Executive Director's Recommendation

Commission Meeting: July 12, 2018

PROJECT
National Institute of Standards and Technology Gaithersburg Campus Master Plan
National Institute of Standards and Technology
100 Bureau Drive
Gaithersburg, Maryland

SUBMITTED BY
United States Department of Commerce

REVIEW AUTHORITY
Approval of Master Plans for use by the Commission
per 40 U.S.C. § 8722(a) and (b)(1)

NCPC FILE NUMBER
MP23

NCPC MAP FILE NUMBER
3115.10(05.00)44784

APPLICANT'S REQUEST
Approval of final master plan

PROPOSED ACTION
Approval of final master plan

ACTION ITEM TYPE
Consent Calendar

PROJECT SUMMARY

The United States Department of Commerce has submitted a final master plan for the National Institute of Standards and Technology (NIST) Gaithersburg campus. There are 62 buildings and structures, totaling over 3.6 million gross square feet of space and housing approximately 4,000 personnel (both employees and associates). Approximately half of the permanent buildings are now more than 50 years old. The campus setting features rolling terrain, dotted with trees and wooded areas.

The master plan provides for the modernization of aging, inefficient buildings and accommodates the anticipated growth in research programs over the next 20 years. The campus plan includes approximately 1.4 million gross square feet of new facilities and 15 building renovations. The master plan offers a framework for accomplishing NIST's goals of meeting anticipated scientific program growth, enhancing the Gaithersburg campus, providing appropriate facilities, encouraging professional collaboration and advancing sustainable practices.

KEY INFORMATION

- Most of the projects proposed in the campus plan are intended to meet today's research needs rather than future projected needs.
- The campus plan includes two projects that were recently reviewed by the Commission – the Building 245 Radiation Physics Laboratory rehabilitation and addition (July/September 2017) and new ground solar array installation (February 2018).
- The City of Gaithersburg submitted comments that support the National Institute of Standards and Technology's draft master plan. In particular, the City appreciates the plan's focus on pedestrian and green infrastructure, as well as traffic flow and entrance queuing improvements.

City staff had the opportunity to provide comments during the development of the draft, and the plan was presented to the City Planning Board in February 2018.

- Prior to September 11, 2001, the NIST campus was open to the public; however, current federal security requirements limit campus access. NIST hosts approximately 33,000 visitors annually, which enables some outside enjoyment of the campus.
- The NIST Gaithersburg campus is one of two research campuses under the administration of the United States Department of Commerce. The other campus is located in Boulder, Colorado.

RECOMMENDATION

The Commission:

Approves the final campus plan for the National Institute of Standards and Technology (NIST) Gaithersburg campus.

Notes that the final campus plan includes the same development growth (25 projects), future employment population, sustainability strategies, and historic core development alternative (Alternative F) as the draft plan.

Notes the following changes to the campus plan since the previous draft submission:

- Added vegetation around the new Gate F Commercial Truck Inspection facility to help shield the development from off-site views.
- Added a multi-use trail section and eliminated two other planned sections to enhance network.
- Added proposed bicycle shelters at five on-campus locations to encourage bicycle use.

Notes that the final master plan submission addresses the Commission's previous comments.

Notes that NIST commits to the development of a Travel Demand Management (TDM) plan that includes programs, strategies, goals, and implementation steps for encouraging more sustainable travel behavior for both federal and non-federal staff. The plan will be submitted to NCPC for review at the time of the next master plan update.

Notes that NIST commits to submitting a status report on the TDM program prior to submitting the future parking garage and parking lot expansion projects for NCPC review.

PROJECT REVIEW TIMELINE

Previous actions	**April 2018** – Draft master plan review
Remaining actions (anticipated)	None

PROJECT ANALYSIS

Executive Summary

The National Institute of Standards and Technology has submitted a final campus plan for NCPC's review. In general, the plan articulates a reasonable balance between accommodating future growth, preserving the campus's historic nature, and attaining federal and state sustainability goals. The NIST campus plan goals and objectives appear to be generally consistent with many policies articulated in the *Comprehensive Plan for the National Capital*. The final submission addresses previous Commission comments (made as part of the draft review) through revisions to the campus plan document and through the submission letter. As such, staff recommends that the Commission **approve the final campus plan for the National Institute of Standards and Technology (NIST) Gaithersburg campus.**

Substantively, the final campus plan is largely unchanged from the previous draft, including the same development growth (25 projects), future employment population, sustainability strategies, and historic core development alternative (Alternative F). Changes to the plan consist of text revisions and graphic updates, as well as reorganization of several chapters (with no substantive changes). Therefore, staff recommends that the Commission **note that the final campus plan includes the same development growth (25 projects), future employment population, sustainability strategies, and historic core development alternative (Alternative F) as the draft plan.**

Background

Existing Conditions

The National Institute of Standards & Technology spans 579 acres in central Montgomery County, surrounded by the incorporated City of Gaithersburg, Maryland. The campus is bordered by Quince Orchard Road along its west-side, West Diamond Avenue along its north-side, Interstate 270 along its northeast-side, Muddy Branch Road along its east-side, and private residential development and forested property owned by the Izaak Walton League to the south. The daytime worker population is 4,007, with an average of 250 visitors per day. In addition, NIST hosts approximately 75-80 conferences a year, with up to 650 people.

The campus is divided into five basic land use areas, with service-oriented development situated along the western side (Quince Orchard Road) of campus; historic research-oriented development in the center of campus; specialty research in the south; forestland in the southwest; and manicured open space (with clusters of trees) along the northern, northeastern, and eastern sides of campus. Open space (448 acres) makes up approximately 77% of the total campus area, with development (75 acres) occupying approximately 13% of the campus and forested property (56 acres) occupying 10% of the campus area. The extensive open space is necessary to accommodate future growth, and to protect sensitive research from noise and other outside environmental interferences. Throughout the campus there are large populations of deer, birds, and other small animals. NIST strives to manage its on-campus wildlife to the best extent possible through humane methods such as population control and relocation.

The entire NIST campus has been determined to be eligible for listing in the National Register of Historic Places by the Maryland Historic Trust based on its design as a mid-century modern research campus. The campus plan identifies a number of characteristics that define the historic campus setting and International architectural style of the buildings. Historic campus characteristics include a formal landscape, ample parking, large-scale monumental buildings, and general/specialized laboratories, identified as hallmarks of postwar research campus design. Historic building features include curtain-wall construction, ample use of glass, clean monolithic forms and minimal ornamentation. Twenty-five of the 62 existing buildings/structures are over 50 years old, with five (5) buildings constructed in the 1970's, two (2) buildings constructed in the 1980's, six (6) buildings constructed in the 1990's, and twenty-four (24) buildings constructed since 2000.

The campus has six gates (A-F), four of which are routinely used and the other two only intermittently used. The full service main gate (Gate A) is located along West Diamond Avenue (in the north), used by employees and visitors. There are three gates along Quince Orchard Road (Gates B, C, and D) and two gates along Muddy Branch Road (Gates E and F). Gate D is normally closed, Gate C is for inbound-only commercial delivery and employee traffic, and Gate D is for existing employee traffic only during afternoon/evening hours. Gate E is normally closed and Gate F is used by both employees and larger visiting groups for conferences.

The campus has 2,672 employee parking spaces (equating to a 1:1.5 ratio), 769 visitor/conference attendee spaces, 229 service spaces, and 34 short-term spaces. There are few bicycle racks on-campus, and a discontinuous sidewalk network within the historic core area. One of the notable features of the campus core development is its indoor pedestrian concourse that links each original General Purpose Laboratory (GPL) buildings. Externally, the campus is served by two NIST shuttle routes, one that provides service between Building 101 (Main Administration Building) and Shady Grove Metrorail station (15-minute one-way travel time) and one that provides service between Building 101 and the closest commuter rail station (7 minutes one-way). Montgomery County bus service (Ride-On) provides direct on-site service to Building 101 with one route, and two routes serving stops outside of the campus near the main gate (Gate A). Quince Orchard Avenue, West Diamond Avenue and Muddy Branch Road all have existing shared-use bicycle trails/sidewalks within their right-of-ways.

NIST identifies a number of considerations that the campus plan intends to address including:

- *Laboratory Environmental Control.* Much of the research on the campus requires precise performance and measurements, which demand very controlled environments - rigorous temperature and humidity control, vibration stability, air cleanliness and quality electric power.
- *Aging Buildings and Infrastructure.* Twenty-five buildings remain from the initial campus construction, with engineering systems that are well past their service life.
- *Public Facilities.* Conferences and professional visits bring many people to the campus and Building 101 facilities, at a time when security requirements are more of a concern. Previous studies propose improvements to food service on campus, as well as recommendations for changes to the conference center, library and visitor-use services.

- *Historic District Context.* As eligible for listing on the National Register of Historic Places as a historic district, all improvements should comply with the *Secretary of the Interior's Standards for the Treatment of Historic Preservation* to the degree possible.
- *Stormwater Management*. Future planning must reduce runoff from existing impervious surfaces and offset any addition, using structural or bio-retention approaches.
- *Transit linkages*. Maryland's Corridor Cities Transitway is planning a bus rapid transit (BRT) alignment between the Shady Grove Metro Station (along the NIST campus's west-side) and the Metropolitan Grove commuter rail station in an initial phase. The project will require various changes to NIST property to accommodate the facility, including relocation of Gate C.
- *Campus Circulation*. The gates around the campus perimeter experience frequent congestion at peak times, with limited queuing and turnaround space.
- *Security.* Most commercial vehicles currently enter at Gate C, with a lack of queuing space and inspection facilities. In addition, there are no facilities to screen visitors' or staff vehicles.
- *Parking.* Parking capacity and distribution must be a balanced approach, considering campus functions, employee commuting patterns, conference surge, public transportation opportunities, and community and environmental considerations.

Future Conditions

The campus plan assumes a population growth of 1,099 additional employees over the next 20 years (to a total population of 5106), with a projected need of 1.4 million gross feet of new space (renovated and new construction) to fulfil NIST's research mission in the future. Approximately 37% of the future space is planned as administrative office space, 13% is planned as service/support space, and 50% is planned as research-dedicated space. The campus plan bases projected population and space need assumptions on previous studies of historic data. The campus plan notes that a significant majority of the new space is necessary to accommodate current research needs.

In an effort to focus future development within the historic core area, NIST developed six potential future development concepts that would attain its planning goals, with varying concentrations of research and administration space interwoven throughout the core. The preferred NIST concept (F) adds new office space within existing General Purpose Laboratory buildings, thereby dedicating all new construction space solely to research uses. In addition, Concept F is one of two concepts (B and F) that best replicate the historic core development pattern along the interior pedestrian concourse, without extending beyond the historic boundary of the core. Concept F also maximizes surface parking redevelopment.

One notable master plan feature is the designation of a pedestrian-oriented corridor between the historic core area and future Corridor Cities Transitway (CCT) stop to help activate the outdoor space and to facilitate transit ridership. The promenade is envisioned to be 20-feet wide corridor between the center of campus and the new CCT stop. The corridor will transition to 10-15 feet wide when parallel to an active street, with large granite pavers (similar to those found around Building 101), low site walls, and additional landscaping.

The campus plan includes campus-wide strategies related to stormwater management, sustainability, and operational efficiency, designed to enable NIST to achieve a number of planning goals as follows:

- Increase total forest land area to 15% based on Maryland-National Capital Park and Planning standards and total tree canopy area to 40% by 2025 based on Maryland state standards;
- Treat 20% of all future impervious surface area runoff based on Maryland state standards;
- Reduce nutrient and sediment stormwater runoff loads equivalent to treatment of 20% of pre-1985 impervious surface area by 2025 based on Chesapeake Bay Preservation Act standards;
- Attain the following NIST building performance goals:
    - Daylighting for 75% of all regularly-occupied interior building space
    - 30% of hot water needs met by solar technology
    - 30% electric energy from renewable sources by FY25
    - Reduce energy intensity by 25% by FY 25.

To preserve the campus's historic qualities, in addition to adhering to the Secretary of the Interior's Standards for Rehabilitation, the campus plan includes a number of additional strategies to help preserve its history. Some of the strategies are as follows:

- Ensuring that a number of significant views across the campus remain unimpeded with proposed improvements;
- Maintaining all primary building entrances on the short sides of the General Purpose Laboratory buildings - on the spines and/or facing the roads – with entrances clearly marked and be visible from a distance;
- Maintaining the existing interior concourse (within the historic core) that connects the original General Purpose Laboratory buildings by siting new construction accordingly;
- Identifying "design language zones" (historic core, new development, existing site) with guidelines for landscaping, materials, and amenities;
- Creating a NIST Design Review Board to review and approve major capital improvements to buildings and grounds, establishing a predictable process for assuring that projects are consistent with the campus plan, Section 106 historic review process, and NIST standards/mission goals.

The campus plan shows 25 total future projects, developed in three sequential phases (Immediate, Next Step, Program Expansion), with some projects listed as part of a fourth Independent Phase. Two notable projects (both included in the Immediate Phase 1) will redevelop Gate A and Gate F to better accommodate future commercial deliveries, shipping and receiving, and conference visitors. NIST considered three different alternative concepts for Gate A, with the NIST-preferred concept shown in the campus plan. The preferred Gate A concept allows for more thorough, convenient screening and processing of visitors and their vehicles compared to the existing facility.

The Gate F development would accommodate a relocated commercial vehicle inspection (from Gate C), shipping/receiving, and larger visitor groups (conference attendees) with a dedicated visitor center, inspection area, shipping/receiving building, and security booth. NIST considered four separate Gate F concepts with varying numbers of access points, and combined and separate

visitor and commercial delivery handling facilities. The NIST-preferred Gate F concept is included in the campus plan.

Based on NIST's employment population change, the campus plan proposes to increase federal employee parking over the next 20 years resulting in a parking ratio of 1:2. Today, the parking ratio for federal employees is 1:1.5. The NCPC Comprehensive Plan specifies a 1:2 ratio for the NIST campus, with its proximity to High Occupancy Vehicle (HOV) facility access along Interstate 270. The 1:2 ratio does not include contractors and guest researchers who are not eligible to participate in various travel demand management programs available to workers appointed to federal positions. The campus plan proposes to increase NIST's parking supply by 125 spaces to accommodate the campus's additional non-federal population, which equates to a 1:1.7 ratio. Overall, the campus will improve from a 1:1.5 to a 1:1.9 ratio, with a total space increase of 275 for both federal and non-federal workers.

Analysis

The final submission addresses the Commission's comments on the April 2018 draft master plan submission.

Campus Plan Revisions

The final campus plan shows additional vegetation as part of the new commercial vehicle inspection facility / conference group processing center to shield the development from off-campus locations. Vegetation will be added to the area encircled by Muddy Branch Road and facility access drives. In addition, two multi-use trail sections were removed from the plan and one section was added near the ground-mounted solar array to enhance the future recreation network. Lastly, the final plan includes five future bicycle shelter locations in the on-site circulation plan component. Therefore, staff recommends that the Commission **note the following changes to the campus plan since the previous draft submission:**

- **Added vegetation around the new Gate F Commercial Truck Inspection facility to help shield the development from off-site views.**
- **Added a multi-use trail section and eliminated two other planned sections to enhance network.**
- **Added proposed bicycle shelters at five on-campus locations to encourage bicycle use.**

Transportation

The final master plan submission articulates NIST's commitment to the development of a Travel Demand Management (TDM) plan that includes programs, strategies, goals, and implementation steps for encouraging more sustainable travel behavior for both federal and non-federal staff. NIST also commits to submitting a status report on the TDM program prior to submitting the future parking garage and parking lot expansion projects for NCPC review. These commitments are made in response to two previous Commission requests from its draft master plan review. Therefore, staff recommends that the Commission **note that NIST commits to the development of a Travel Demand Management (TDM) plan that includes programs, strategies, goals, and implementation steps for encouraging more sustainable travel behavior for both federal and**

non-federal staff. The plan will be submitted to NCPC for review at the time of the next master plan update. Also, staff recommends that the Commission **note that NIST commits to submitting a status report on the TDM program prior to submitting the future parking garage and parking lot expansion projects for NCPC review.**

CONFORMANCE TO EXISTING PLANS, POLICIES AND RELATED GUIDANCE

Comprehensive Plan for the National Capital

The campus plan is generally consistent with the policies established in *The Comprehensive Plan for the National Capital*, including those related to historic preservation, sustainability, and the federal environment.

National Historic Preservation Act

The entire NIST campus has been determined to be eligible for listing in the National Register of Historic Places by the Maryland Historic Trust. New construction and work to existing buildings should comply with the Secretary of the Interior's Standards for the Treatment of Historic Properties to the degree possible. Adoption of the Secretary's Standards for new construction, will assure architectural compatibility in scale, massing, size, and overall design with existing historic building stock and landscapes. In consultation with MHT, NIST believes that consistency with the Standards may result in a finding of no adverse effects under 36 CFR 800. The ten Secretary's Standards outline an approach to facilitate the continued use of historic properties and to new construction while retaining character-defining design features. The Standards are accompanied by guidelines for general and specific rehabilitation strategies. NIST has indicated that should an adverse effect be determined; they will coordinate with MHT to develop a Programmatic Agreement to mitigate any identified adverse effects. For federal projects located outside of the District of Columbia, NCPC does not have a review responsibility under the National Historic Preservation Act.

National Environmental Policy Act

NIST prepared an EA to analyze the campus plan with two alternatives – an action alternative that analyzes the "preferred" development scenario and a "no action" alternative. The final campus plan submission to NCPC includes the final EA and Finding of No Significant Impact (FONSI). For federal projects located outside of the District of Columbia, NCPC does not have a review responsibility under the National Environmental Policy Act (NEPA).

CONSULTATION

NCPC referred out the draft campus plan submission to the Maryland Department of Planning clearinghouse on January 9, 2018, and the submission was transmitted to the Maryland Department of Transportation, Maryland Department of the Environment, Maryland Department of Natural Resources, Maryland Historic Trust, Montgomery County, and Maryland-National Capital Park

and Planning Commission (Montgomery County). NCPC did not receive any applicable comments from the clearinghouse.

Separately, NIST submitted a copy of the draft master plan to the City of Gaithersburg for review and comment. Representatives of NIST also presented the plan to the Mayor and City Council on February 5, 2018. As evidenced by feedback from the Mayor and City Council following the presentation, the City greatly values NIST's presence, and views this plan as a great model of sustainability and environmental consciousness. In particular, the City appreciates the plan's focus on pedestrian and green infrastructure, as well as traffic flow and entrance queuing improvements. City Staff had the opportunity to provide comments during the development of the draft, and is of the opinion that the plan is compatible with the adjoining Master Plan of the City of Gaithersburg and concurs with the goals and conclusions outlined in the draft plan. These comments were transmitted to NCPC staff via e-mail on March 14, 2018.

ONLINE REFERENCE

The following supporting documents for this project are available online at www.ncpc.gov:

- Submission Letter
- Final Environmental Assessment / Finding of No Significant Impact (FONSI)
- Final NIST Campus Master Plan
- Project Synopsis

Prepared by Michael Weil
07/05/2018

POWERPOINT (ATTACHED)

National Capital Planning Commission

National Institute of Standards & Technology

Master Plan

Gaithersburg, Maryland

Submitted by the United States Department of Commerce

Final Review

Project Synopsis

Project Information

Commission meeting date: July 12, 2018

NCPC review authority: Approval of Master Plans for use by the Commission (40 U.S.C. § 8722(a) and (b)(1))

Applicant request: Final Review

Delegated / consent / open / executive session: Consent Calendar

NCPC Review Officer: Michael Weil

NCPC File number: MP23

Project Summary:

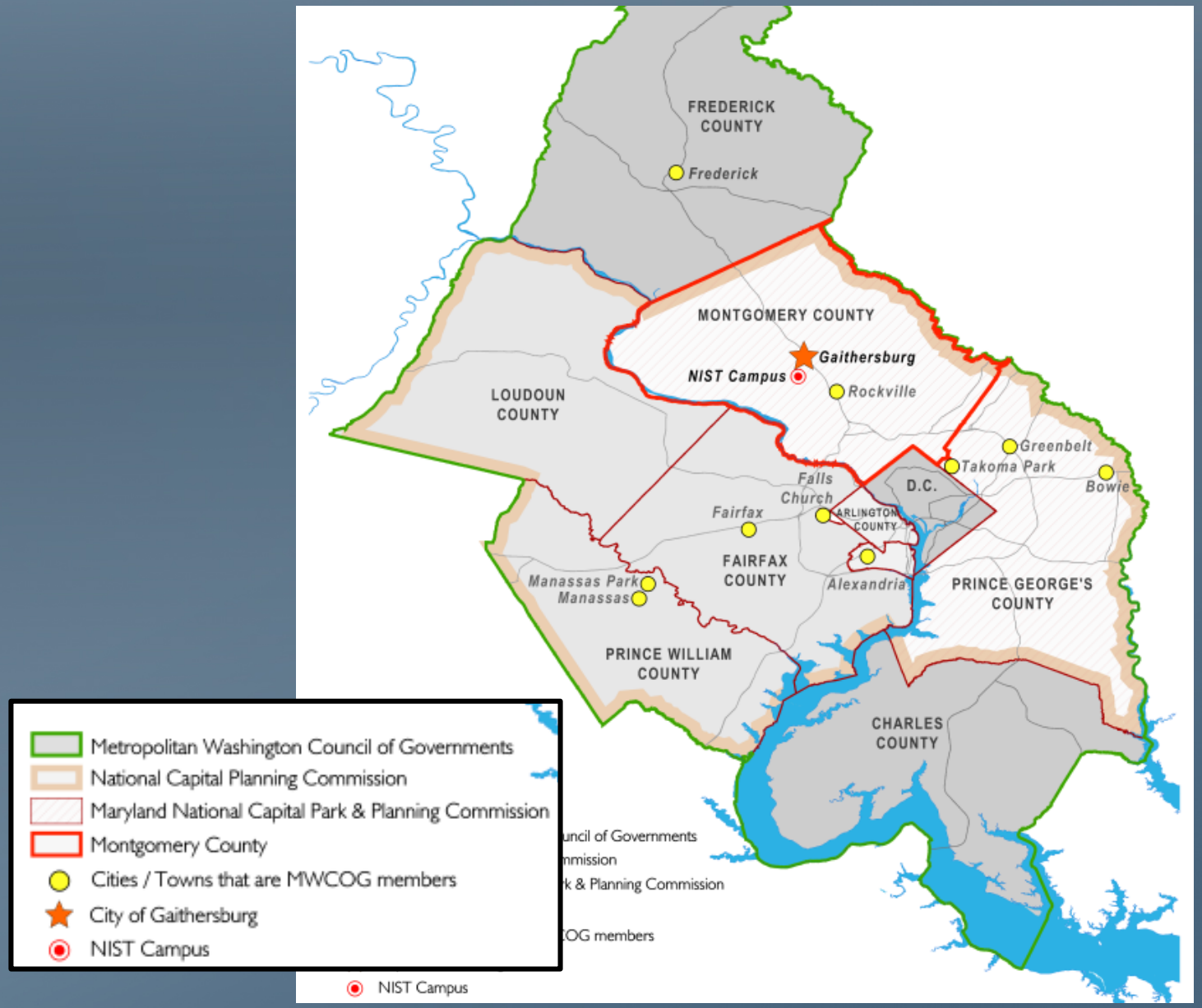
The National Institute of Standards and Technology (NIST) Gaithersburg campus is a beautiful setting, featuring a rolling terrain dotted with trees and wooded areas. There are 62 buildings and structures, totaling over 3.6 million gross square feet of space and housing approximately 4,000 personnel (both employees and associates). Approximately half of the permanent buildings are now more than 50 years old, although two significant facilities were built in the last 20 years: the Advanced Chemical Sciences Laboratory (ACSL) and the Advanced Measurement Laboratory Complex (AML). Additionally, NIST has constructed several smaller buildings and additions within the last 10 years for specialty research and support operations.

The Master Plan provides for the modernization of aging, inefficient buildings and accommodates the anticipated growth in research programs over the next 20 years. Approximately 1.4 million gross square feet of new facilities will be added and 15 buildings will be renovated. Many of the proposed elements are needed today, and are not the result of program driven growth. The Master Plan offers a framework for accomplishing NIST's goals of meeting anticipated scientific program growth, enhancing the Gaithersburg campus, providing appropriate facilities, encouraging professional collaboration and advancing sustainable practices. The emphasis is on research buildings— upgrading existing laboratory buildings and infrastructure to support current and future research, and adding new facilities needed for planned programs.

The Master Plan concentrates new research buildings in the central campus core, where most of the existing laboratories buildings are located, including the seven original general purpose laboratories and the main administrative building. The building configurations follow a regular pattern, linked by an interior pedestrian concourse. The new building configurations and locations build upon that historic pattern, and connect into the interior pedestrian concourses. New specialty laboratory buildings are placed outside the core, and the existing special purpose laboratories are planned for renovations and additions as part of the 20-year Plan. Other campus recommendations improve security, upgrade infrastructure and encourage collaboration.

National Capital Planning Commission

Campus Location



Existing Campus

Exhibit 116: Campus Organization

National Capital Planning Commission

Future Campus

Fast Facts

	2016	20-Year
Personnel	4,007	5,106
Buildings	62	72
Square Footage–GSF	3,641,215	5,050,000
Parking–Potential	3,704	3,979

Campus Plan Goals / Highlights

Goals

- A plan that creates a comprehensive and coordinated framework for future physical development of the Gaithersburg campus.
- A plan that develops appropriate facilities and infrastructure for the evolving and advancing scientific research, meeting both near and long-term needs.
- A plan that maintains the attractive campus environment.
- A plan that respects and embraces the designation of the campus as a historic district.
- A plan that supports and advances the sustainable design and environmental goals of NIST and the Department of Commerce.
- A plan for gradual change, complete at each step.

- **Secure Visitor Entry.** New circulation, facilities and equipment allows enhanced screening of visitors, in accordance with new security policies and procedures.
- **Gradual Growth.** Growth in laboratory, office and support needs will be gradual over the 20-year period, based on anticipated programs and in line with historic NIST growth patterns.
- **Modernized General Purpose Laboratories.** Complete renovation of the original General Purpose Laboratory Buildings (GPLs), built in 1966, will provide the improved environments necessary for advanced measurement science and research.
- **Specialty Research Buildings.** Specialty laboratory facilities are constructed as additions to existing buildings or new structures, in response to specific research programs.
- **Adaptive Reuse.** Several original General Purpose Laboratory Buildings are renovated for computer laboratory and office occupancy, in lieu of constructing new office buildings.
- **Connected Buildings.** New research buildings are within the campus core and linked into the interior pedestrian concourse, for flexible assignments and easy collaboration.
- **Enhanced Conference and Visitor Facilities**. The conference center is expanded, and the library and museum updated to support larger conferences, modern research methods, collaboration and campus security.
- **Historic Preservation.** The campus has been determined eligible for listing in the National Register of Historic Places as a historic district. The Master Plan has considered the campus' character defining features and recognizes that each future development and/or redevelopment action will be governed by the National Historic Preservation Act of 1966 (as Amended) and through NIST's conscientious application of the *Secretary of the Interior's Standards for the Treatment of Historic Properties*.
- **Consolidated Shipping and Receiving.** New Gate F facilities provide for secure commercial vehicle screening, consolidated transfer of materials and deliveries, while significantly reducing commercial vehicle traffic within the campus.
- **Pedestrian Circulation.** Pedestrian circulation is enhanced by adding sidewalks and creating a pleasant walkway from the core buildings to Building 301 and the future CCT transit stop. A new recreational path encircles the entire campus.

Highlights

- **Coordinated Parking Strategy.** The Master Plan gradually reduces the parking per employee ratio over time as the staff grows. This assumes the completion of the state sponsored hiker-biker-trail as well as the Corridor Cities Transitway (CCT) along Quince Orchard Road. The new research buildings proposed for the third construction phase will be built on existing surface parking lots, which will then be replaced with an efficient parking structure.
- **Energy Conservation Emphasis.** Planned renovations to the original campus buildings will refurbish the uninsulated facades, and replace aging mechanical systems with modern energy-efficient/conserving systems. A new solar field will augment the several existing on-site solar arrays. The new warehouse and other non-lab buildings have net-zero energy use as a goal.
- **Natural and Sustainable Campus.** The Plan emphasizes natural and sustainable landscapes, introducing native and adapted vegetation for easy maintenance, a coordinated stormwater management strategy and the creation of additional landscaped seating and recreation areas.
- **Flexible, Incremental Growth and Change.** The Plan allows facilities to be added incrementally, as needed and financed when federal funding permits, each being linked to an established circulation and utility network.

National Capital Planning Commission

Potential Future Central Core Development Concepts

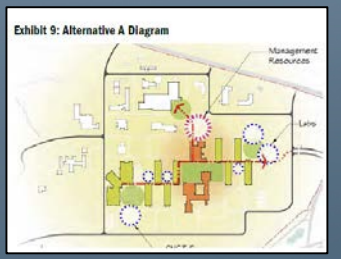
F. Emphasizing Research

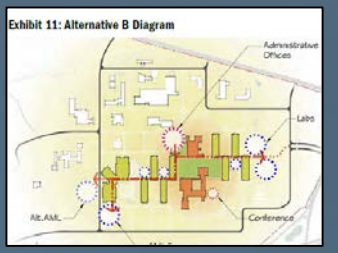
Alternative F concentrates research buildings in the center of campus, and emphasizes office space rather than new laboratories in GPL renovations. All new construction is for research, with its support and office areas. New research buildings are clustered in the center of campus, and like other alternatives, linked into the NIST pedestrian concourse. To accommodate the needed laboratory space, another research building is shown at the northern end of the concourse. The AML expansion would be adjacent to its related complex. Administrative office space is housed in renovated GPL buildings, which yield more usable square feet when renovated for this use.

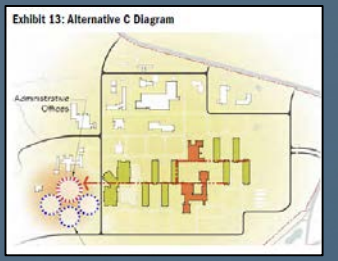
NIST-Preferred

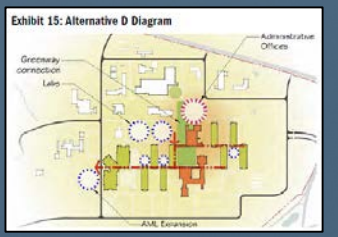
Exhibit 19: Alternative F diagram

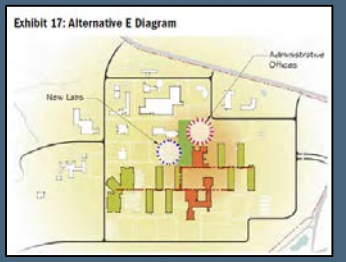
Exhibit 20: Alternative F Plan



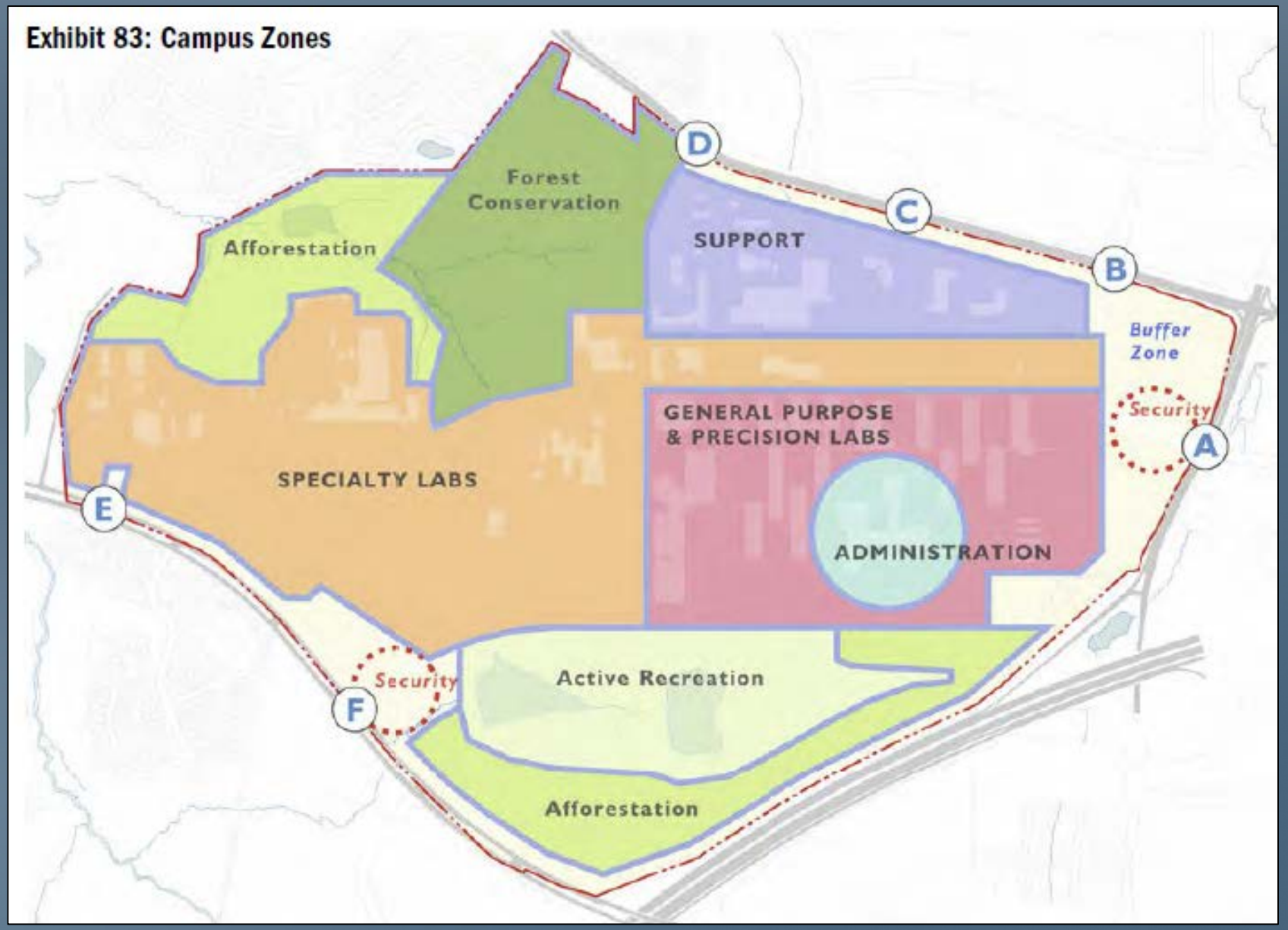








Future Campus



Future Campus

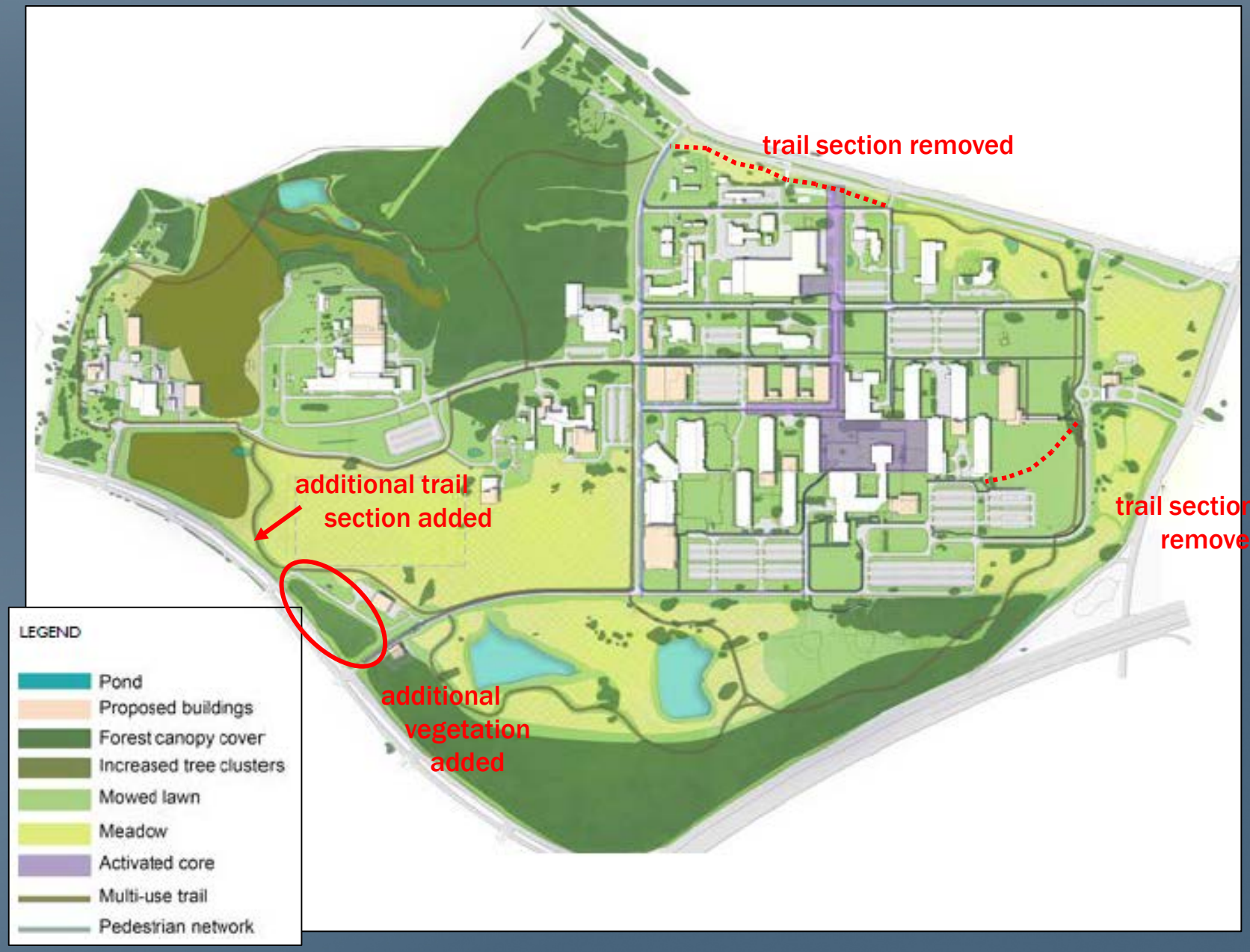
1. Storm Water Management. As the campus expands and modernizes, it will need to meet current storm water management requirements. There are many simple interventions within the landscape that can slow run-off. In this plan those include removing curbs and creating bio-swales, retrofitting parking lots to include small rain gardens, possible building green roof systems, and reforestation.

2. Reforestation. Expanding the canopy cover will create a noise and visibility buffer from highway 270, slow wind speeds, and aid in the absorption of storm water run off.

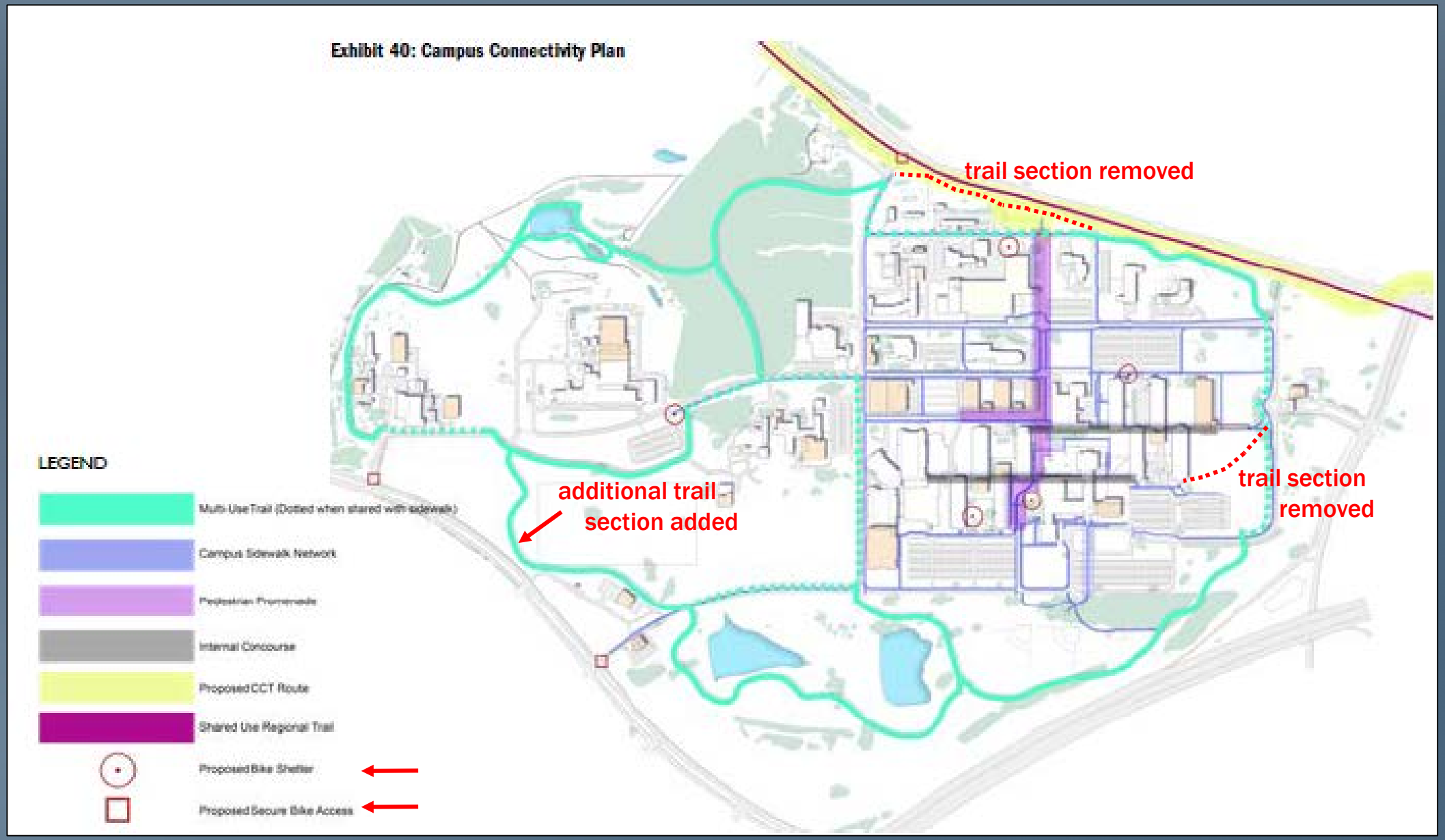
3. Historic Preservation. NIST developed and relocated from the District of Columbia to its current Gaithersburg campus in the 1960s. Its campus reflects many aspects of suburban research campuses that were prominent in the US from the 1950s-1970s. Many of these elements on site need restoration, protection, or enhancement.

4. Connectivity. This landscape plan seeks to address the site circulation needs—from creating a stronger pedestrian pathway network to incorporating other modes of transportation and recreation into the existing fabric.

5. Site Activation. Establishing a hierarchy of social outdoor spaces will help modernize the campus and respond to the needs of staff and employees in the 21st century who value access to the outdoors.

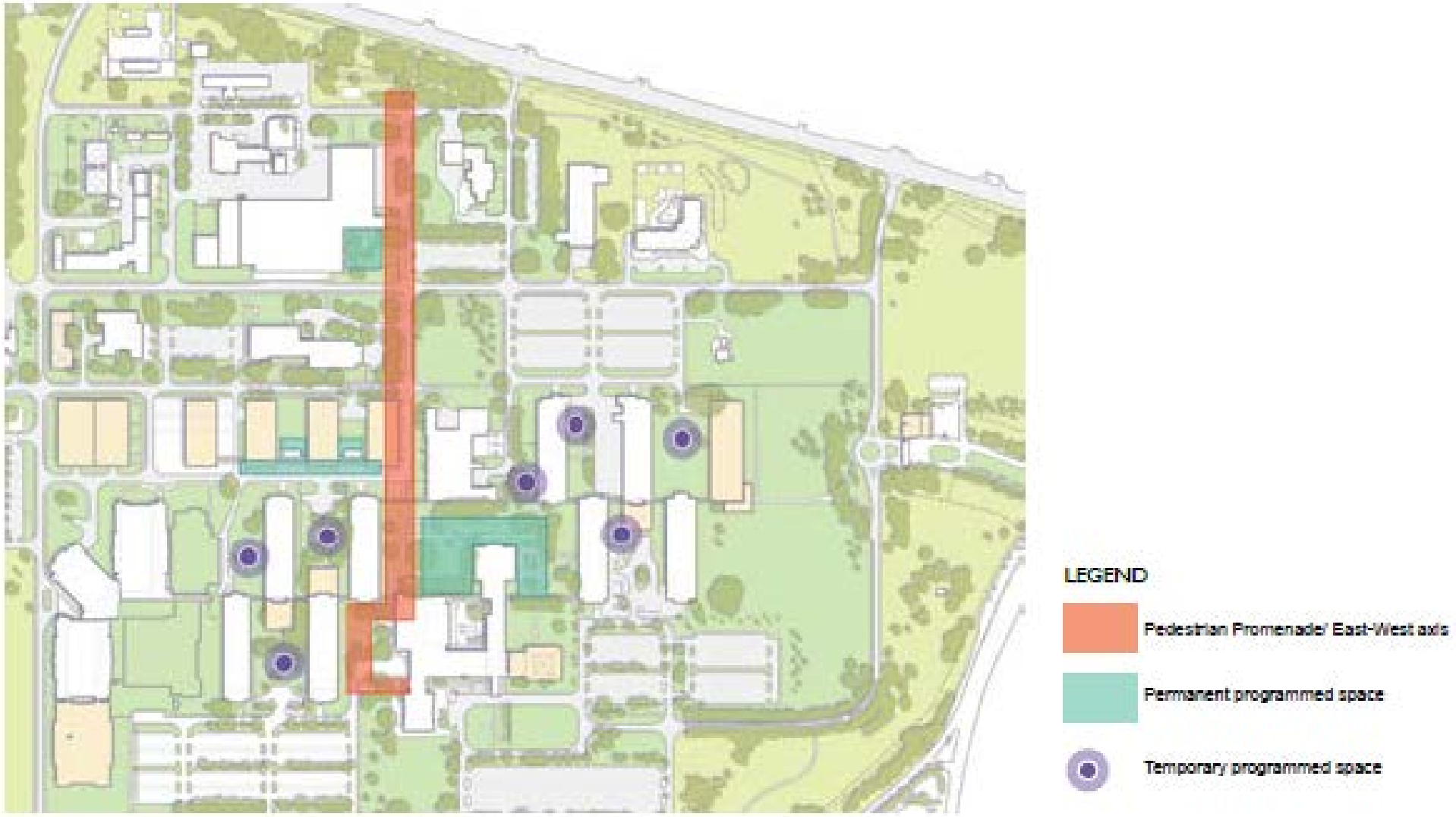


Future Campus

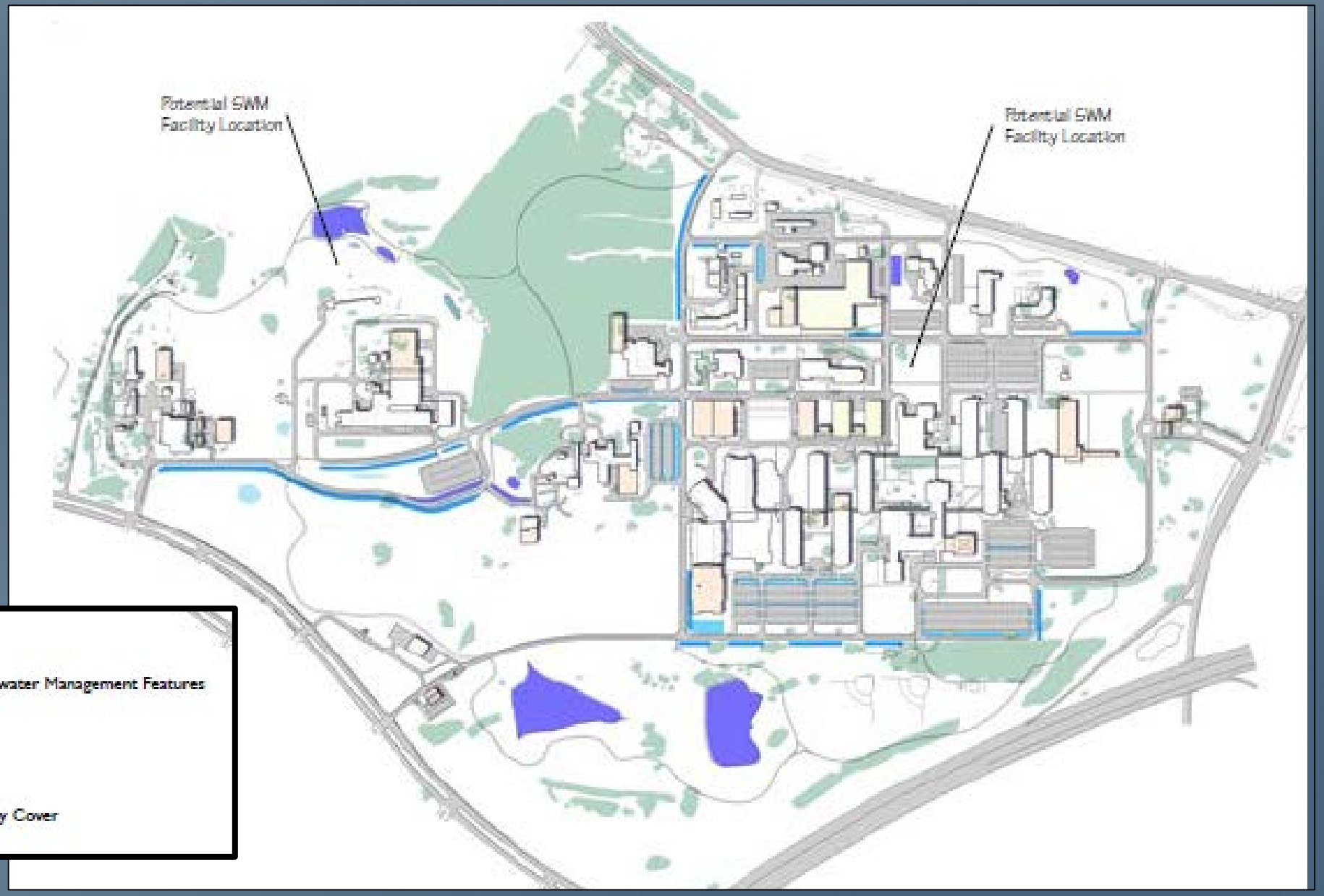


Future Campus

Exhibit 41: Campus Activation



Future Campus



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