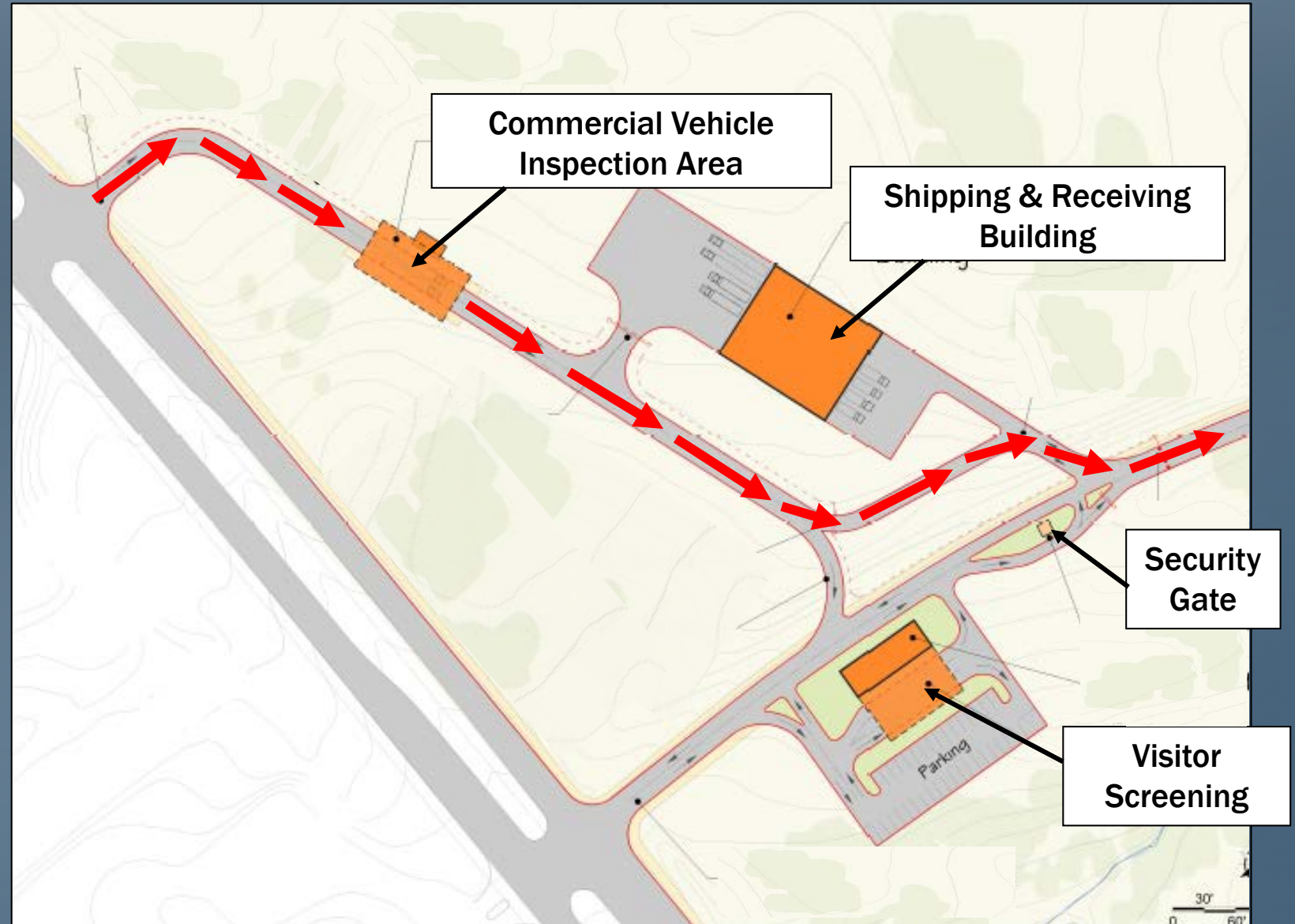
Option 4



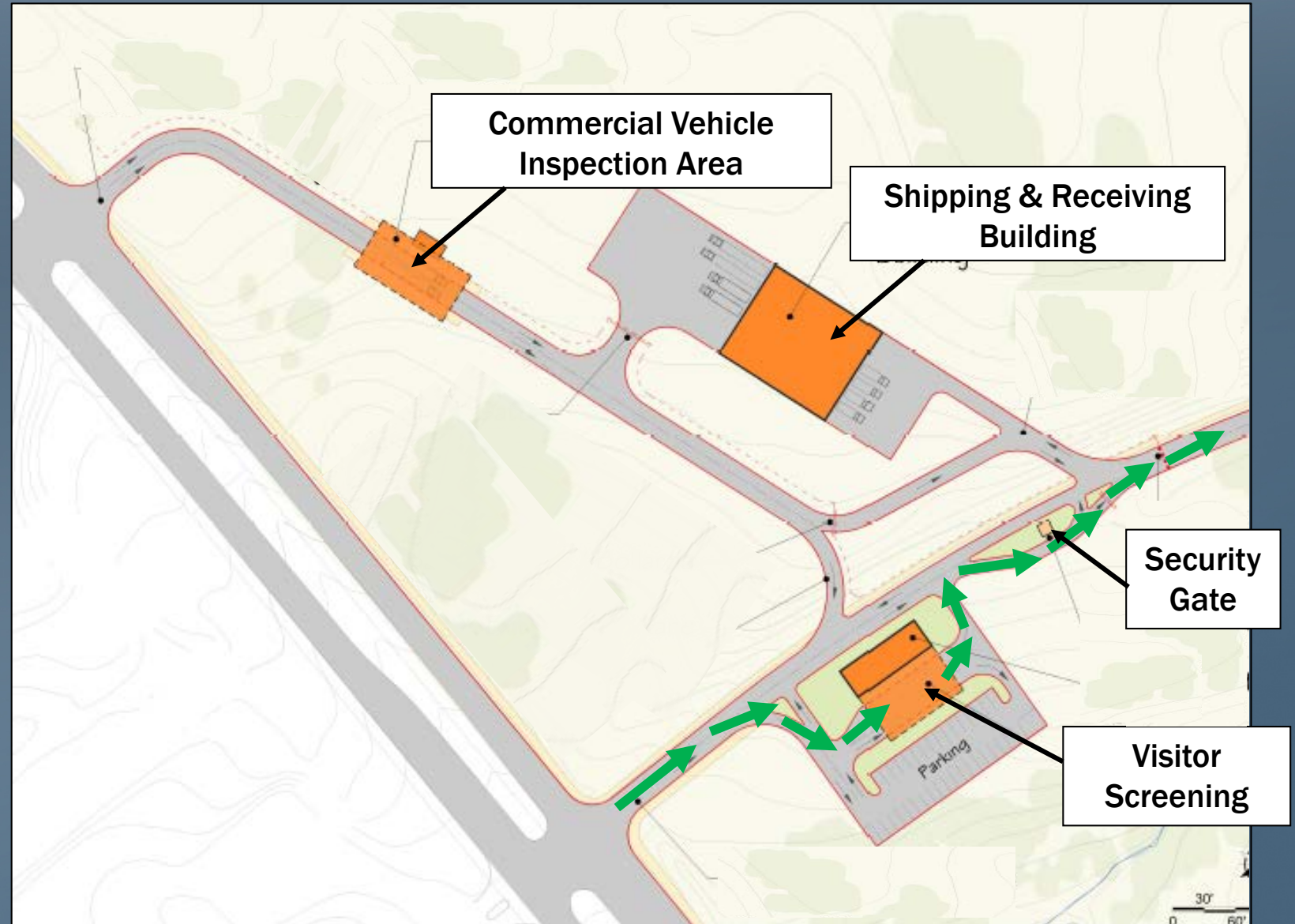
Option 4



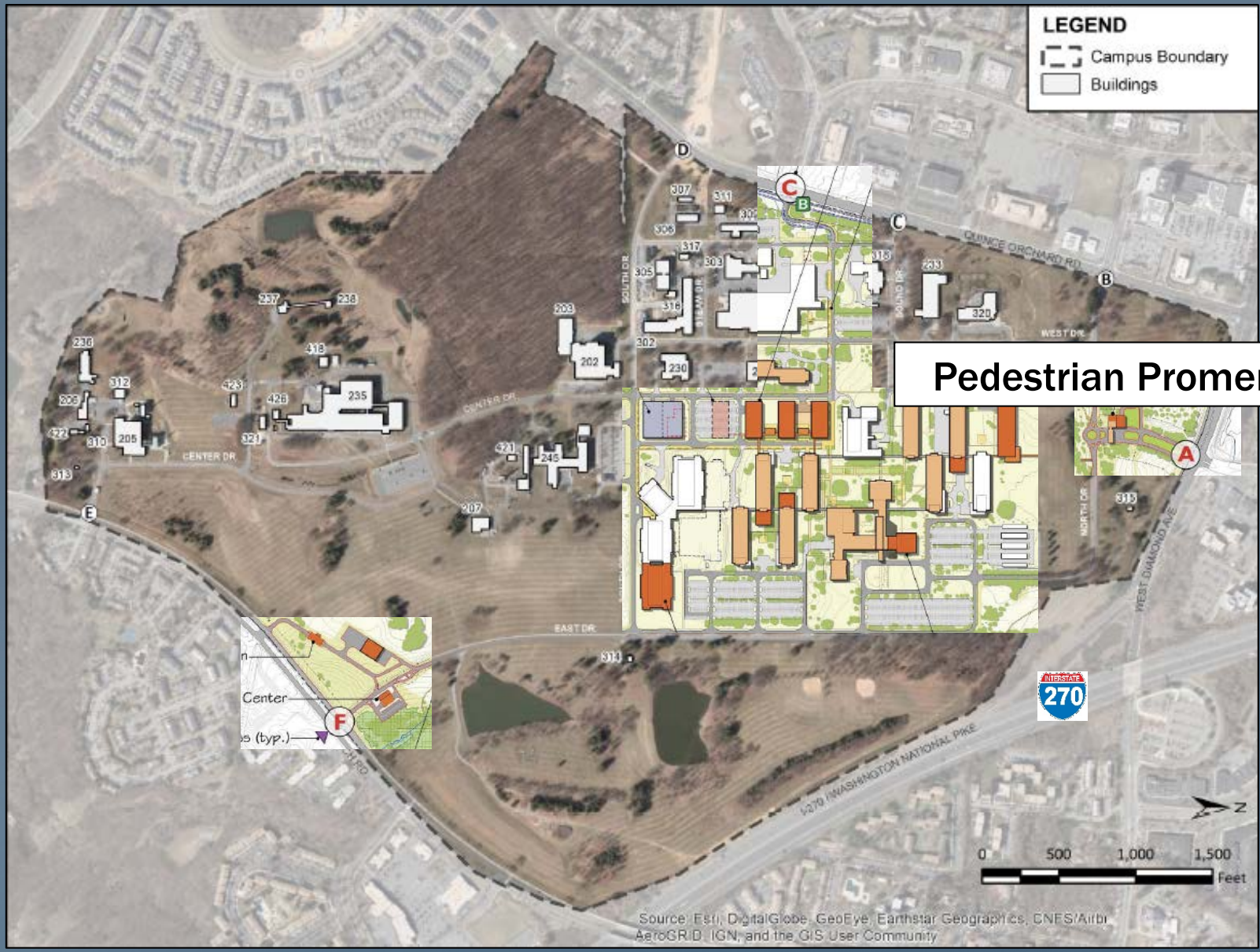
Option 4



Option 4





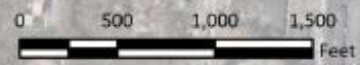




Pedestrian Promenade

LEGEND

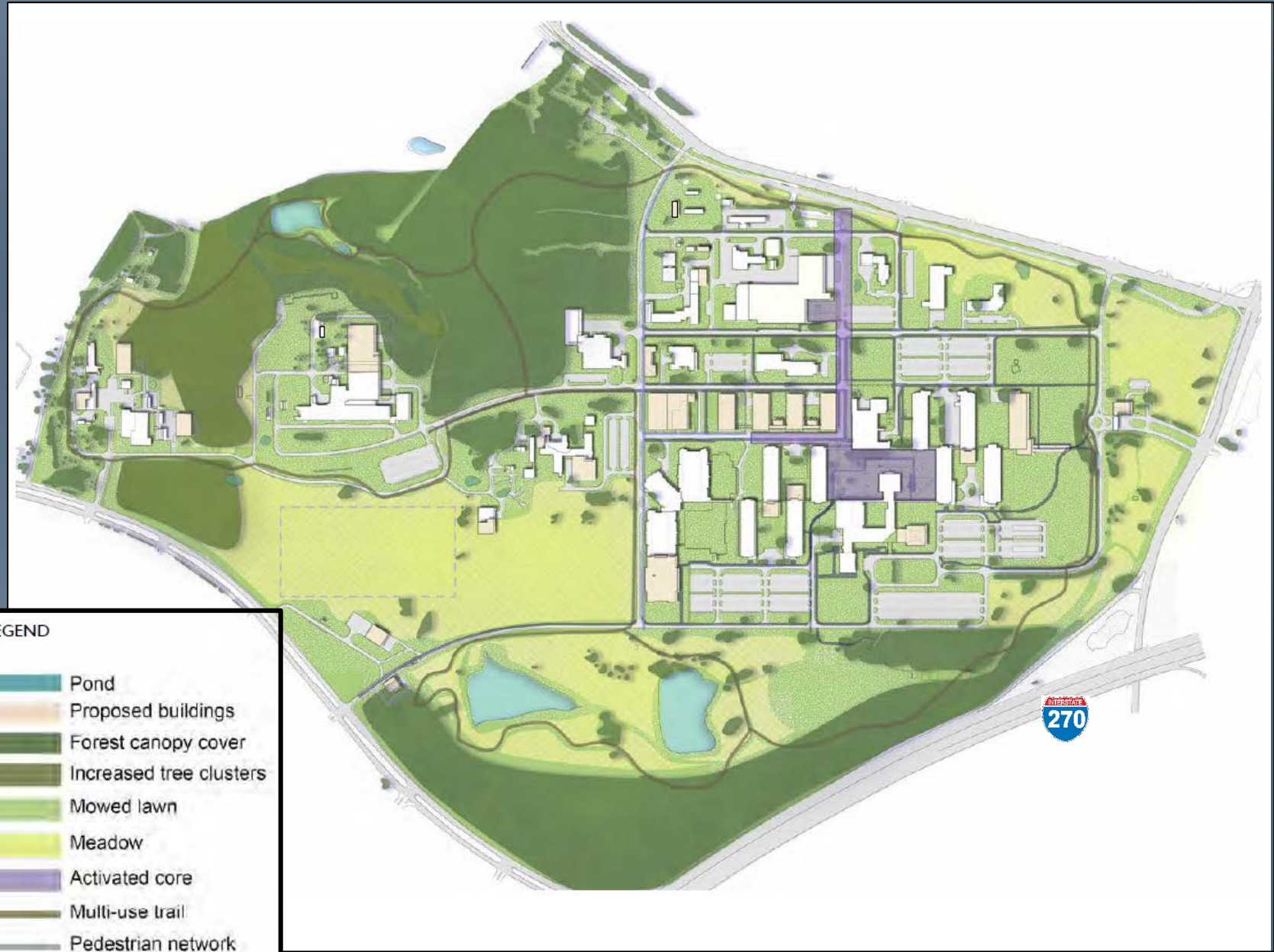
-  Campus Boundary
-  Buildings



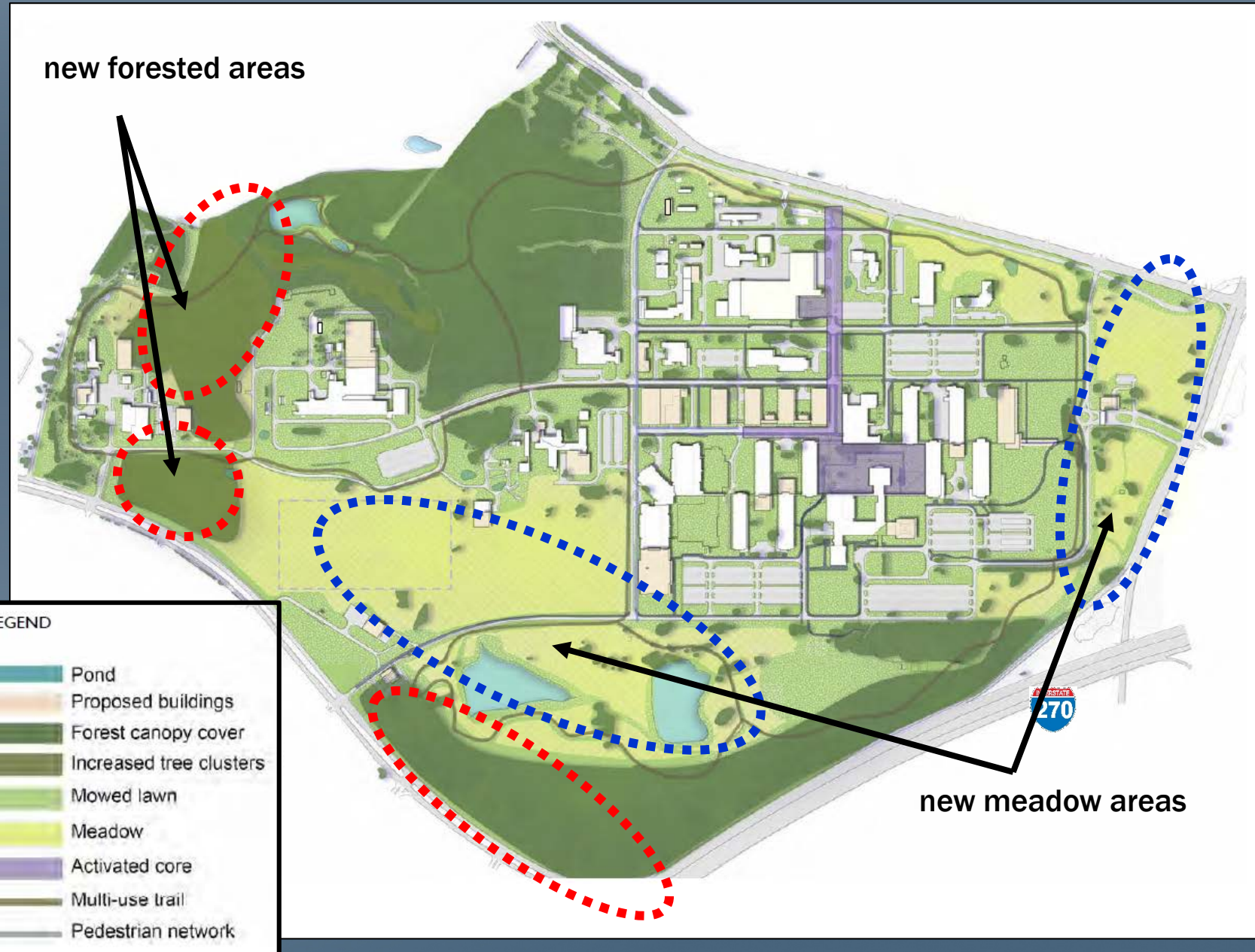
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Landscape Plan



Landscape Plan



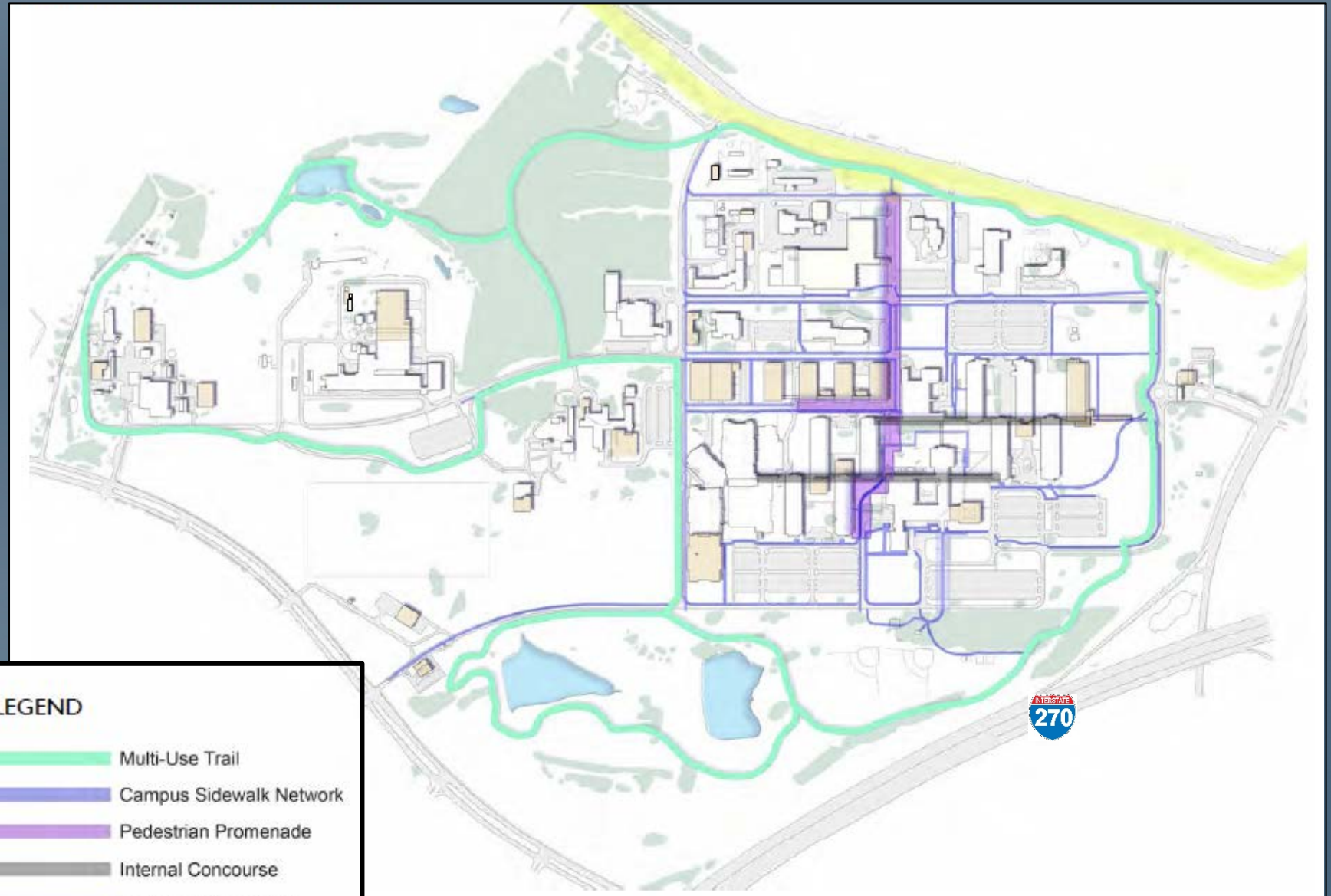
Stormwater Management Plan



LEGEND

- EXISTING STORMWATER FEATURES
- RAIN GARDENS
- BIOSWALES
- PLANTER BOXES
- PROPOSED BUILDINGS
- EXISTING CANOPY COVER

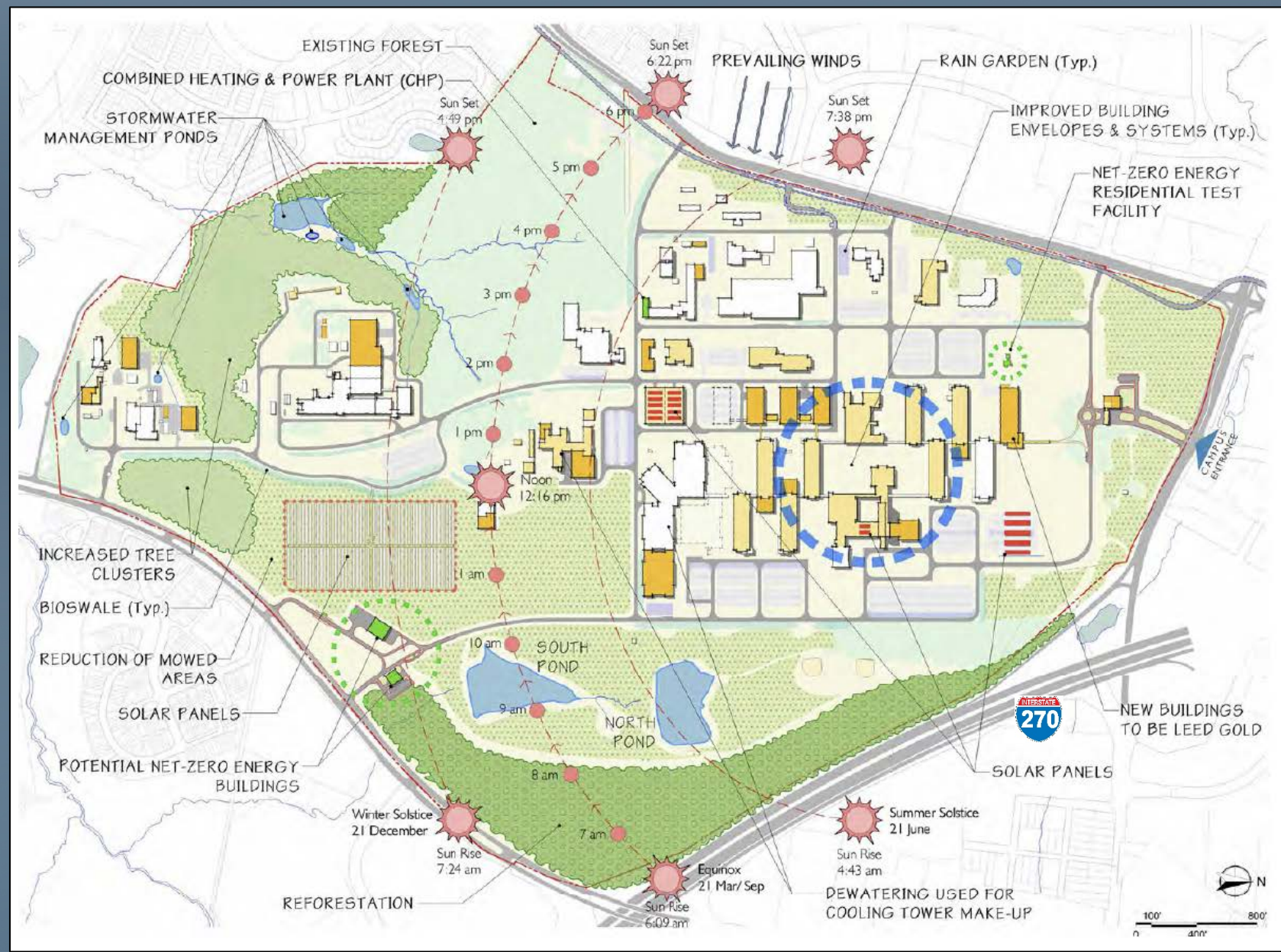
Connectivity Plan



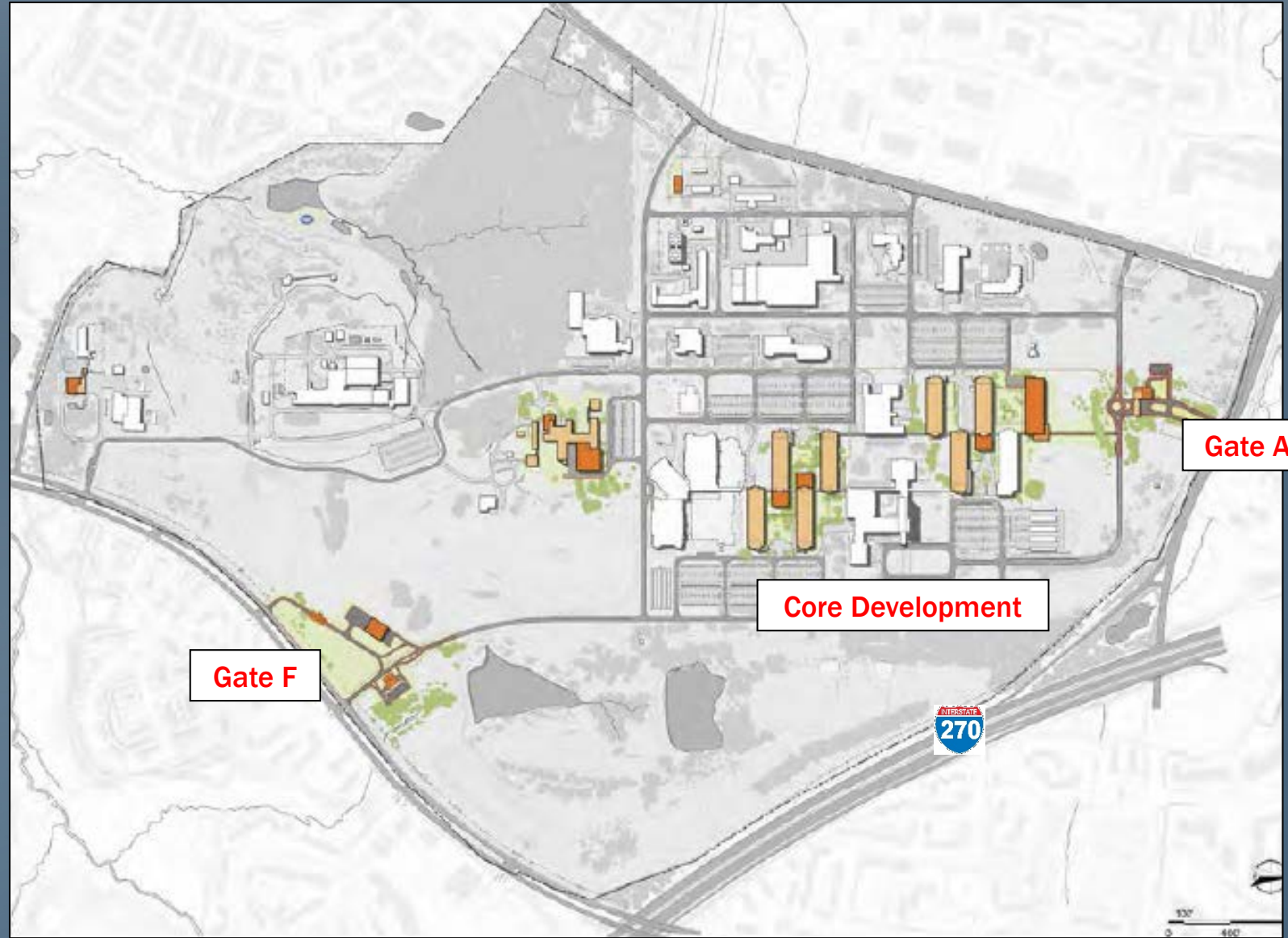
LEGEND

- Multi-Use Trail
- Campus Sidewalk Network
- Pedestrian Promenade
- Internal Concourse
- Proposed CCT Route

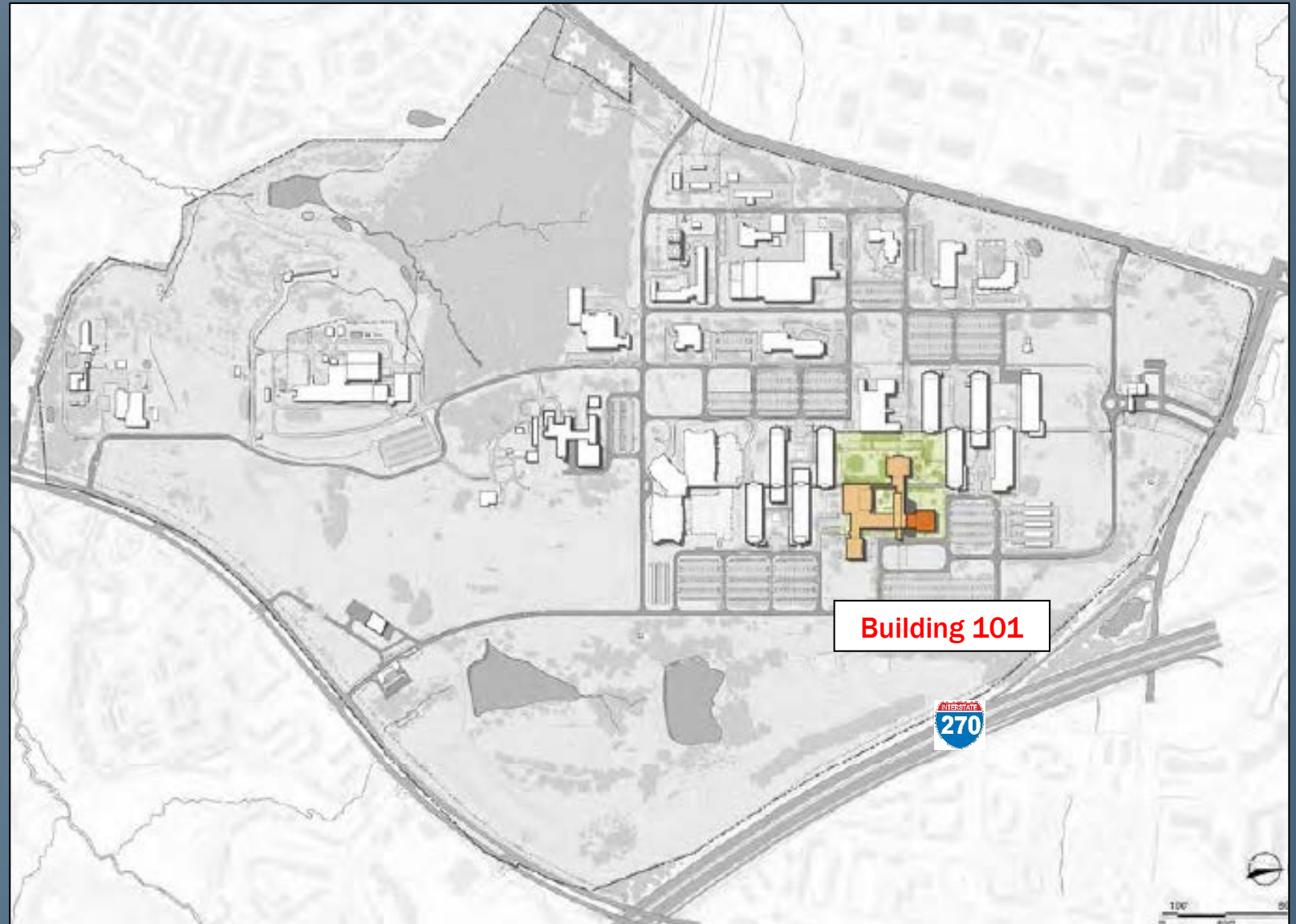
Sustainability Plan



Phase 1: Immediate Priorities



Phase 2: Next Step Projects



Phase 3: Program Expansion

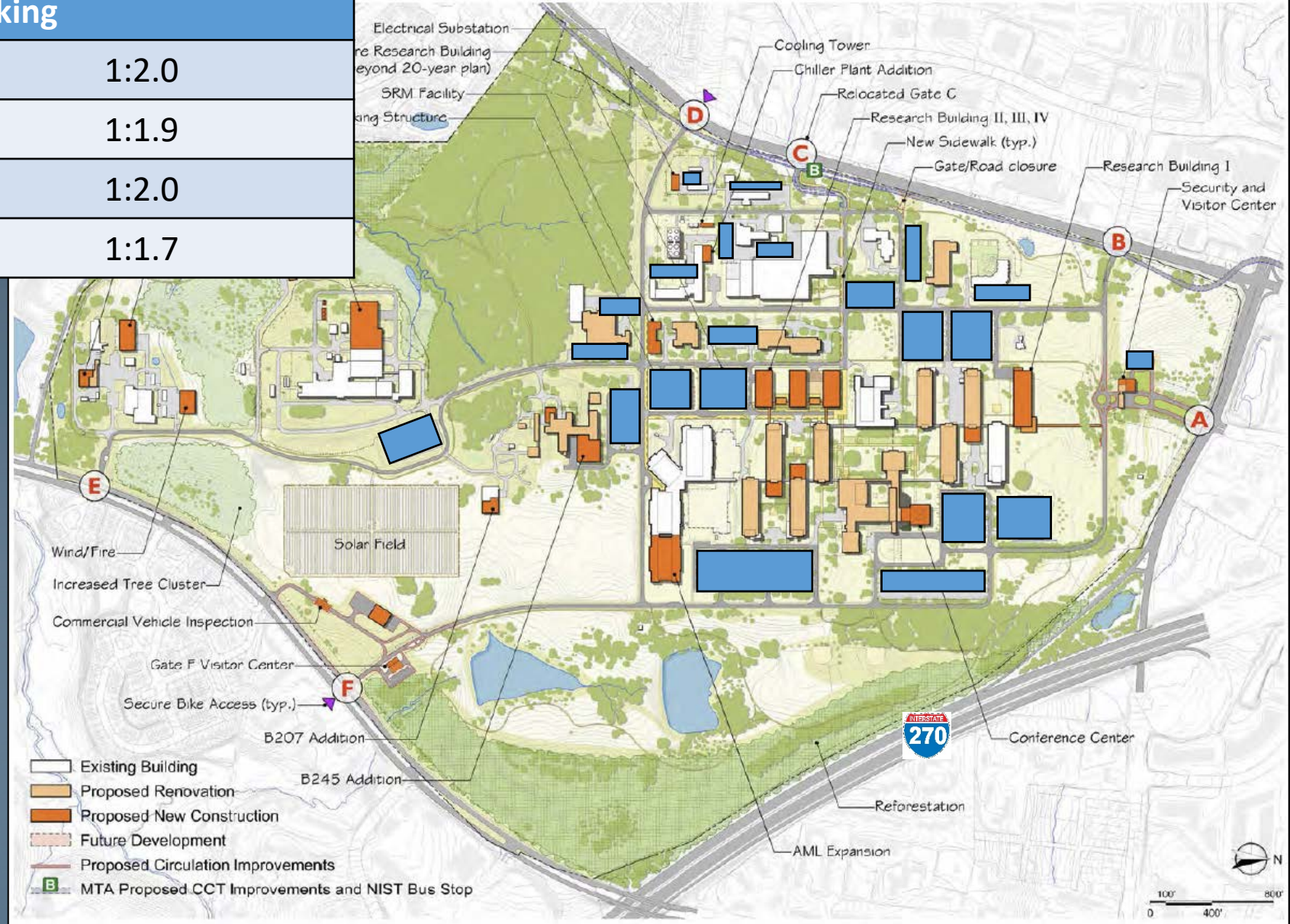


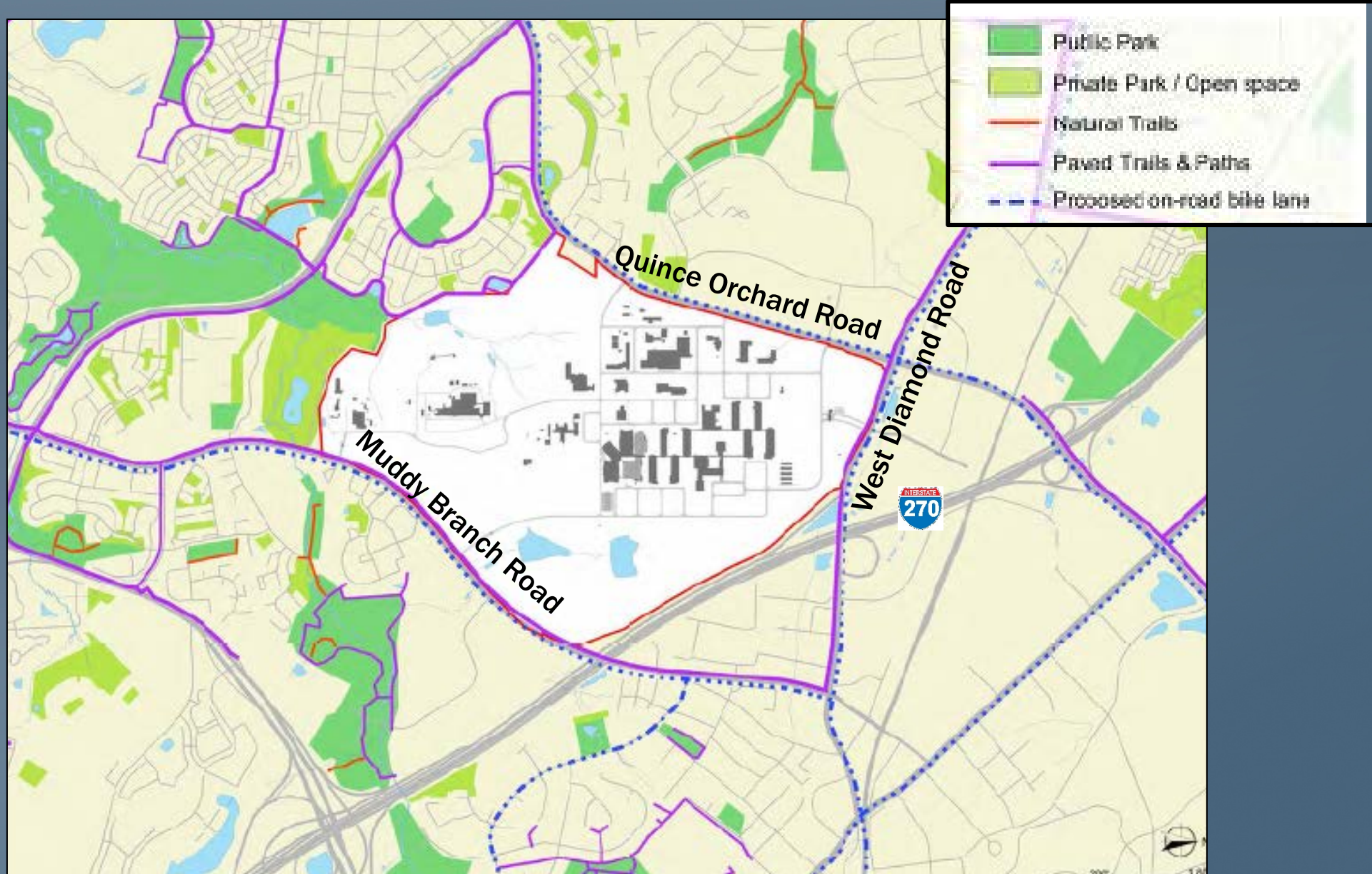
Independent Projects

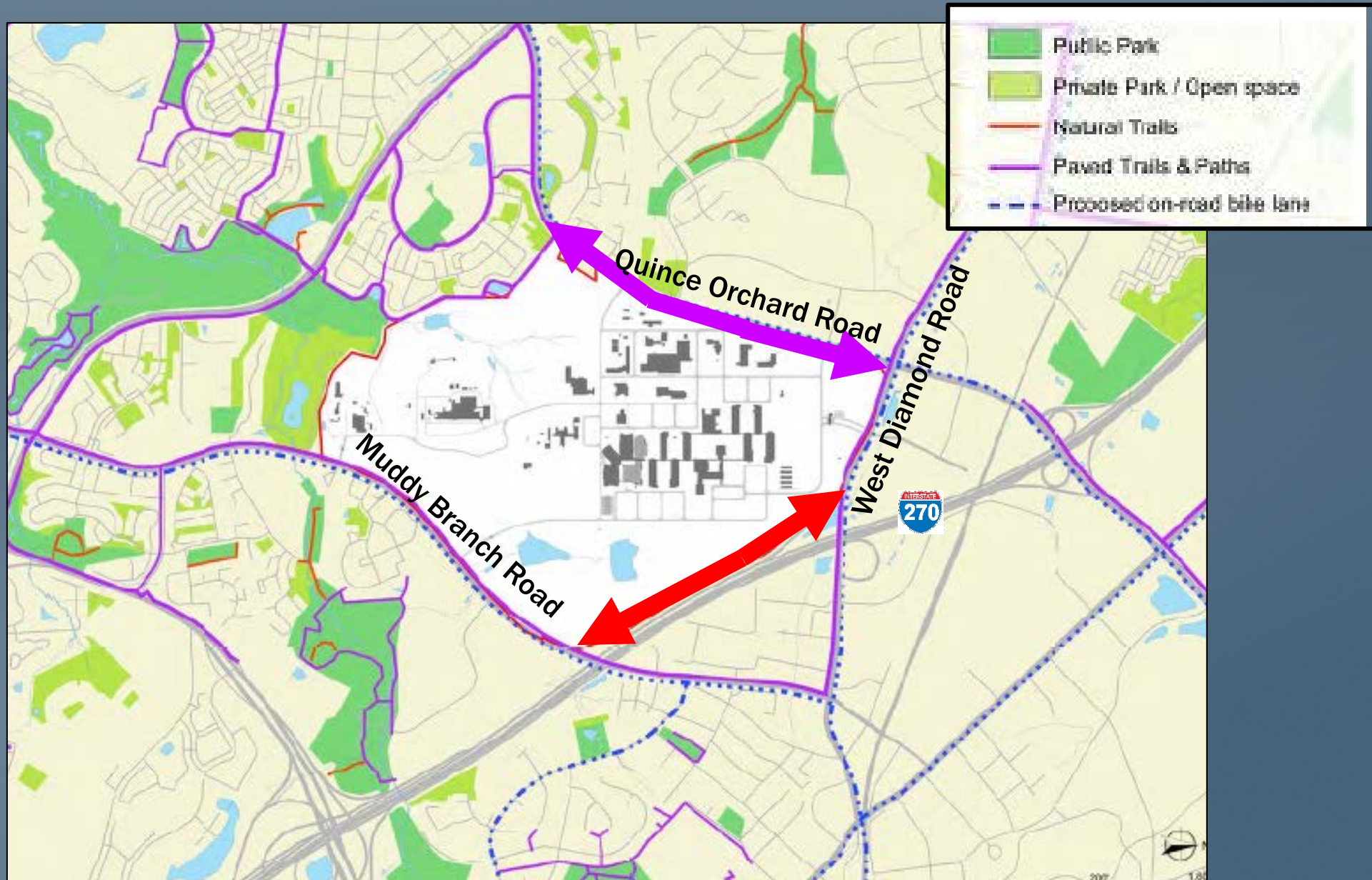


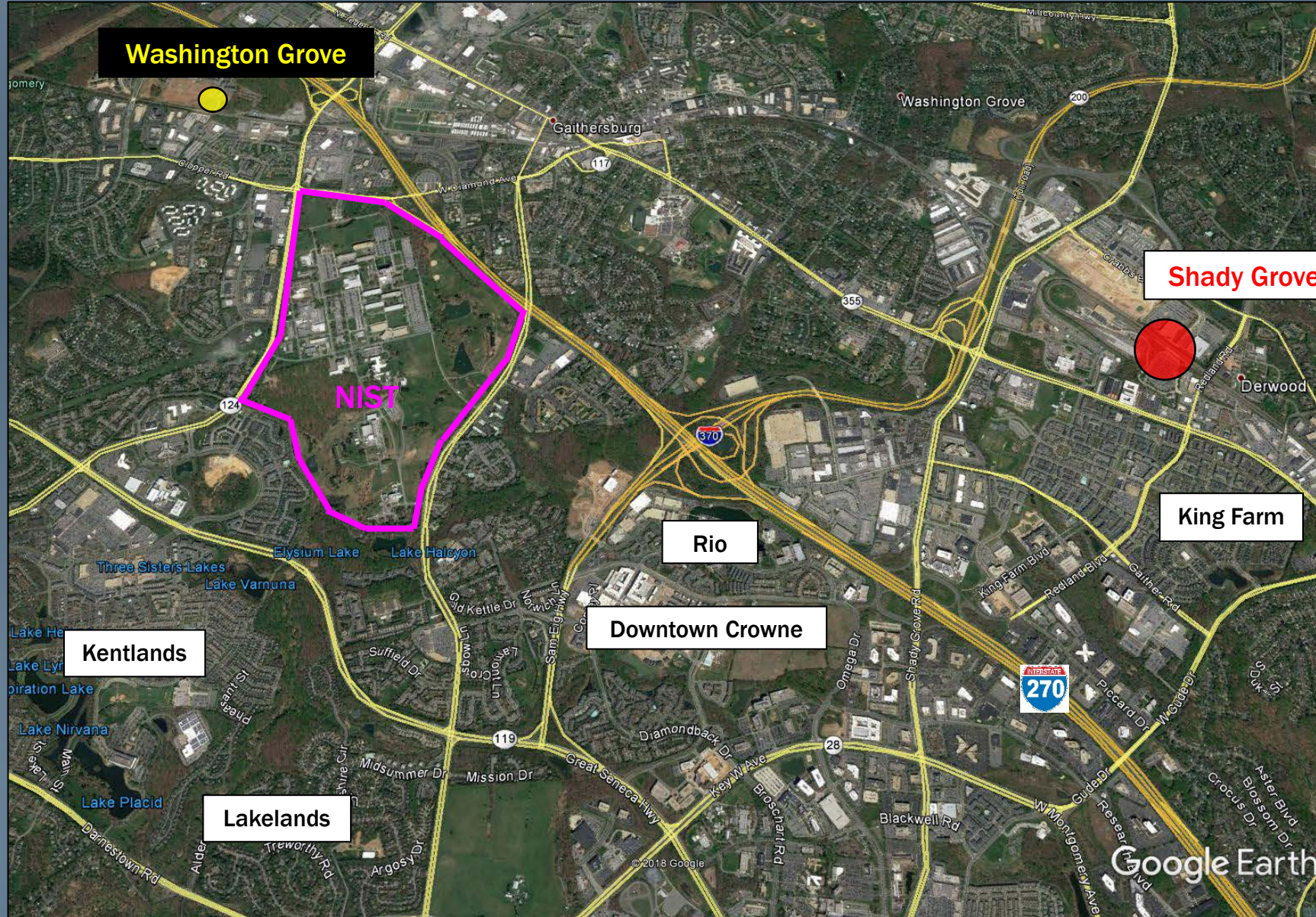


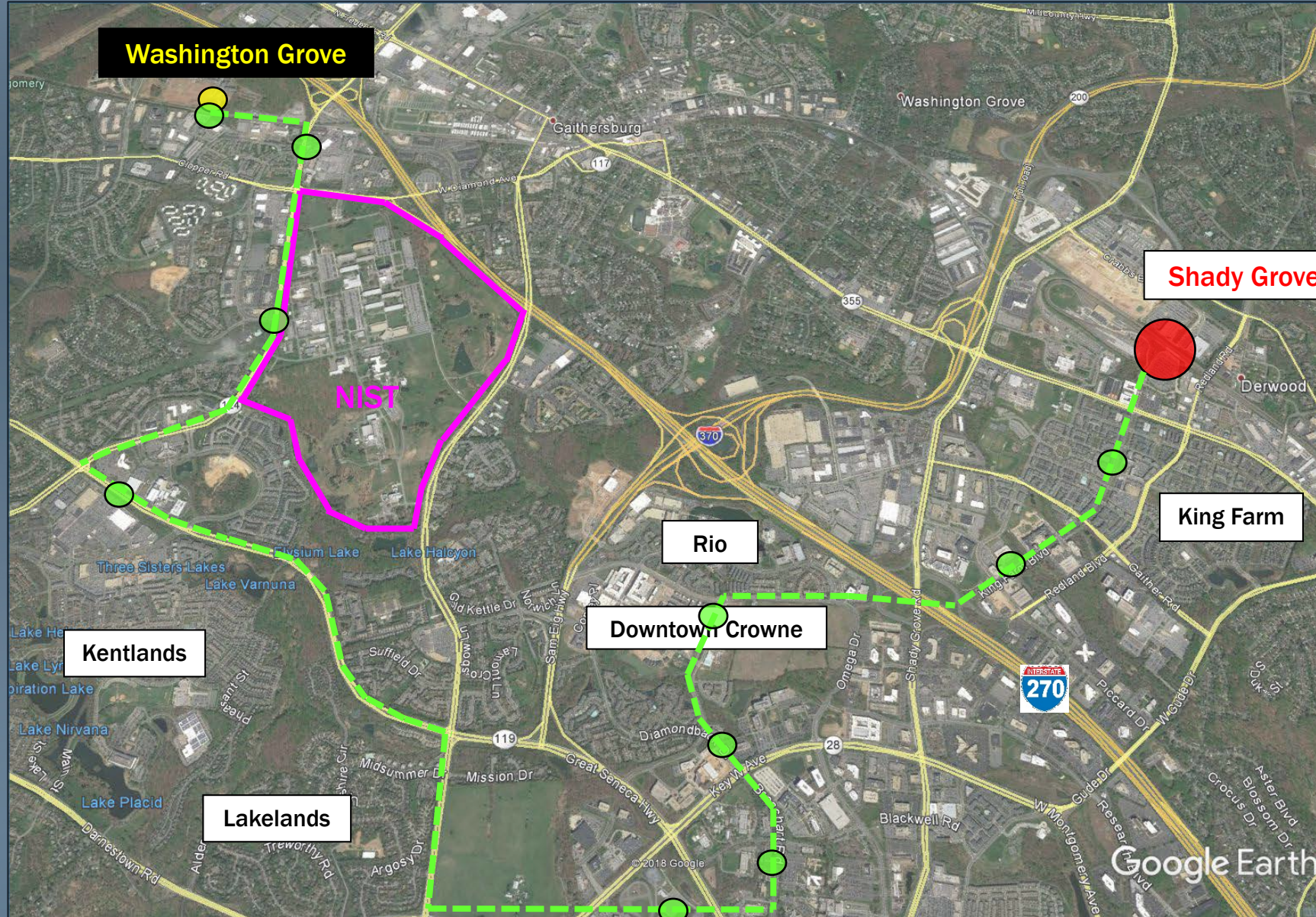
Future Parking	
NPC Goal	1:2.0
Overall	1:1.9
Federal Employees	1:2.0
Non-Federal Employees	1:1.7



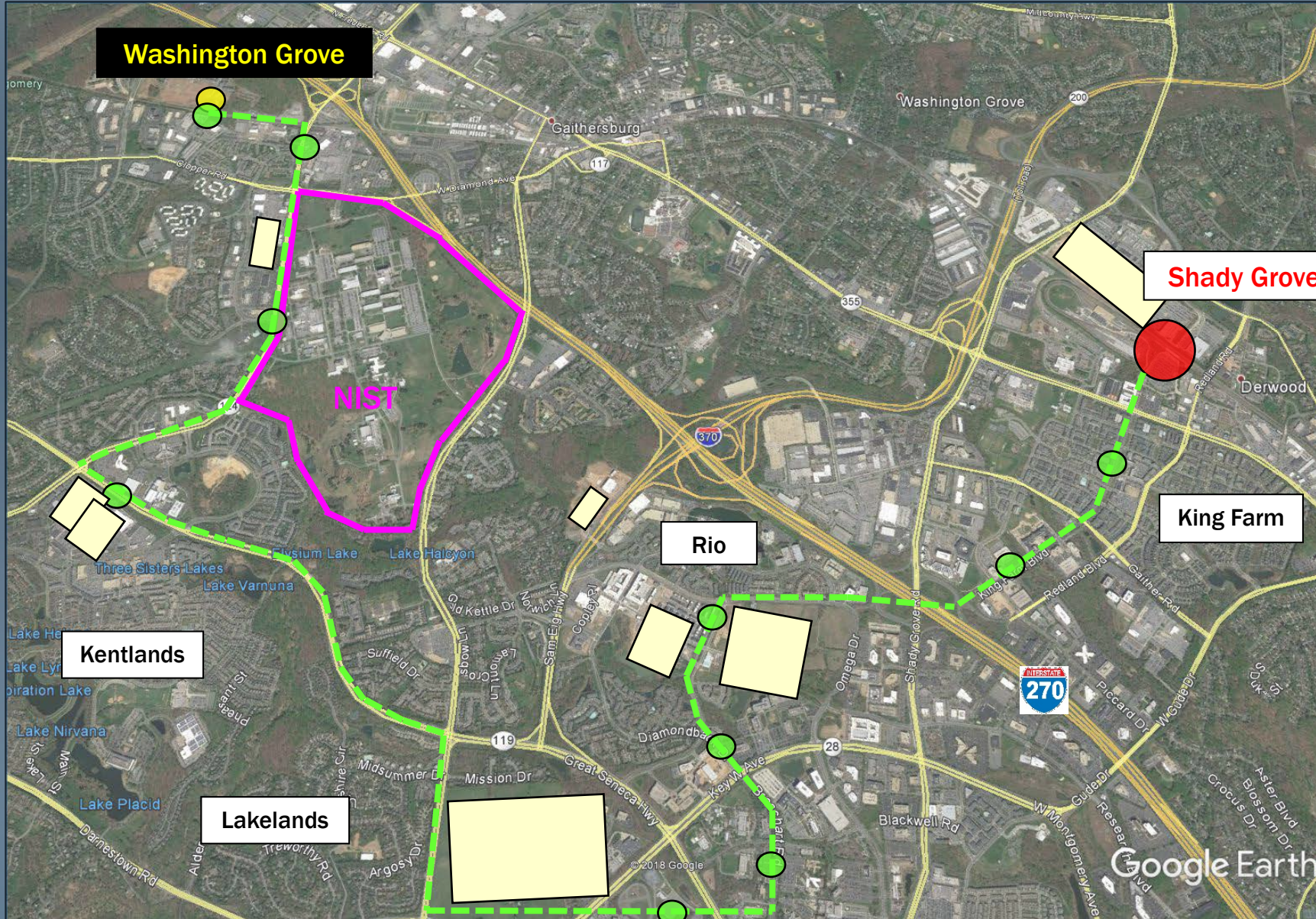








future development



Potential Travel Demand Management Elements

- Identify TDM Coordinator for the campus and develop multi-year plan
- Provide interior campus shuttle
- Improve on-site bicycle amenities, with secured bicycle parking/storage facilities and convenient shower/changing facilities
- Identify (and fund if necessary) locations for Capital Bikeshare locations
- Establish employee parking permit system with designated spaces
- Provide reserved, convenient carpool/vanpool parking
- Install a transportation information screen in the lobby of Building 101 and/or other employee-frequented locations to show real-time information regarding buses that serve the campus directly, interior campus shuttle, shuttles to MARC/Metrorail, and other multimodal transportation options that serve the campus

The Commission:

Approves the following comments on the draft campus plan for the National Institute of Standards and Technology (NIST) Gaithersburg campus.

Supports the Alternative F development concept, which concentrates new development in the campus center (historic core) to facilitate research; preserves the campus's open space character; and adds more programmable outdoor spaces to facilitate professional collaboration.

Finds that Alternative F most successfully provides for NIST's research mission, while preserving the historic campus core and integrating new sustainable development measures.

Historic Preservation

Notes that the Maryland Historic Trust (State Historic Preservation Office) has determined the campus is eligible for inclusion in the National Register of Historic Places "for its association with events that made important contributions to the broad patterns of history under the Science and Technology and Postwar Research Campus Design themes, and as a recognizable entity that embodies the characteristic of Post War Research Campus design."

Finds that Alternative F best preserves the campus core's existing grid pattern of development, formal landscape, large-scale monumental buildings, and general/specialized laboratories, identified as hallmarks of postwar research campus design.

Commends NIST's careful consideration of the campus's unique historic character throughout the planning and design process.

Sustainability

Supports the National Institute of Standards & Technology's effort to meet federal and State sustainability goals at its Gaithersburg campus through integrated, campus-wide strategies related to stormwater management, landscaping, and energy-efficiency.

Finds that all of the proposed alternatives, including Alternative F, convert significant amounts of manicured property to new forests and meadows; identify a campus-wide system of rain gardens, bioswales, and planter boxes; and identify future solar panel installations and net-zero energy buildings.

The Commission:Access/Transportation

Supports NIST's plans to develop a new pedestrian promenade between the adjacent Corridor Cities Transitway station and campus core, new interior campus trail network, additional sidewalks/crosswalks, bikeshare stations, and new external bicycle trails to encourage pedestrian, bicycle, and transit travel.

Supports the planned development of Gate F to accommodate future commercial vehicle inspections, shipping/receiving, and conference visitor screening based on site compatibility.

Requests that NIST continue refining the project's design to minimize impacts to the campus setting and off-site neighborhoods through landscaping, reconfiguring access roads, and light control measures.

Notes that NIST will improve its overall parking ratio from 1:1.5 to 1:1.9 with the implementation of the campus plan. The proposed ratio for federal employees, who comprise approximately 70 percent of the total population on campus, is 1:2. The proposed ratio for non-federal employees (contractors, guest researchers), who comprise 30 percent of the total population, is 1:1.7.

Requests that NIST prioritize development of a detailed Travel Demand Management plan with future mode share goals, program implementation steps/schedules, and regular commuter travel monitoring program for both federal and non-federal employees. The TDM plan should contain programs, strategies, goals, and implementation information specifically directed at encouraging more sustainable travel behavior by non-federal employees.

Requests that NIST submit a transportation progress report to NCPC for review prior to submitting the new parking garage and Building 411 lot expansion projects with the following information:

- Status of programs included in the future NIST Travel Demand Management plan, which demonstrate progress towards attaining future non-single occupant vehicle mode share goals; and
- Travel trend information based on commuter surveys given between 2016 and most recent survey prior to submission of the new garage and Building 411 lot expansion projects.



