

Committee Minutes
BUILDINGS AND GROUNDS COMMITTEE

North End Center Training Room 2400
8:00 a.m.

April 3, 2017

Closed Session:

Board Members Present: Mr. Mike Quillen, Mr. Steve Sturgis

VPI & SU Staff: Mr. Mark Gess, Ms. Angela Kates, Dr. Chris Kiwus, Dr. Sherwood Wilson

- 1. Motion for Closed Meeting**
- 2. Briefing by Legal Counsel:** The Committee received a briefing by Legal Counsel on probable litigation.
- 3. Motion to Reconvene in Open Session**

Open Session

Board Members Present: Dr. Montasir Abbas, Mr. James Chapman-Rector, Mr. Gabe Cohen, Ms. Greta Harris, Mr. Mehmood Kazmi, Mr. Mike Quillen, Mr. Chris Peterson, Ms. Deborah Petrine, Mr. Mehul Sanghani, Mr. Steve Sturgis, Ms. Tara Reel, Mr. Tom Ryan

VPI & SU Staff:

Ms. Jennifer Altman, Deputy Chief Mac Babb, Mr. Whit Babcock, Mr. Joe Crane, Mr. Mike Dunn, Ms. Eleanor Finger, Dr. Lance Franklin, Major General Randy Fullhart, Mr. Mark Gess, Ms. Cathy Grimes, Ms. Elizabeth Hansen, Ms. Kay Heidbreder, Ms. Rachel Holloway, Ms. Angela Kates, Dr. Chris Kiwus, Ms. Sarah McCoy, Mr. Mike Mulhare, Ms. Laura Neff-Henderson, Dr. Teresa Mayer, Mr. Seyi Olusina, Ms. Kim O'Rourke, Mr. Mark Owczarski, Dr. Patty Perillo, Mr. Charles Phlegar, Ms. Michelle Ramsey, Dr. Thanassis Rikakis, Mr. Eric Roscher, Dr. Timothy Sands, Dr. Frank Shushok, Ms. Angela Simmons, Ms. Sarah Simpkins, Ms. Kayla Smith, Mr. Jason Soileau, Dr. Elizabeth Spiller, Mr. Dwyn Taylor, Ms. Tracy Vosburgh, Ms. Heather Wagoner, Mr. Luke Watson, Dr. Sherwood Wilson, Mr. Chris Wise

- 1. Opening Remarks and Approval of Minutes of the November 7, 2016 meeting:** The Committee approved the minutes of the November 7, 2016 meeting.
- 2. Update on Prices Fork Research Station Fire and Replacement:** The Committee received an update on the Prices Fork Research Station Fire and Replacement. The fire largely destroyed three structures on university property located at the research

station in Montgomery County, Virginia. The university requested to complete demolition of three structures for safety and environmental concerns. The Committee recommended full board approval of the following three resolutions authorizing the demolition of university buildings on university property located at the Prices Fork Road Research Station in Montgomery County, Virginia.

- *3. **Resolution on Demolition of University Building - Kaiser Aluminum Building No. 667:** The Committee recommended full board approval of the demolition of the Kaiser Building Number 0667, a 4,375 gross square foot (GSF) steel frame structure.
- *4. **Resolution on Demolition of University Building - Structural Lab and Office Building No. 668:** The Committee recommended full board approval of the demolition of the Structural Lab and Office Building Number 0668, a 3,220 gross square foot (GSF) steel frame structure.
- *5. **Resolution on Demolition of University Building - EUS Structural Lab Annex Building No. 668A:** The Committee recommended full board approval of the demolition of the EUS Structural Lab Annex Building Number 668A, a 691 gross square foot (GSF) steel frame structure.
- *6. **Resolution on Demolition of University Building – Feeder Shed Building No. 1304:** The Committee recommended full board approval of a resolution authorizing the demolition of Feeder Shed, Building 1304, which is a 2,255 gross square foot (GSF) wood frame, pole barn structure on university property located at Kentland Farm in Montgomery County, Virginia. The building was constructed in 1950 and is failing structurally because of wood rot and termite damage. The building is in poor condition and is uneconomical to repair.
- 7. **Design Review for O’Shaughnessy Hall Renovation and Addition:** The Committee approved the design graphics for the renovation and addition of O’Shaughnessy Residence Hall. Built in 1969, the 69,211 gross square foot (GSF) residence hall is a traditional dormitory with 175 double occupancy rooms (350 beds) and community (hall) bathrooms. Renovation and conversion will reduce the total number of beds by 13, bringing the total number of beds to 337. The renovation will refurbish student rooms, bathrooms, and common spaces throughout the hall and will upgrade building systems including the installation of air conditioning. The transformation of the ground floor and replacement of the existing front stair with a new glass-enclosed stair that opens into a collaborative commons space on each floor will convert the traditional residence hall into a living-learning community. The project includes an exterior terraced patio that will also function as an outdoor living-learning environment.
- 8. **Design Preview/Review for the Autonomous Study Park – Unmanned Aerial Vehicle (UAV) Net and Hyperloop Test Track:** The Committee approved the design graphics for an unmanned aircraft park to be constructed as part of the new Intelligent Infrastructure Corridor. This new park will have three main features: a

flight cage for operation of unmanned aerial craft, two modular classroom units, and a test track installation to support the Hyperloop vehicle design competition. One of the modular classroom units will include a workshop adjacent to the flight cage and is part of the first phase of construction. The other modular classroom unit will provide an open bay shop space and will be part of the second phase of construction associated with the Hyperloop test track. The Committee members expressed concern regarding the aesthetics of the UAV net, as well as potential view-shed and wildlife impacts. Dr. Wilson emphasized the non-permanent nature of the proposed structure, the timely and significant impact of the education and research programs supported by the facility, and that the long-term use and aesthetics of this area are being considered as part of the overall Master Plan process.

9. **Design Preview/Review for Visitor Pavilion:** The Committee approved the conceptual design graphics for the Visitor Pavilion at Virginia Tech's new south entry. This structure will provide a welcoming arrival experience for visitors along the realigned Southgate Drive (currently in construction), and will reinforce a positive first impression of the Virginia Tech campus through use of Collegiate Gothic architecture with Hokie Stone, precast panels, arches, and heraldry on the building façade. The structure footprint will be approximately 900 gross square feet on a poured foundation slab. The project aims to support the visitor experience by providing way-finding, contextual information, and photographic opportunities for visitors to the campus.
10. **Update on Campus Master Plan:** Members of the Academic Affairs and the Student Affairs and Athletics Committees were invited to join the Buildings and Grounds Committee to receive an update on the Campus Master Plan.
11. **Capital Project Status Report:** The Committee received an update on the status of all capital projects.
12. **Briefing on Joint Session with the Finance and Audit Committee:** The Committee received a brief update on the Intelligent Infrastructure and Human Centered Environments test sites.

Joint Open Session with Finance and Audit: Joint Open Session

Board Members Present: Mr. Jim Chapman, Mr. Charles T. Hill, Mr. Alex Parrish – staff representative, Mr. Mike Quillen, Mr. Wayne Robinson, Mr. Steve Sturgis, Mr. Dennis Treacy, Mr. Horacio Valeiras

VPI & SU Staff: Mr. Bill Abplanalp, Mr. Bob Broyden, Mr. John Cusimano, Mr. Brian Daniels, Mr. John Dooley, Ms. Natalie Hart, Mr. Tim Hodge, Ms. Katie Huger, Dr. Chris Kiwus, Ms. Angela Kates, Dr. Steve McKnight, Dr. Scott Midkiff, Mr. Ken Miller, Ms. Terri Mitchell, Ms. Laura Neff-Henderson, Mr. Mark Owczarski, Mr. Charlie Phlegar, Dr. Scot Ransbottom, Ms. Lisa Royal, Mr. Charlie Ruble, Dr. Tim Sands, Ms. Savita Sharma, Mr. M. Dwight Shelton Jr., Mr. Jason Soileau, Dr. Ken Smith, Ms. Barbara Starling, Mr. Brad

Sumpter, Mr. Dwyn Taylor, Mr. Jon Clark Teglas, Ms. Tracy Vosburgh, Dr. Sherwood Wilson, Mr. Chris Yianilos

- * 1. **Approval of the 2018-2024 Capital Outlay Plan:** The Committees reviewed for approval the 2018-2024 Capital Outlay Plan. The university prepares an updated Six-Year Capital Outlay Plan every two years as part of its normal planning and budgeting cycle. The Plan is a critical component of positioning the university for state support of major Educational and General projects and for advancing high priority projects that may be funded entirely with nongeneral fund resources. The next state capital outlay plan will be for 2018-2024 and will be established in the 2018 budget development process. Traditionally, the state requires each institution to submit a capital plan in June of the year before a new biennium begins. Based on that timetable, a plan from the university for 2018-2024 will be due to the state in June of 2017.

Preliminary work has been done to identify potential projects for inclusion in the 2018-2024 Capital Outlay Plan in anticipation of future guidance and instructions from the state. These projects are consistent with programmatic needs established for the planning period and with the strategic plan of the university, and they position the university with options to respond to guidance from the state.

Since the submission date for the new Plan may occur before the June 2017 Board of Visitors meeting, the university is requesting the review and approval of the list of potential projects for inclusion in the 2018-2024 Capital Outlay Plan. The report provides a list of projects that can be funded through general fund and nongeneral fund sources and includes both renovation and new construction projects. The university will provide an update to the status of the 2018-2024 Plan at a future Board of Visitors meeting.

The Committees recommended the 2018-2024 Capital Outlay Plan to the full Board for approval.

- *2. **Approval of Resolution for Capital Project for Construction of O'Shaughnessy Hall Renovation:** The Committees reviewed for approval a resolution for capital project for construction of O'Shaughnessy Hall Renovation. In March 2016, the Board of Visitors approved a \$1.75 million planning authorization for the O'Shaughnessy Hall Renovation project. The project is in the working drawing phase and will be ready to enter the construction phase this spring. In accordance with the scope of the authorized planning project, the designed solution addresses deferred maintenance, updates the building's interior, residential rooms; bathrooms; mechanical, electrical, and plumbing systems; elevators, installs air conditioning, and converts O'Shaughnessy Hall into a living-learning format to modernize the program space. Converting O'Shaughnessy Hall into a living-learning format will modernize the program space within the building with minimal loss of beds. The programmatic changes include the creation of a faculty principal apartment, five to

seven faculty/staff offices, a classroom, and common meeting rooms for student activities. With the new addition, the adjusted gross square feet would be 74,300.

The total project costs inclusive of design, construction, equipment, and administration are \$21.5 million. As with all self-supporting projects, the university has developed a financing plan to support the project. This request was for a \$19.75 million authorization supplement for construction of the O'Shaughnessy Hall Renovation project.

The Committees recommended the Resolution for Capital Project for Construction of O'Shaughnessy Hall Renovation to the full board for approval.

***3. Approval of Resolution for New Gas-Fired Boiler at the Central Steam Plant:**

The Committees reviewed for approval a resolution for a new gas-fired boiler at the Central Steam Plant. The Central Steam Plant (Plant) includes five operational boilers installed between 1959 and 1996. A sixth boiler located within the plant was decommissioned in 1997. The university currently spends over \$9 million to operate the Plant assets. The university evaluates fuel prices, operating costs, and thermal loads to determine which assets to use to meet thermal demands. The gas boilers are more economical and operate the entire year to provide 60 percent of thermal needs of the university with coal-fired boilers providing 40 percent of the needs and redundancy during the winter months. State-of-the-art, high efficiency gas-fired boiler technology with 90 percent operating efficiency is now available. A new 100,000 pound per hour gas-fired boiler could produce 60 percent of the Plant's steam generation with a \$495,000 lower annual fuel cost than the current gas assets.

The university's proposal calls for installing a new 100,000 pound per hour gas-fired boiler in place of the decommissioned boiler. The new boiler will maintain the quality and reliability of the steam plant, reduce operating costs, improve operations, and reduce carbon dioxide emissions. The estimated total project costs inclusive of design, construction, and equipment to install a new, high efficiency gas-fired boiler are \$6.8 million. The university has developed a 100 percent nongeneral fund resource plan to support the project costs. The combined impact of fuel savings and reduced future operating costs should result in a positive net present value after nine years. This request was for a \$6.8 million authorization to install a new gas-fired boiler for the Central Steam Plant.

The Committees recommended the Resolution for New Gas-Fired Boiler at the Central Steam Plant to the full board for approval.

***4. Approval of Resolution for Capital Project for Planning the Intelligent Infrastructure and Human-Centered Communities Destination Area:** The Committees reviewed for approval a resolution for planning authorization for the Intelligent Infrastructure and Human-Centered Communities Destination Area. The university has developed a significant initiative to advance a new model of collaborative education and research. The model creates an innovative learning

environment that brings together faculty and students from various disciplines to promote interdisciplinary thinking and doing focused research on solving complex problems. Intelligent Infrastructure and Human-Centered Communities, one of the five original Destination Areas, will be the pioneering implementation of this new interdisciplinary environment. This Destination Area focuses on three themes: smart transportation, smart construction, and smart energy. The overall vision of the Destination Area includes \$78.4 million of university facility improvements that will be a multi-phased development occurring on the north side of campus, Plantation Road, and at the Virginia Tech Transportation Institute (VTTI).

The overall initiative includes multiple facilities, several of which will be implemented with \$73 million of capital projects and capital leases, while other projects will be developed using \$5.4 million of operating funding. The \$73 million of capital outlay components include \$3.5 million for an Urban Smart Track at VTTI which is underway through an authorized capital lease, leaving an outstanding balance of \$69.5 million of capital projects to authorize. At this time, the university was requesting to move forward with a \$6 million planning authorization for the \$69.5 million of outstanding capital projects and capital lease components. The planning authorization will cover establishing a scope, schedule, delivery method, and complete design documents for each capital component. As with all self-supporting projects, the university has developed a financing plan to provide assurance regarding the financial feasibility of this planning project. The funding plan calls for the use of private gifts, overhead funds, revenues derived from the Dining Services auxiliary, and future external support. This request was for a \$6.0 million planning authorization for the Intelligent Infrastructure System.

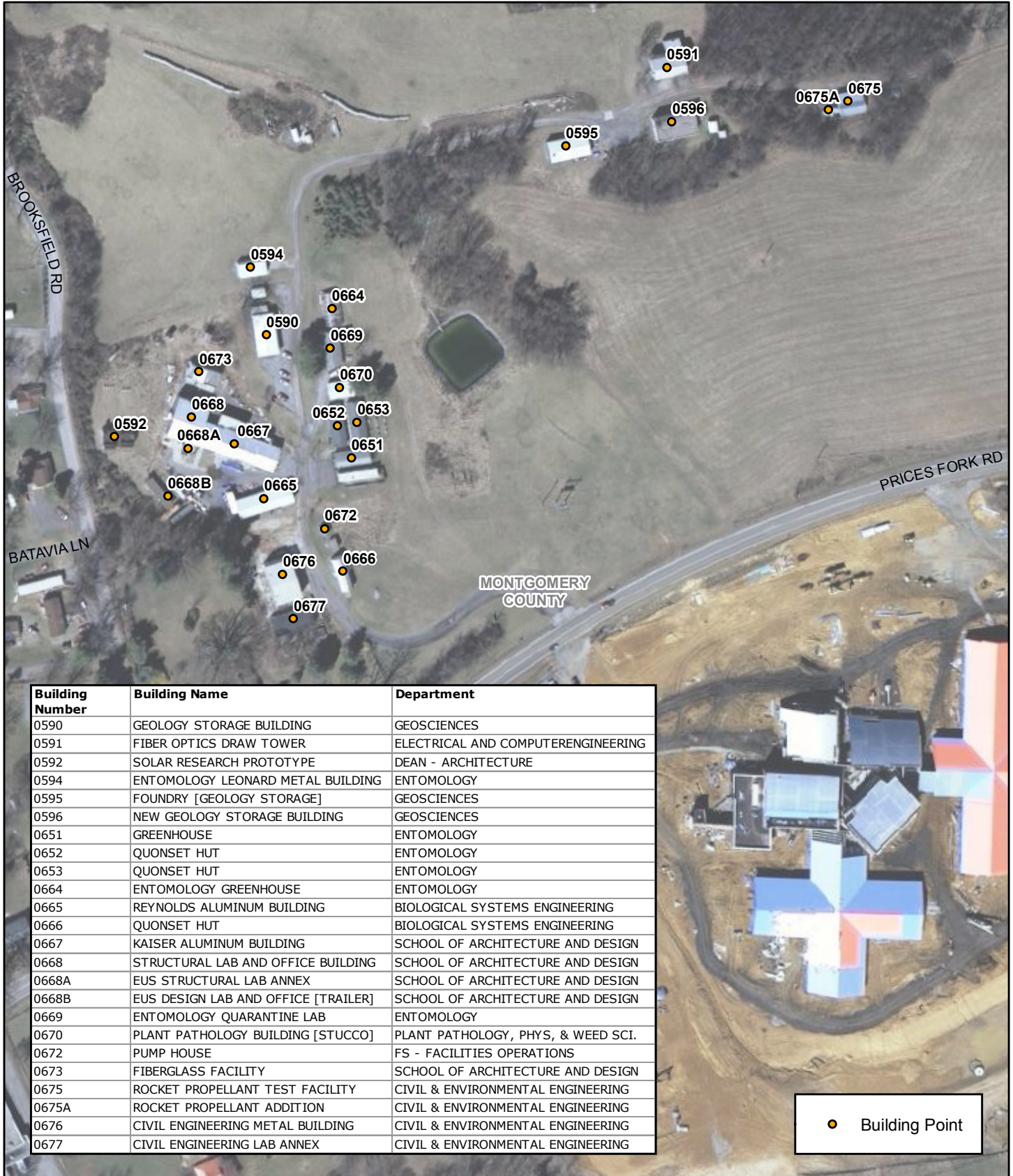
The Committees recommended the Resolution for Capital Project for Planning the Intelligent Infrastructure and Human-Centered Communities Destination Area to the full board for approval.

There being no further business, the meeting adjourned at 12:27 p.m.

***Requires full Board approval.**

Price's Fork Research Station

Blacksburg, VA



0 125 250 500 Feet

Date Created: Dec, 02, 2016



Virginia Tech update on Prices Fork Research Station fire

February 13, 2017

A Virginia Tech research facility, part of the Prices Fork Research Station located at 4076 Prices Fork Road and approximately four miles from the main Blacksburg campus, was destroyed by fire Sunday evening.

According to Virginia Tech Police, the fire was reported to 911 at 8:51 p.m. Sunday and was 95 percent contained by 10:30 p.m. The Blacksburg Fire Department and Longshop McCoy Fire Department responded to the call.

No one was hurt in the fire.

The building burned was the construction and fabrication shop for Virginia Tech's FutureHAUS, a multidisciplinary research project involving students, faculty, and industry partners that produced an innovative prototype that defined the future of smart, sustainable housing.

The FutureHAUS prototype, as well as building material and tools used on the project, were lost in the fire.

The project showcased integrated advanced technologies, energy efficient design, and sustainable construction. In January, the FutureHAUS team exhibited its work at an international trade show in Florida. See related stories:

- [Virginia Tech debuts the bedroom and home office of FutureHAUS](#)
- [Virginia Tech FutureHAUS wows crowds at KBIS](#)

Virginia Tech is working with the FutureHAUS group, industry partners, and leadership in the College of Architecture and Urban Studies and the College of Engineering to find short and long term solutions for the continuous development of this important project.

"While this is a devastating loss, it renews our commitment to build the world's smartest, most sustainable home," said Joe Wheeler, professor of architecture and co-director of the Center for Design Research at Virginia Tech. "Our plan is to take the research and innovation from FutureHAUS, combine it with what we learned on our winning 2010 Solar Decathlon home, LumenHAUS, and carry it forward to create the best solar home for the 2018 Solar Decathlon Middle East."

A preliminary estimate of the value of the research building, the FutureHAUS project, and equipment and supplies lost in the fire is between \$800,000 and \$1.3 million.

The research building lost in the fire was built in three phases starting in 1960.

The Prices Fork Research Station includes several other research buildings with a wide range of research projects. No other buildings or research projects appear to have been affected by the fire.

The cause of the fire is under investigation.

From: Wayne Garst [<mailto:WGarst@blacksburg.gov>]

Sent: Friday, February 17, 2017 1:43 PM

To: Wayne Garst

Cc: Korth, Robby; communitynews@ourvalley.org; editor@newriverdispatch.com; editor@collegiatetimes.com; WSL News; WDBJ7 News; Newsroom - WFXR; Wood, Lauren

Subject: Followup to fire at 4076 Prices Fork road on 2/12/2017

The Blacksburg Fire Department responded to a fully involved structure fire at 8:52 PM on February 12, 2017. The building was called the Environmental Systems Laboratory located at 4076 Prices Fork Road and owned by Virginia Tech. The 8,268 Square feet building was built in 3 sections between 1959 and 1963. The taller section of the building was steel frame with corrugated aluminum siding. The rest of the structure was a pole barn wrapped in the same siding. The whole building was insulated with rigid foam insulation wrapped in plastic. The building was used to store and display the Virginia Tech FutureHaus. It was also used as a wood working and metal fabricating shop with many years of miscellaneous storage.

Longshop McCoy Fire Department assisted Blacksburg Fire with 14 firefighters, 2 tankers and an engine. Blacksburg Fire had 11 apparatus and 36 firefighters onscene. The fire fighters had a tough job fighting the fire due to 40-60 mph winds. They did a great job protecting all other exposures. There were no injuries at the fire.

The building and contents were a total loss with estimates in excess of \$1,000,000.

Fire investigation was completed on 2/16/17 and was determined to be caused by an electrical malfunction under the living room module of the FutureHaus. Wiring between the breaker panel, located on the back of the module, and an automatic door was accidentally mashed under the module frame starting a fire under the module. The module walls were constructed with Styrofoam between ½ inch oriented strand boards causing the fire to spread rapidly.

The building was heated by a 500 gallon propane tank that was installed 2 weeks prior to fire. The system had been tested and inspected when installed. An occupant of the building stated he had smelled propane in the building for a couple of days prior to the fire. The propane tank was shut off upon Fire Department arrival. The investigation did not indicate a propane explosion but did contribute to the acceleration of the fire when the lines were compromised by the fire. There was a second 500 gallon propane tank near the building that was disconnected when the new tank was installed. The new tank was about ½ full after the fire and the old one was 80% full.

The fire was extinguished in about 1 ½ hours. Fire crews stayed on scene all night due to hot spots and extreme wind conditions.

Sincerely,

Wayne

J. Wayne Garst
Fire Code Official/PIO
Blacksburg Fire Department
407 Hubbard Street
Blacksburg, VA 24060
O- 540-961-1175
C- 540-951-3030
wgarst@blacksburg.gov



RECEIVED
FEB 21 2017

Vice President for
Administration

COPY

DECLARATION OF AN EMERGENCY AT VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY


By virtue of my authority as President of Virginia Polytechnic Institute and State University, I verbally declared an emergency on the Virginia Tech campus on Sunday, February 12, 2017, as a result of a fire at the Prices Fork Research Station which occurred that day.

The need to restore the property to a condition of usefulness necessitated the proclamation of the existence of an emergency. Delays will result in financial loss to the University and essential equipment must be repaired or replaced immediately to preclude negative impacts on the affected programs and their delivery schedules. Delays will also impact students' ability to complete academic progress on schedule.

THEREFORE, I am now memorializing in writing my verbal declaration of an emergency. I further order that during the existence of said emergency, the powers, functions and duties contained in state law are invoked in order to mitigate the effects of said emergency.

I am also hereby declaring that Sherwood Wilson, shall serve as the Vice President in charge.

By:




President

Dated:

2/21/17

Invent the Future



Design Preview/Review for: **Autonomous Study Park:** **Unmanned Aerial Vehicle (UAV) Net and** **Hyperloop Test Track**

Board of Visitors Meeting: April 3, 2017

Autonomous Study Park

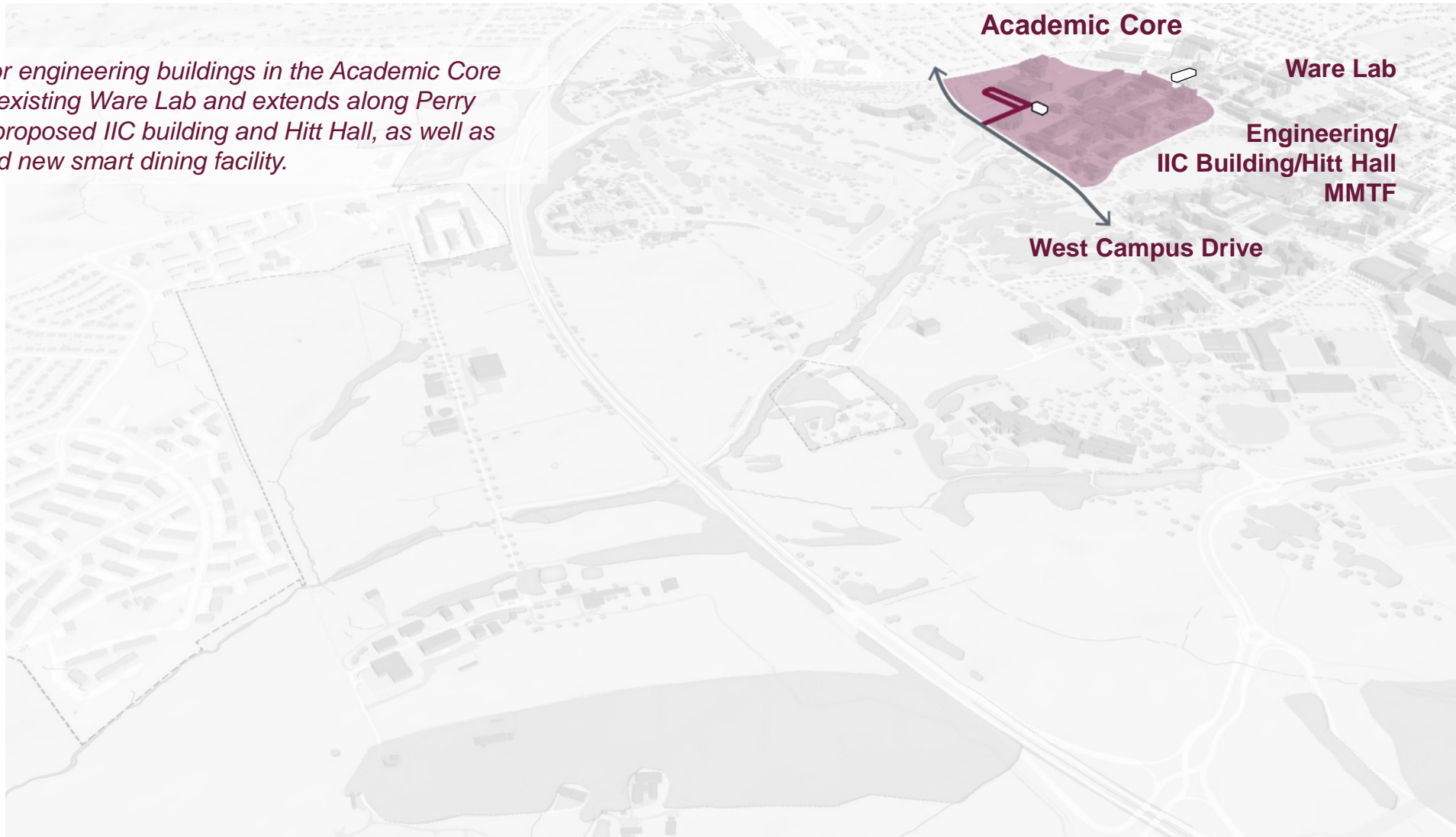
Intelligent Infrastructure and Human Centered Communities (IIHCC) Defined



Autonomous Study Park

Foundation in the Academic Core

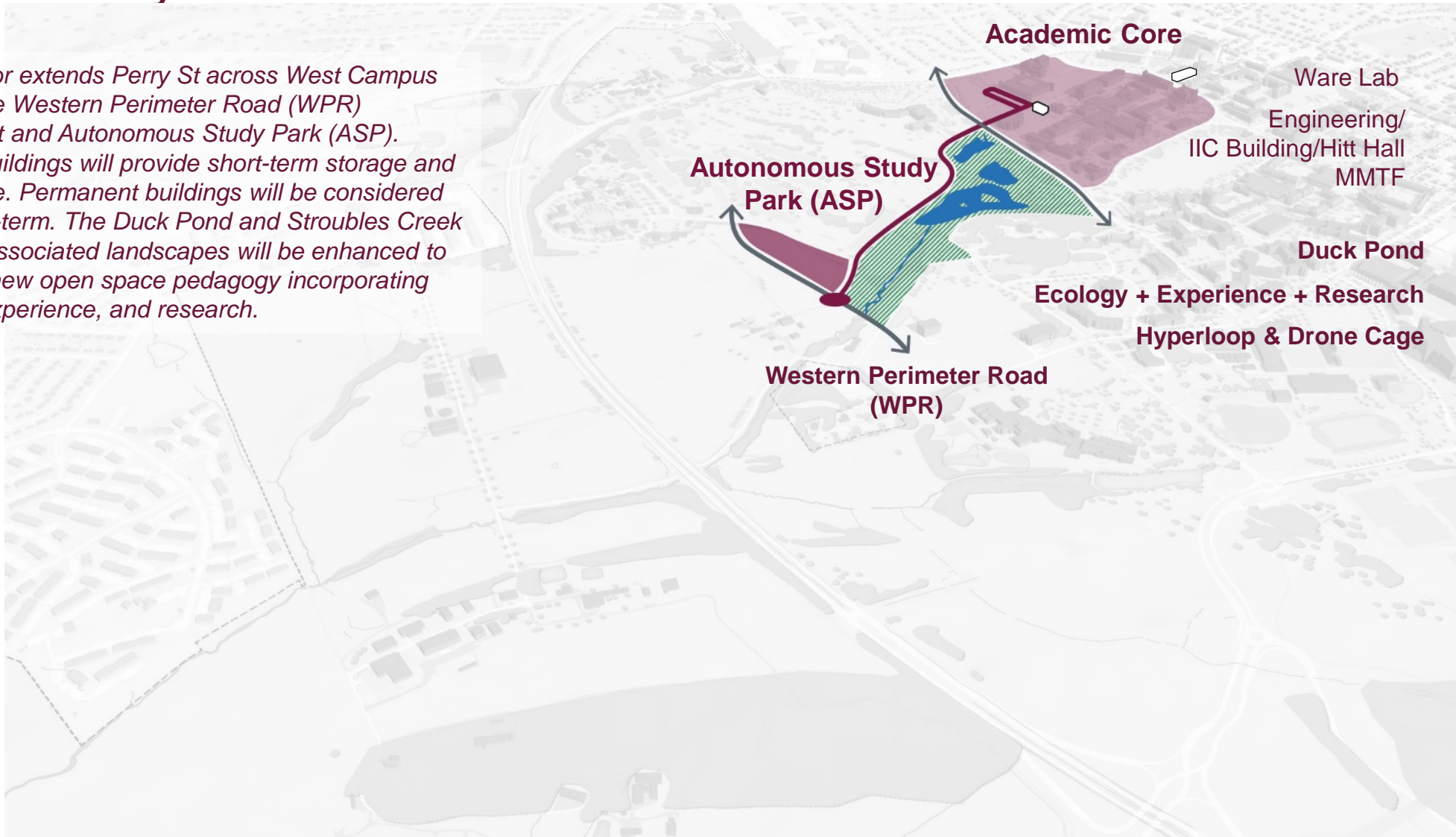
Includes major engineering buildings in the Academic Core including the existing Ware Lab and extends along Perry Street to the proposed IIC building and Hitt Hall, as well as the MMTF and new smart dining facility.



Autonomous Study Park

Extend Perry Street and Enhance the Duck Pond/Stroubles Creek

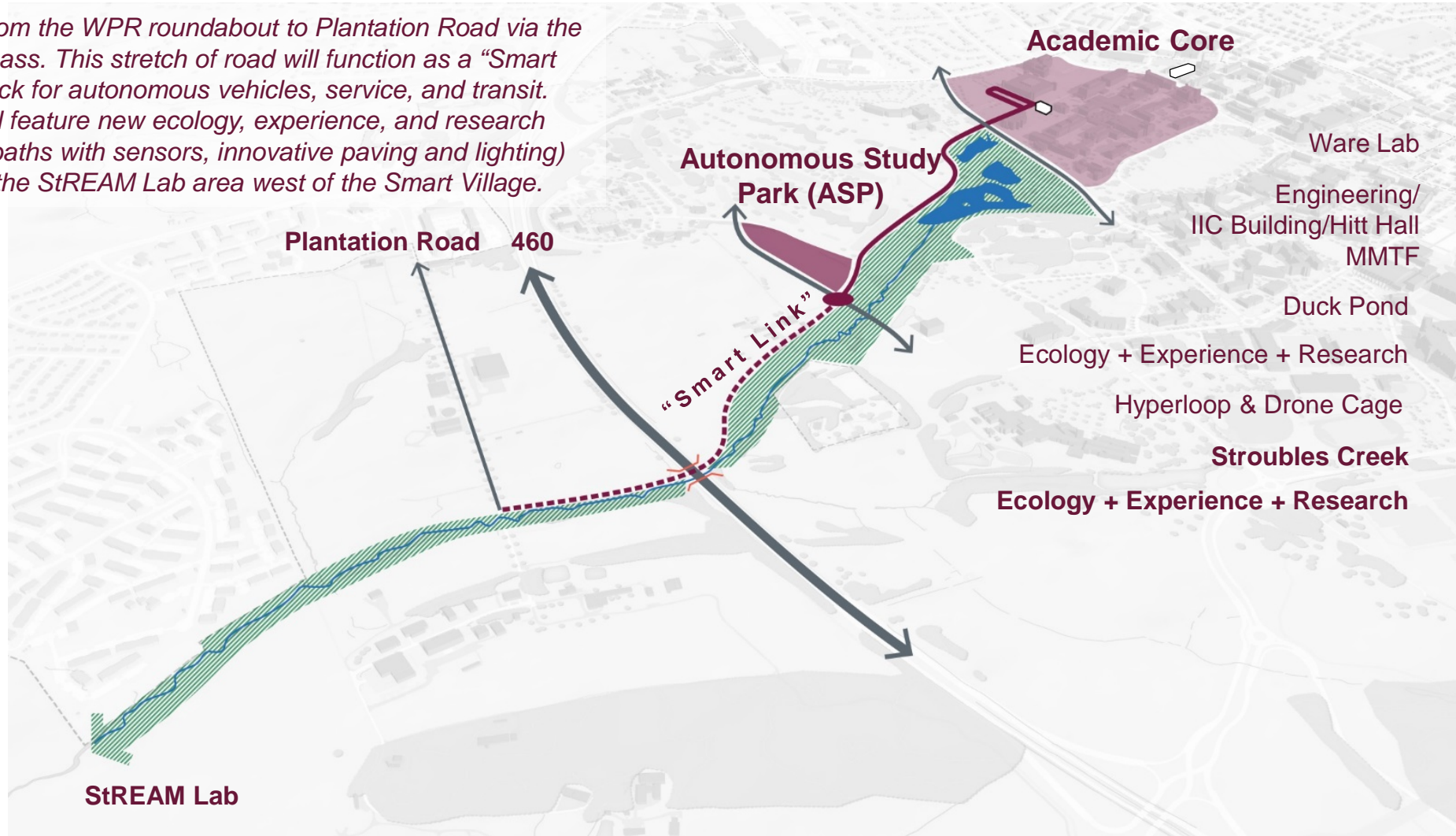
The corridor extends Perry St across West Campus Drive to the Western Perimeter Road (WPR) roundabout and Autonomous Study Park (ASP). Modular buildings will provide short-term storage and shop space. Permanent buildings will be considered in the long-term. The Duck Pond and Stroubles Creek and their associated landscapes will be enhanced to provide a new open space pedagogy incorporating ecology, experience, and research.



Autonomous Study Park

“Smart Link” to Plantation Road

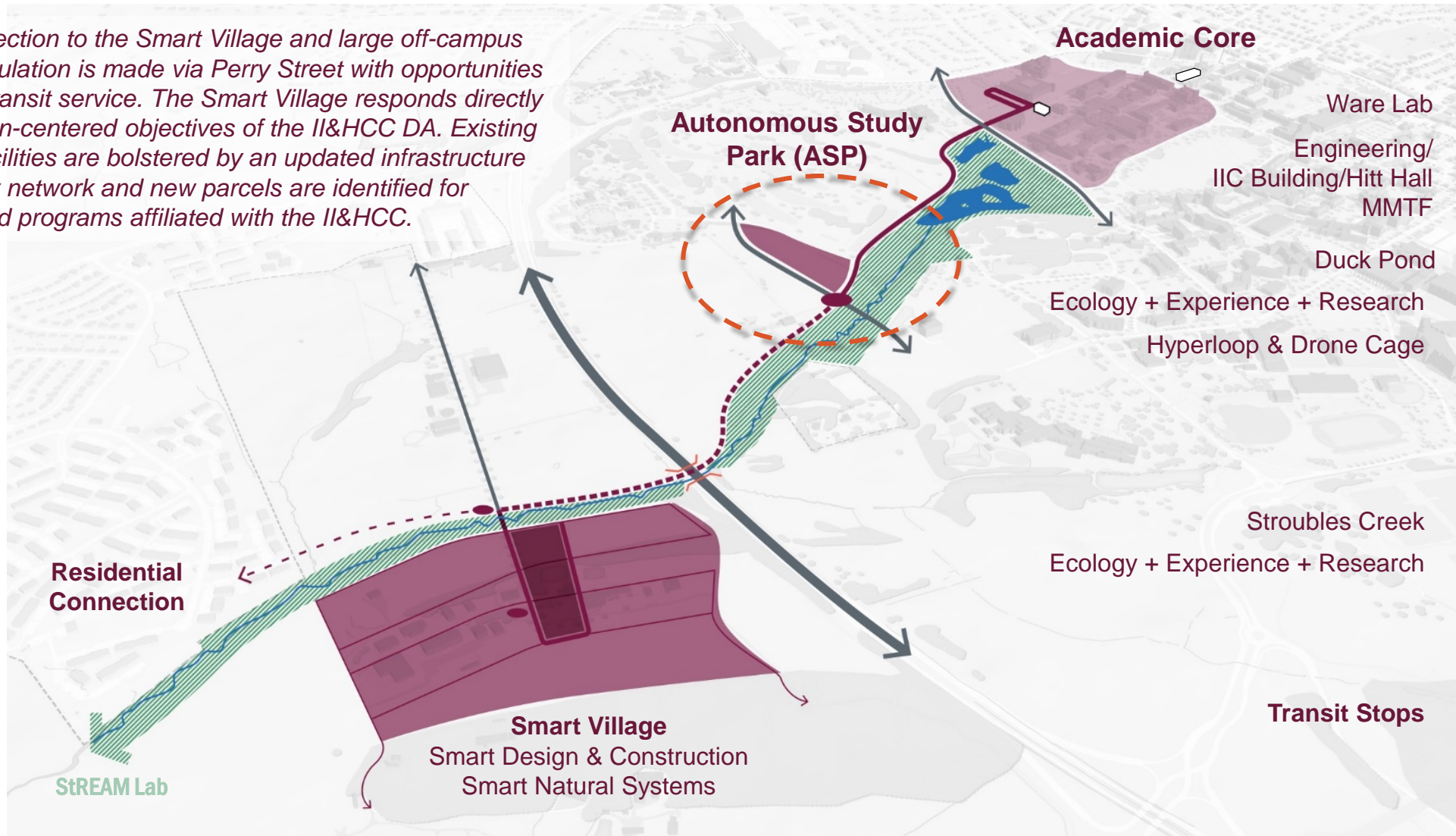
Perry St. extends from the WPR roundabout to Plantation Road via the existing 460 underpass. This stretch of road will function as a “Smart Link” closed test track for autonomous vehicles, service, and transit. The open space will feature new ecology, experience, and research functions (i.e. bike paths with sensors, innovative paving and lighting) and will connect to the StREAM Lab area west of the Smart Village.



Autonomous Study Park

New Smart Village

Direct connection to the Smart Village and large off-campus student population is made via Perry Street with opportunities to expand transit service. The Smart Village responds directly to the human-centered objectives of the II&HCC DA. Existing labs and facilities are bolstered by an updated infrastructure and mobility network and new parcels are identified for activities and programs affiliated with the II&HCC.



Autonomous Study Park

Project Location



Autonomous Study Park

Existing Site Photographs



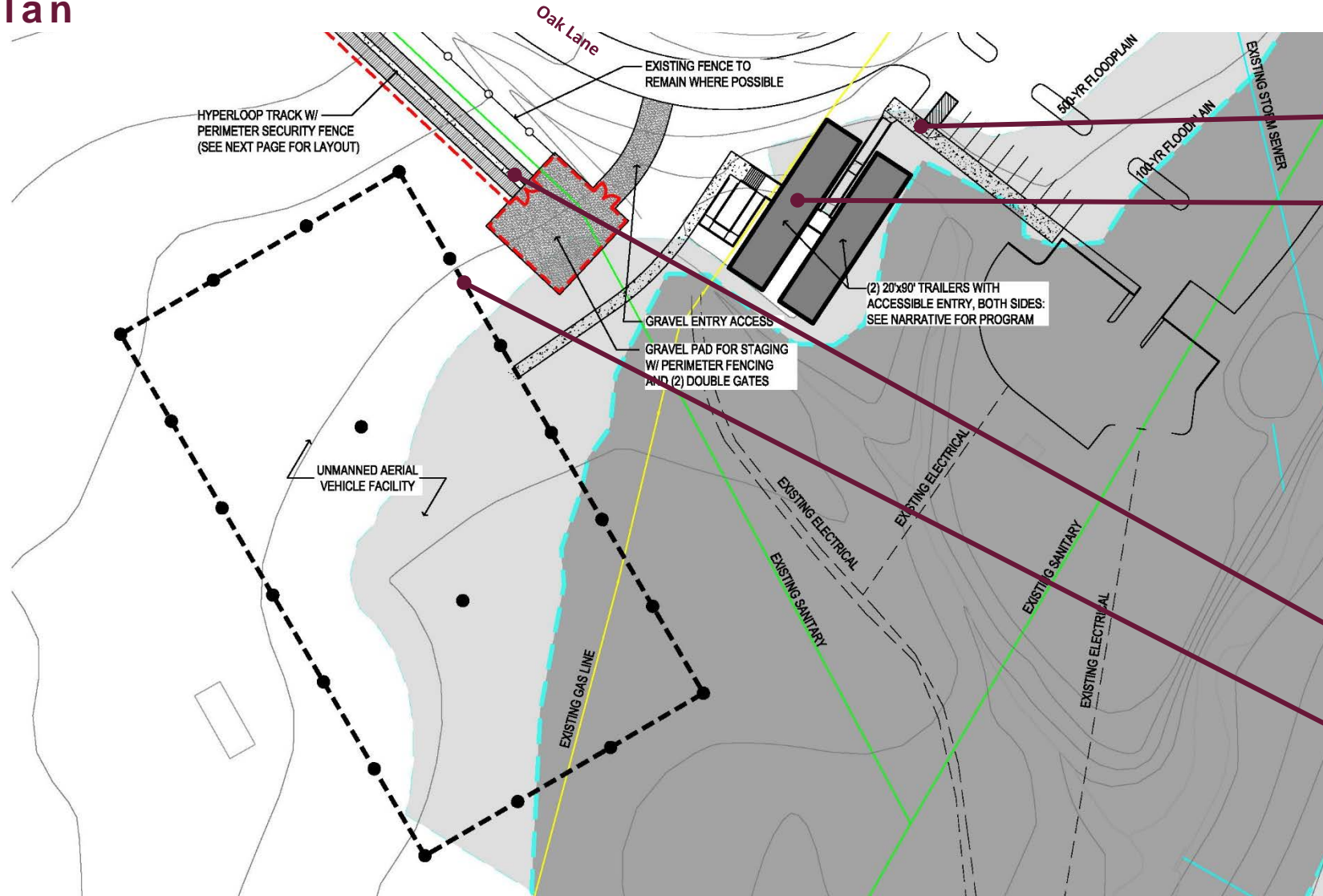
Autonomous Study Park

Existing Site Photographs



Autonomous Study Park

Site Plan



Accessible Parking and Sidewalk Access

Proposed Modular Buildings

Part of Hyperloop Track Area

UAV Net Area

Autonomous Study Park

Precedent Images



UAV Net Precedent



Modular Building will have:

- Open Classroom Bay for 20 students
- Open Workstation Area
- Storage Closets
- Accessible Restroom
- CNS Closet
- Flexible Space
- Open Bay Workshop

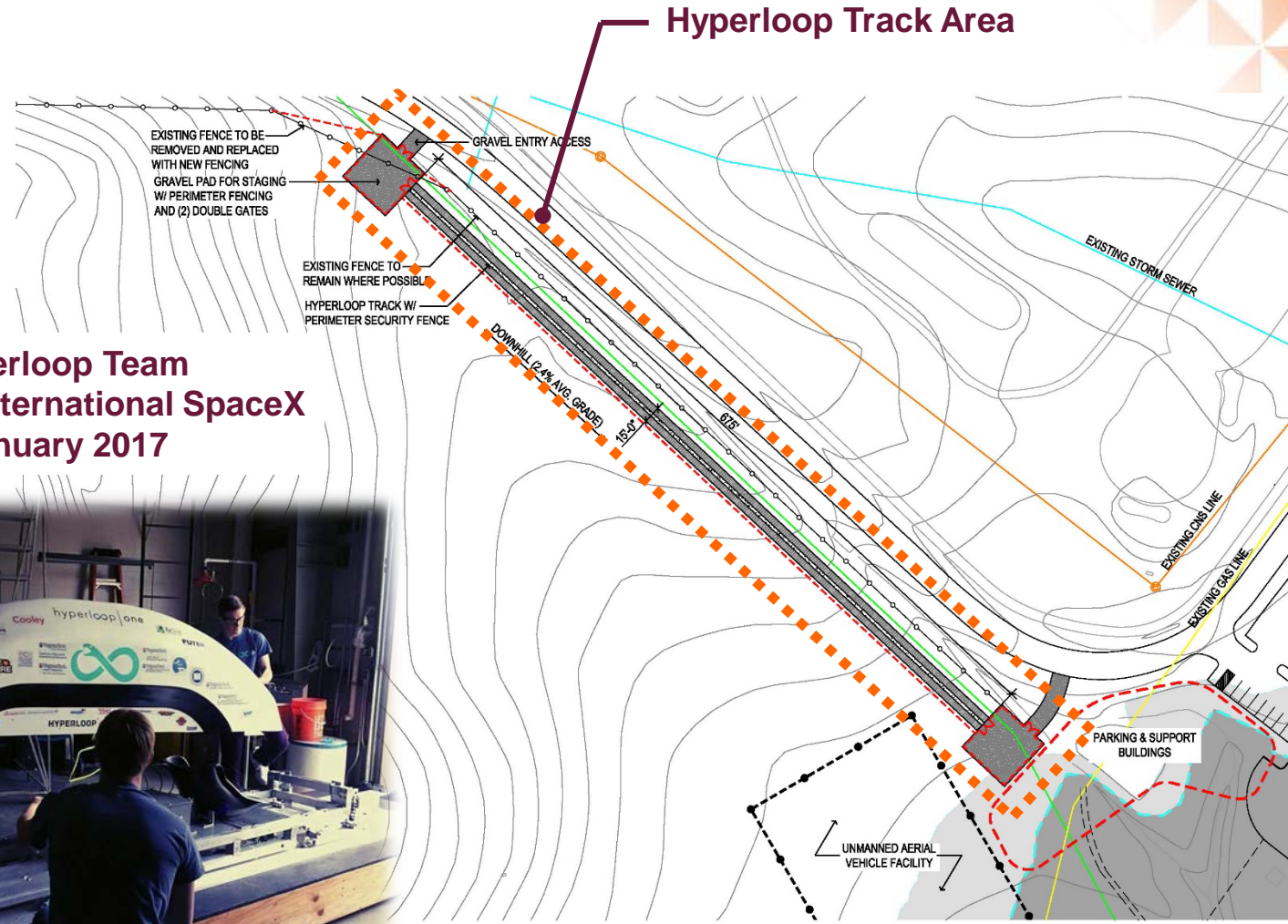
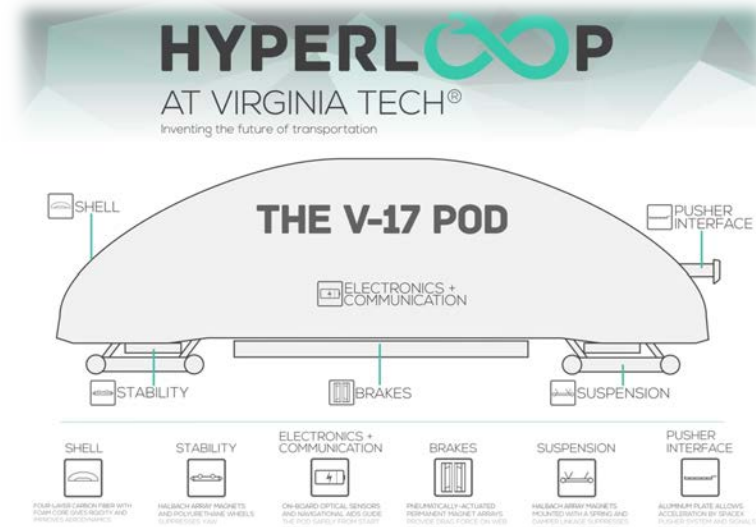


Autonomous Study Park

Hyperloop



Virginia Tech Hyperloop Team placed fourth at International SpaceX Competition in January 2017



Autonomous Study Park

Recommendation for Proposed Design

RECOMMENDATION:

That the Design Preview/Review graphics be approved and authorization be provided to continue with the project design consistent with the drawings shown.

DESIGN PREVIEW/REVIEW FOR AUTONOMOUS STUDY PARK – UNMANNED AERIAL VEHICLE (UAV) NET AND HYPERLOOP TEST TRACK

An autonomous study park will be constructed as part of the new Intelligent Infrastructure Corridor. This new park will include three main features: a flight cage for operation of unmanned aerial craft, two modular classroom units, and a test track installation as part of the Hyperloop vehicle design competition. One of the modular classroom units is for a classroom and workshop adjacent to the flight cage. The second modular classroom unit is for an open bay shop space and is associated with the Hyperloop test track.

Project Information Summary – Autonomous Study Park – Unmanned Aerial Vehicle (UAV) Net and Hyperloop Test Track

BUILDINGS AND GROUNDS COMMITTEE

April 3, 2017

Title of Project:

Unmanned Aerial Vehicle (UAV) Net and Hyperloop Test Track

Location:

The location for the unmanned aerial vehicle (UAV) net installation and Hyperloop test track is near the intersection of Oak Lane Drive and Duck Pond Drive across from the Virginia Tech golf course and adjacent to the equestrian fields near Stroubles Creek and Plantation Road. The park is adjacent to the small commuter lot at the intersection of Oak Lane Drive and Duck Pond Drive.

Current Project Status and Schedule:

Working documents have been completed for competitive bidding which includes the UAV enclosure, two modular classroom units, and associated landscaping and site work. Construction is scheduled to begin in April 2017 with completion in June 2017.

Project Description:

This project consists of three main components: the enclosed unmanned aerial vehicle (UAV) net structure, two modular classrooms, and a future test track for Hyperloop vehicle research. Additionally, the project includes are landscaping elements including parking spaces, accessible sidewalks, security fencing, and lighting.

Brief Program Description:

A 300 x 120 x 85 foot tall netted enclosure will be constructed so that research, instruction, and competition of unmanned aerial vehicles can be accomplished in the new Autonomous Study Park. The flight cage shall have two remote openings and the netting shall be capable of resisting penetration by the unmanned aerial craft. Eighty-five foot tall poles at the perimeter of the enclosed area will support the netting required for the enclosure. Future work associated with the enclosure will include a communication system, security cameras, electrical charging capabilities, and amenities like spectator bleachers and lighting.

Two modular classroom units shall also be located nearby and adjacent to the flight cage. Each classroom unit shall be 24' x 60'. One unit will have an open classroom bay for 20 students, an open workstation area, storage closets, an accessible restroom, and a communications closet. A second, similarly sized, modular classroom building will be installed for the researchers working on the future Hyperloop test track. This flexible classroom space shall function similar to an open

bay shop where student project teams can access various equipment and tools for project research and design.

Site work includes a parking area, an accessible pathway to the modular classrooms, and an accessible entry to the classrooms and a pathway to the flight cage. Grading will be required at the site for both the flight cage, the accessible walks and for the classrooms.

A future phase of the project shall consist of constructing an approximate 600 foot long test track for testing Hyperloop vehicle pod safety, speed, and braking.

Contextual Issues and Design Intent:

The site for the netting enclosure and the test track is agricultural and rural in character. Equine fields and small feed structures are nearby, as are the remaining portions of the Virginia Tech golf course.

Design/Build Team:

Contractor: TBD

A/E: Dewberry



Design Preview/Review for: **Visitor Pavilion**

Board of Visitors Meeting: April 3, 2017

Visitor Pavilion

Project Location



Visitor Pavilion Location

Visitor Pavilion

Site Plan



Open Air Pavilion

Patio with Bench

Flowering Trees and
Landscaping

Walkway from Huckleberry
Trail

Parking provided by VDOT

Visitor Pavilion

Walk Through Video



Visitor Pavilion

Perspective Section



Pitched Roof with Exposed Beams and Wooden Tongue and Groove Panels Adding Warmth

Gothic Inspired Lighting

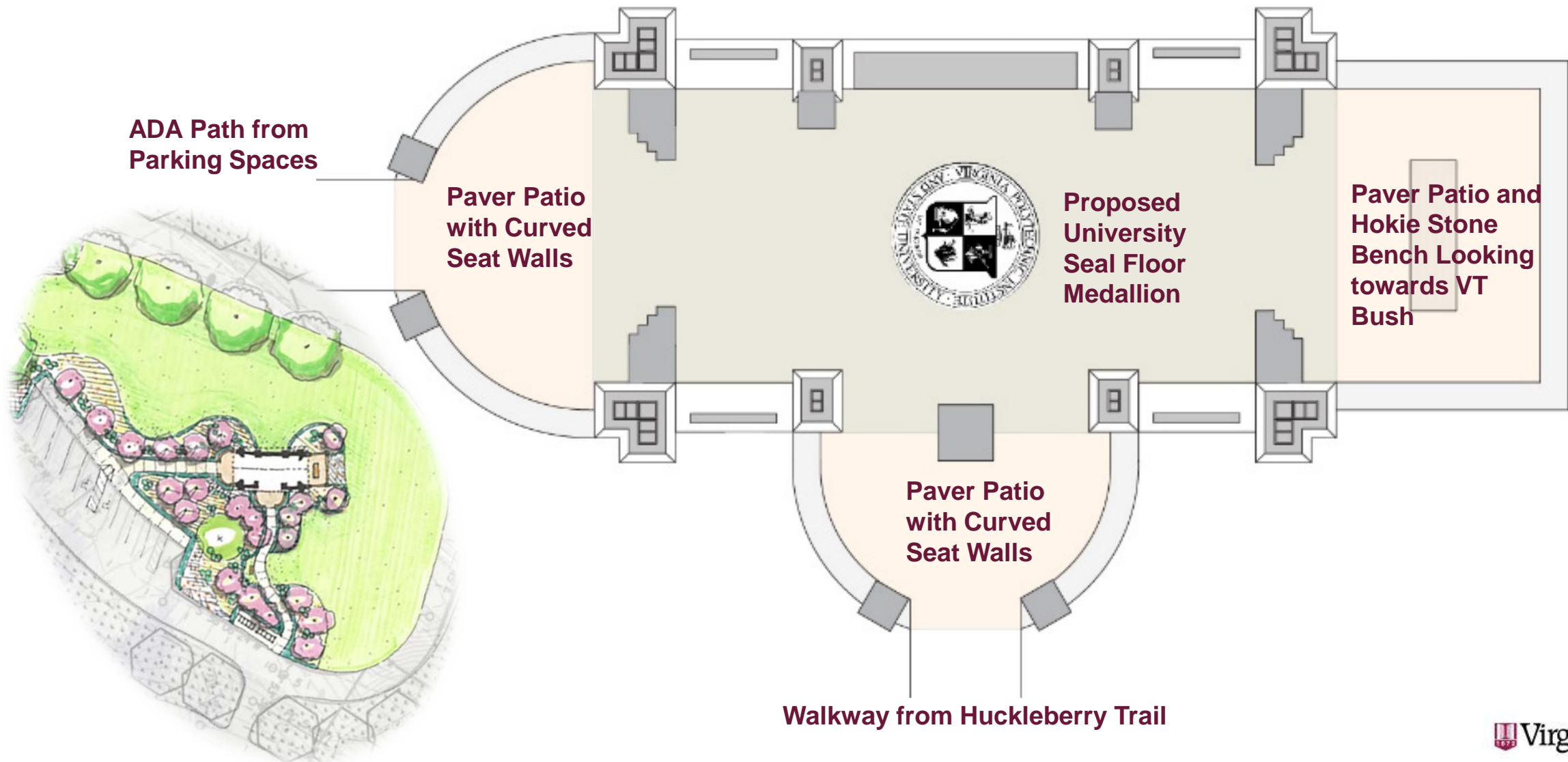
Floating Graphic Panels for Interchangeable Images

Hokie Stone Bench for Photographs and Viewing Campus

Concrete Pedestal for Hokie Bird Statue

Visitor Pavilion

Floor Plan



Visitor Pavilion

Recommendation for Proposed Design

RECOMMENDATION:

That the Design Preview graphics be approved and authorization be provided to continue with the project design consistent with the drawings shown.

DESIGN PREVIEW/REVIEW FOR VISITOR PAVILION

Conceptual design has been developed for the new Visitor Pavilion at Virginia Tech's new south entry. This structure will provide a welcoming arrival experience for visitors along the realigned Southgate Drive (currently in construction) and will reinforce a positive first impression of the Virginia Tech campus through use of Collegiate Gothic architecture with Hokie Stone, precast panels, arches, and heraldry on the building façade. The structure footprint will be approximately 900 gross square feet on a poured foundation slab. The project aims to support the visitor experience by providing way-finding, contextual information, and photographic opportunities for visitors to the campus.

Project Information Summary – Visitor Pavilion

BUILDINGS AND GROUNDS COMMITTEE

April 3, 2017

Title of Project:

Visitor Pavilion

Location:

The Visitor Pavilion will be visible as drivers enter the roundabout at Duck Pond Drive heading toward campus on the realigned Southgate Drive. A vehicular pull off loop with parking spaces will be completed by the Virginia Department of Transportation (VDOT) as part of the 460 Interchange Project. The site has an existing large pig nut hickory tree which will be protected.

Current Project Status and Schedule:

Conceptual design has been developed. The project will be advanced to a private architectural/engineering firm for completion of design documents. Subsequent design phases will follow, with construction expected during the spring and summer of 2018.

Project Description:

Embracing the architectural qualities of Virginia Tech's campus and identity, the Visitor Pavilion will be an open-air structure that incorporates Collegiate Gothic elements. Anchored by two Hokie Stone end walls, the dark gray gabled roof will be supported by Hokie Stone and precast concrete columns, buttresses, and beams. Two fluted precast Collegiate Gothic style archway portals will pierce the Hokie Stone end walls. The Visitor Pavilion exterior footprint will be approximately 900 gross square feet (GSF) on a poured foundation slab. The structure will be approximately eighteen feet vertically at the central peak.

Brief Program Description:

The Visitor Pavilion will be situated at a primary gateway into the Blacksburg campus and located on a small hill adjacent to the roundabout at Duck Pond Drive and the realigned Southgate Drive. This location provides a unique opportunity to reinforce a positive first impression of Virginia Tech's beautiful campus to visitors. The Visitor Pavilion's main goal is to provide general information about the university to incoming guests and to introduce the iconic architectural features of the campus.

The Visitor Pavilion will include campus and district maps, digital displays with campus activities, historical context displays, and promotional branding images. This information will be managed and maintained by University Relations. The project will include illuminated and interchangeable printed lithograph graphics and promotional branding images provided by University Relations. Hokie Stone

freestanding columns with high pressure laminate sign panels will be located in front of the columns and at the curved Hokie Stone wall entrances. These sign panels will allow for historical context, informational text and images, or materials for visually impaired guests.

The Visitor Pavilion will be wired for guest Wi-Fi and electric power. Additional features include external speakers and a web-cam located in the interior facing north. For security purposes, the site will include a blue light phone that is connected for quick response from the Virginia Tech Police.

The project incorporates exterior seating and a plaza overlooking the Virginia Tech campus. From this patio, a sidewalk will lead toward bicycle loops and eventually connect to the Huckleberry Trail for easy access by bicycle and pedestrian guests.

Contextual Issues and Design Intent:

Primary exterior materials will include Hokie Stone and Architectural Precast Concrete panels with decorative reveals and heraldry. The pitched roof will be clad in either a dark color standing seam metal or in a university approved faux slate (priced as additive alternative). Exposed wooden beams and wooden tongue and groove panels will be located underneath the pitched roof, adding aesthetic warmth. The arches will be positioned to allow for photo opportunities and a picturesque view of the campus beyond.

Design/Build Team:

Contractor: TBD
A/E: TBD



Master Plan Draft Concepts

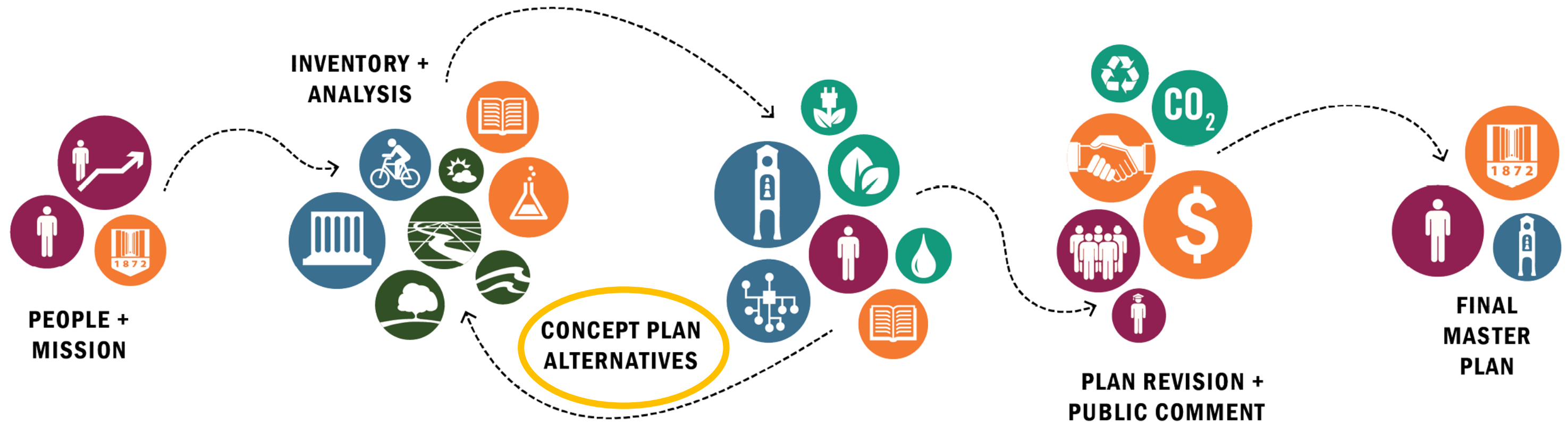
Virginia Tech MASTER PLAN

March 2017

INTRODUCTION

Planning Process

FLEXIBLE, RESPONSIVE + ITERATIVE



BEYOND BOUNDARIES

A Vision for the Campus of the Future



VT-Shaped Discovery

- VT SHAPED STUDENTS
- INTERDISCIPLINARY TEAMS
- PURPOSE-DRIVEN AND PERSON-CENTERED CURRICULUM

The VT student of 2047 learns by doing, creating, and engaging, service to humanity, and does so not in isolation or as an academic exercise but rather with the support of a community.

Distributed University Structure

INNOVATION HUBS + DESTINATION AREAS

BLACKSBURG DESTINATION AREAS

- Data Analytics & Decision Sciences
- Global Systems Science
- Intelligent Infrastructure for Human-Centered Communities

NCR DESTINATION AREAS

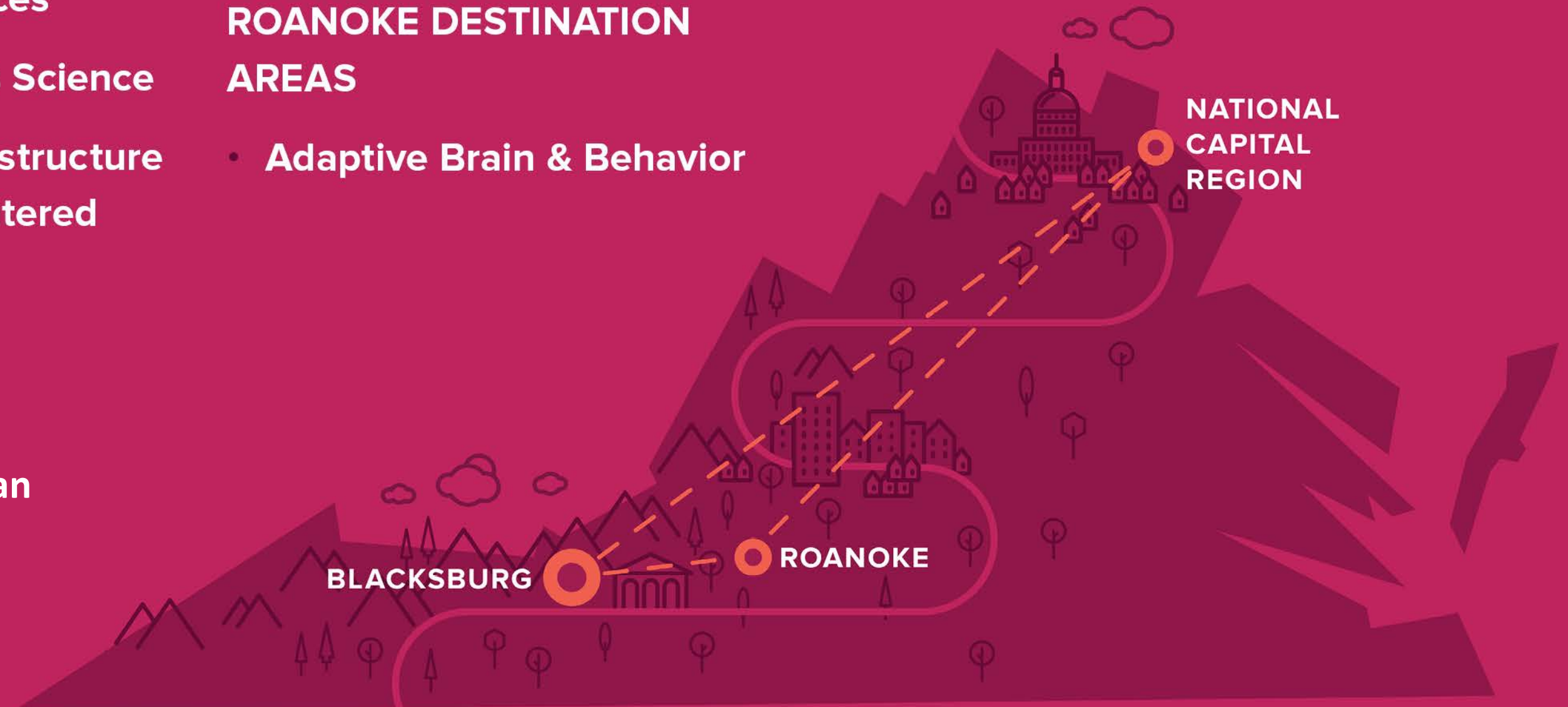
- Integrated Security

ROANOKE DESTINATION AREAS

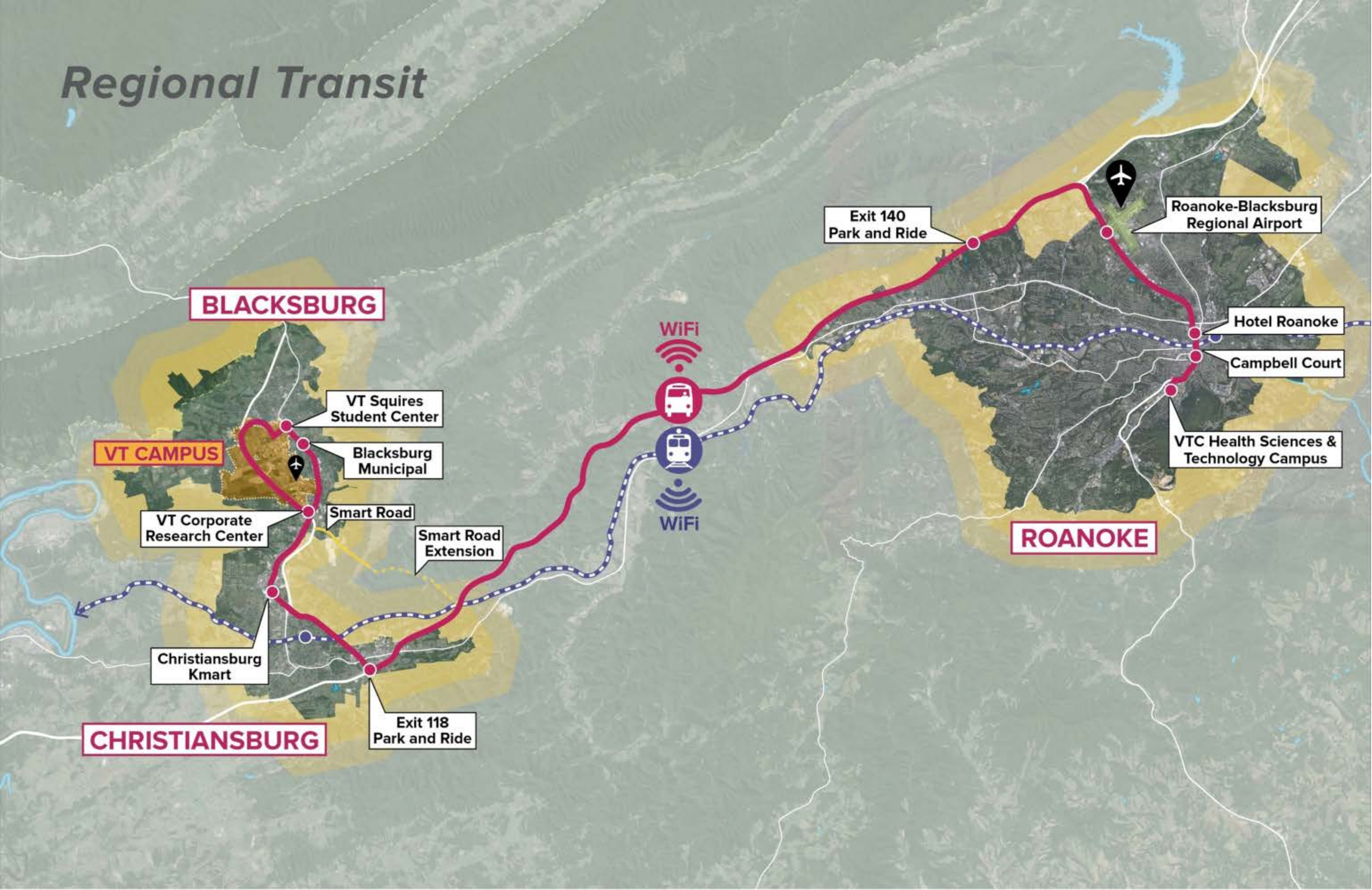
- Adaptive Brain & Behavior

 VIRGINIA TECH AREC

* AREC Master Plan



Regional Transit



Planning for Growth

BLACKSBURG

2016



CAMPUS RESIDENTS **9,340**

OFF-CAMPUS POPULATION **28,039**



UNDERGRADS **15,978**



GRADS **4,652**



FACULTY **3,984**



STAFF **3,425**

2026



CAMPUS RESIDENTS **12,000**

OFF-CAMPUS POPULATION **30,763**



UNDERGRADS **17,530**



GRADS **5,104**



FACULTY **4,371**



STAFF **3,758**



PARTNERS ?

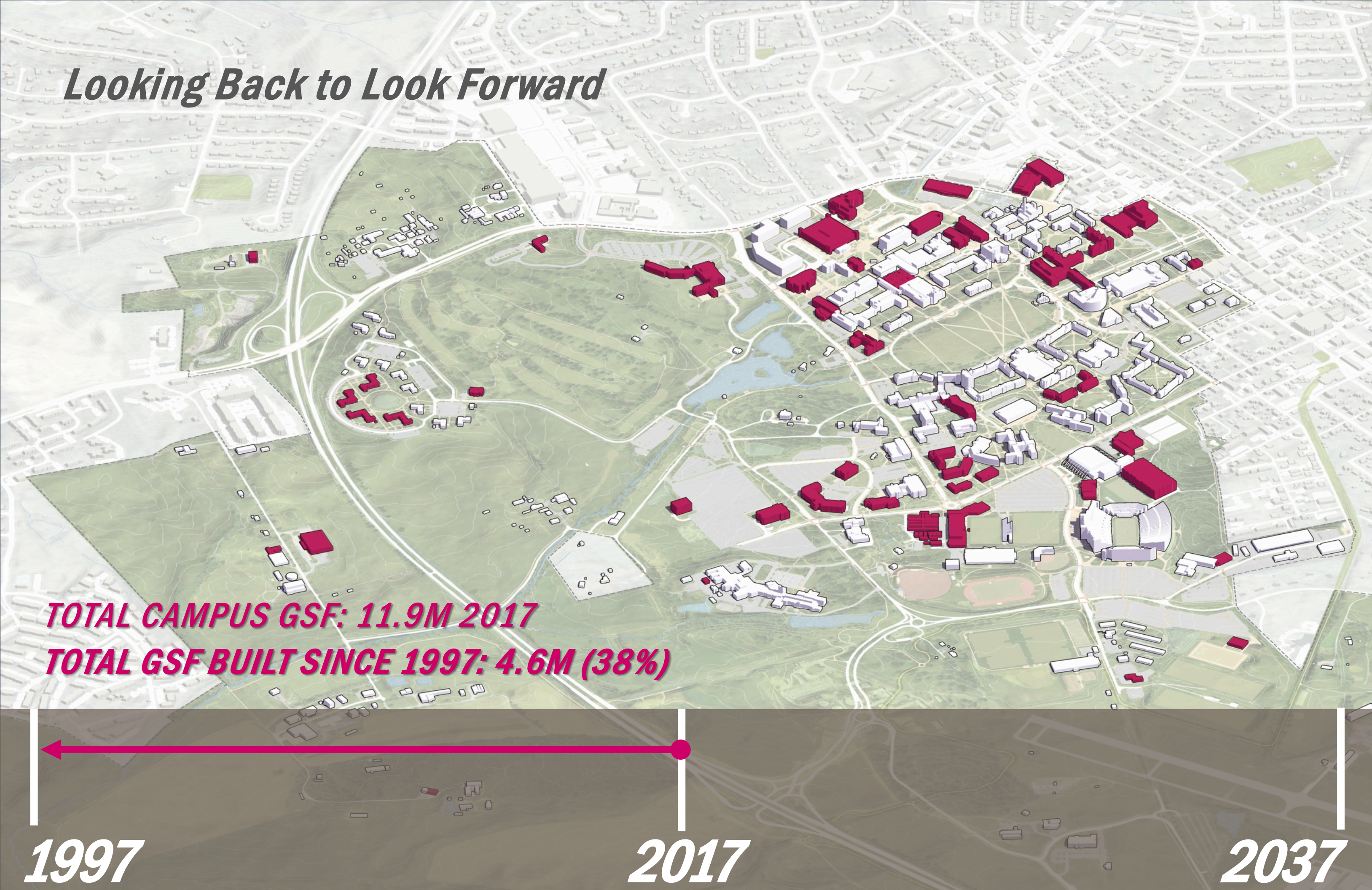
Looking Back to Look Forward

TOTAL CAMPUS GSF: 11.9M 2017
TOTAL GSF BUILT SINCE 1997: 4.6M (38%)

1997

2017

2037



Looking Back to Look Forward

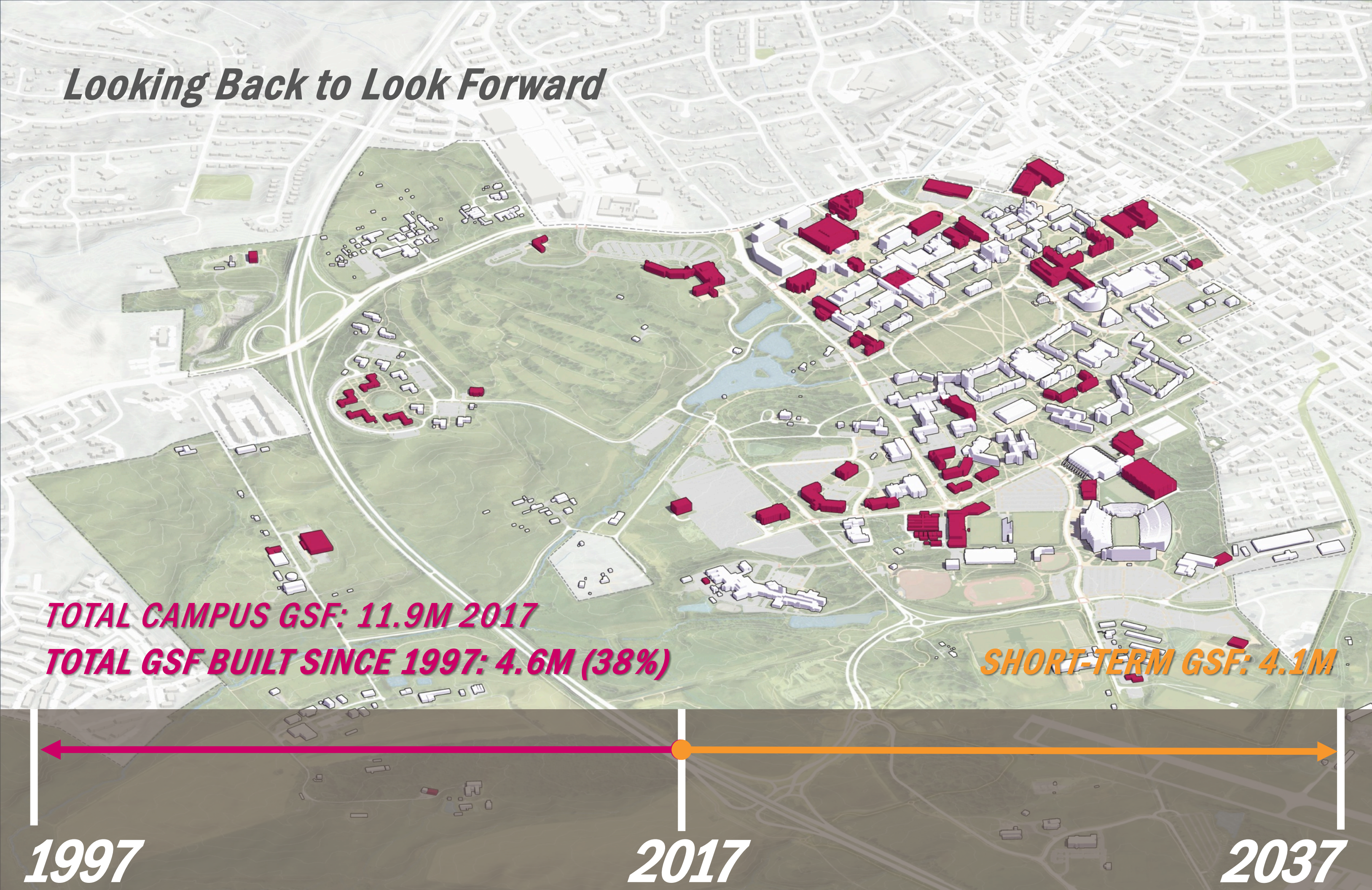
TOTAL CAMPUS GSF: 11.9M 2017
TOTAL GSF BUILT SINCE 1997: 4.6M (38%)

SHORT-TERM GSF: 4.1M

1997

2017

2037



Looking Back to Look Forward

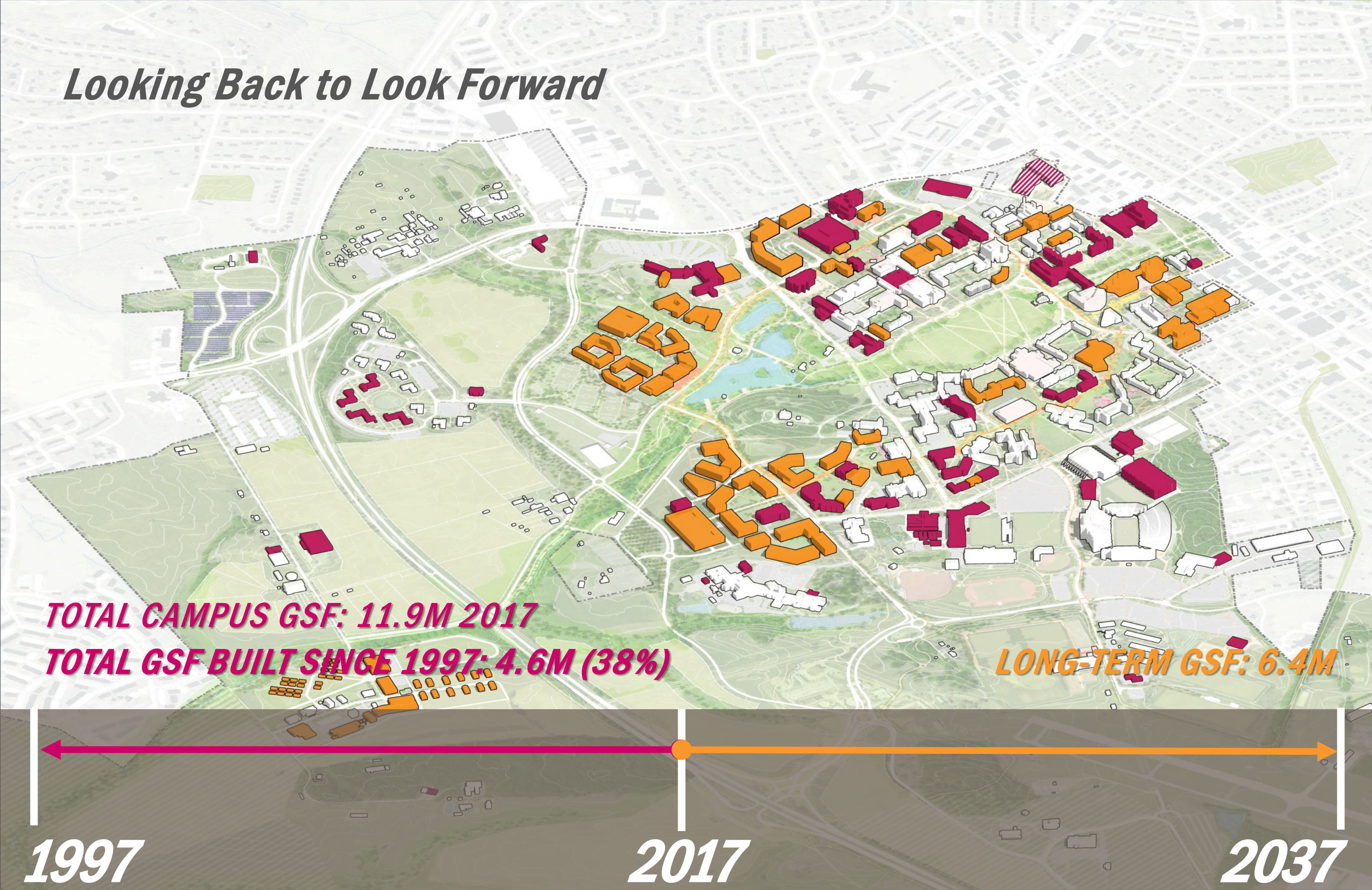
TOTAL CAMPUS GSF: 11.9M 2017
TOTAL GSF BUILT SINCE 1997: 4.6M (38%)

LONG-TERM GSF: 6.4M

1997

2017

2037



Part A: Blacksburg Campus – Traditional Master Plan

Part B: Blacksburg Campus – Additional Planning Studies

- Space Study
- Student Life Initiatives
- Infrastructure
 - Utilities
 - Alternative Energy and Sustainability
 - Transportation and Mobility
 - Stormwater
 - Accessibility
- Creativity and Innovation District
- II&HCC Corridor and Smart Village

Part C: Roanoke Campus

Part D: National Capital Region

Part E: AREC Needs Assessment

Scope of Work

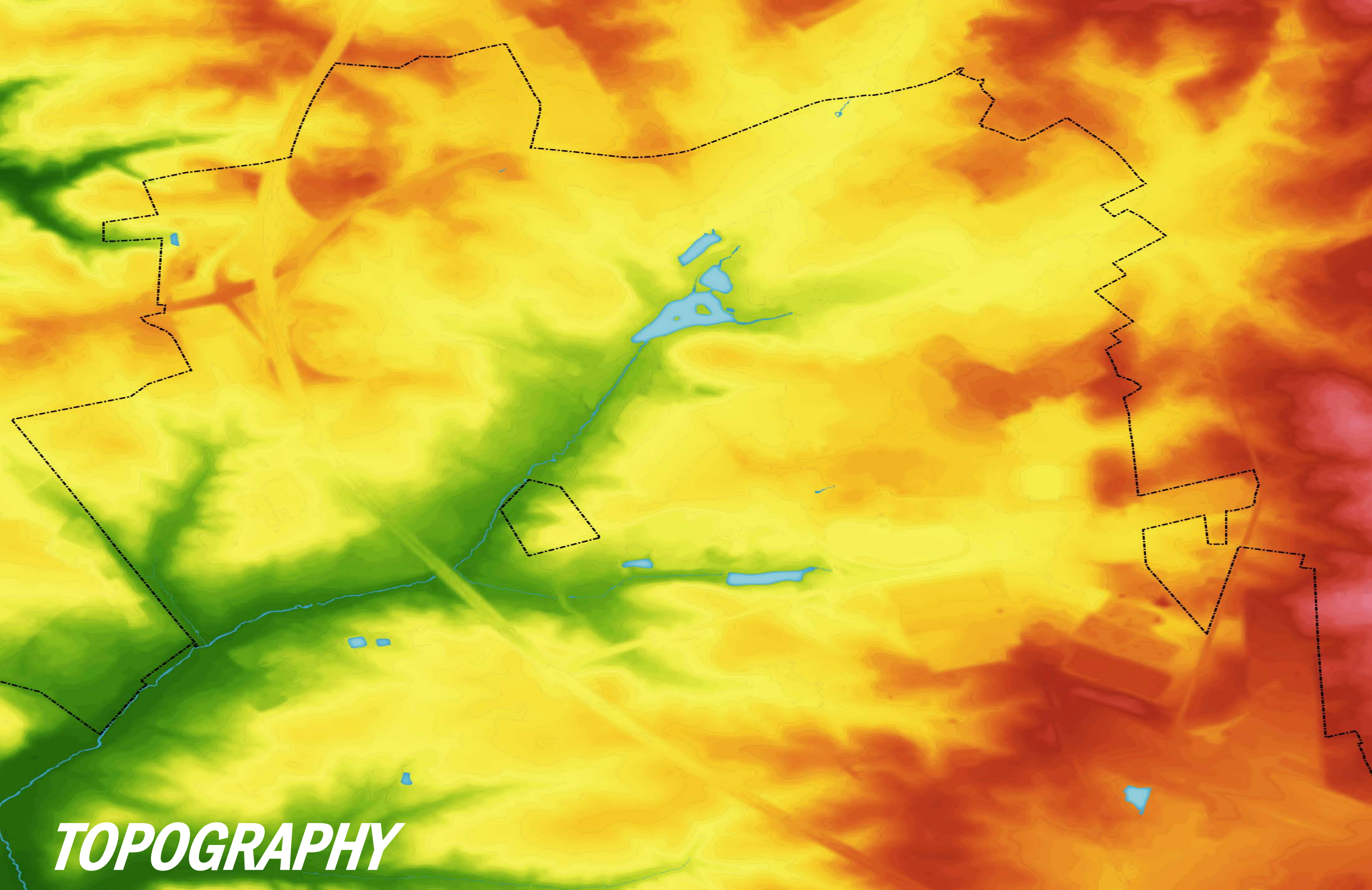
PLANNING FRAMEWORK
Model Presentation



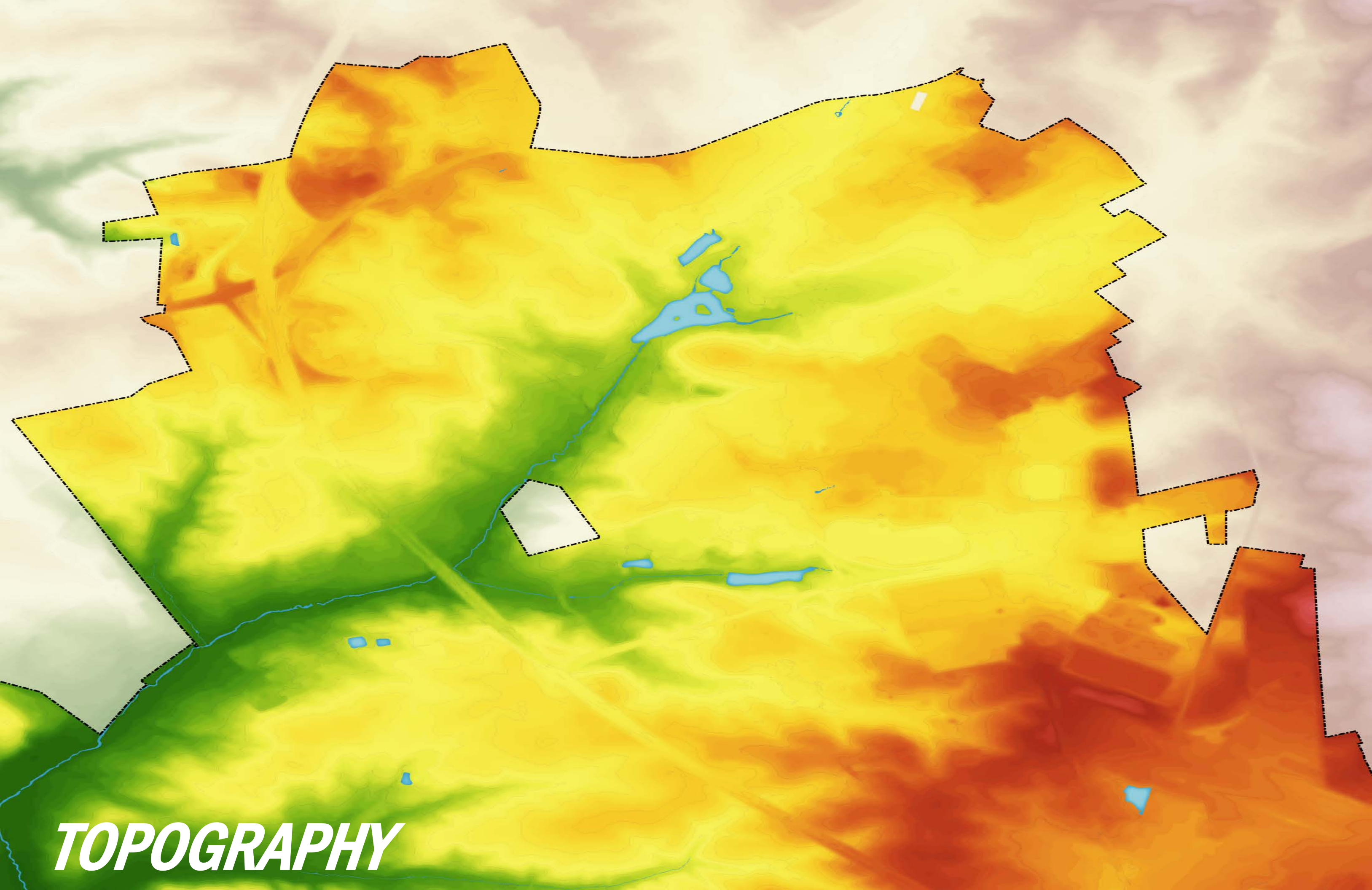




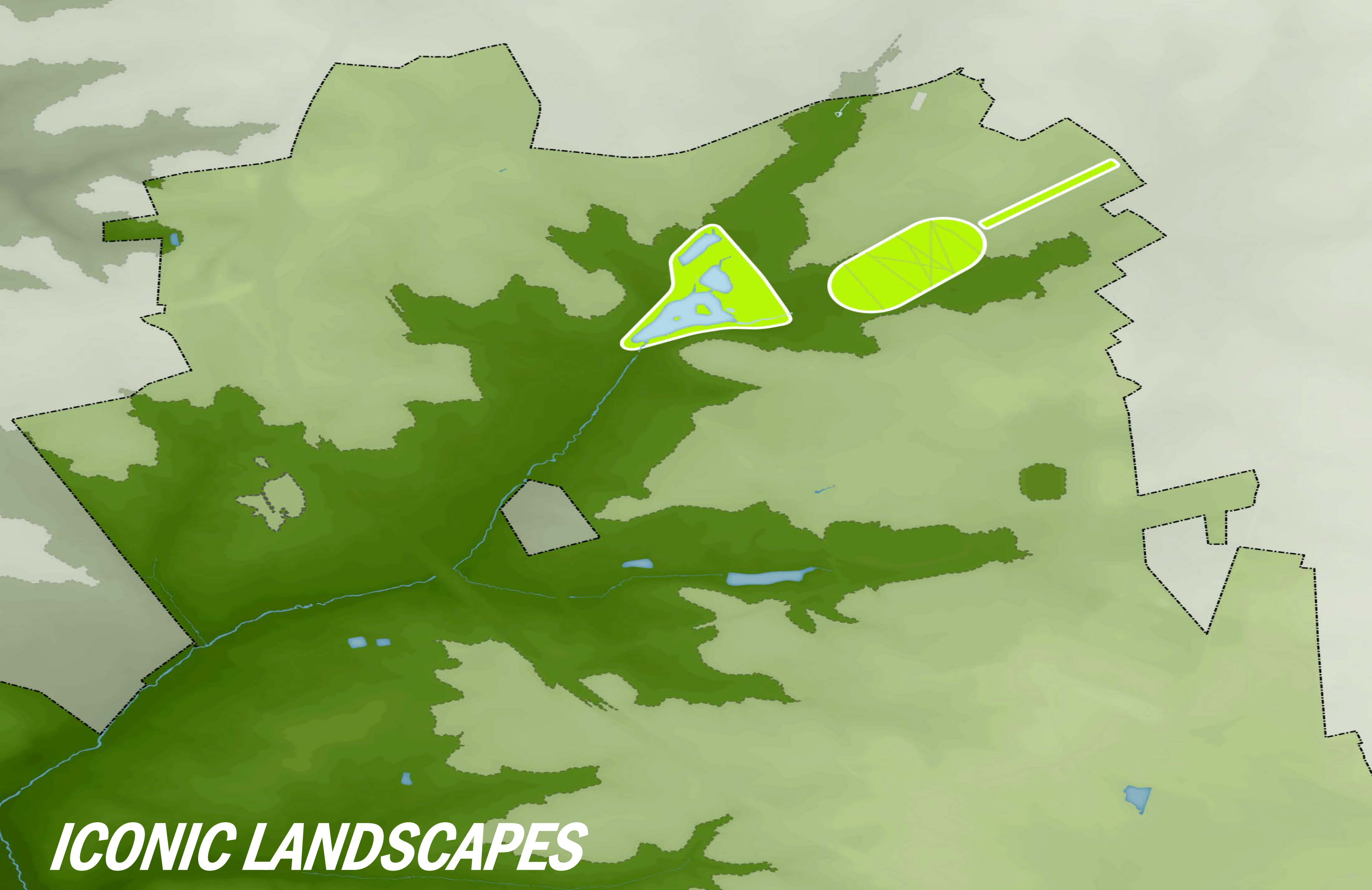
EXISTING CAMPUS



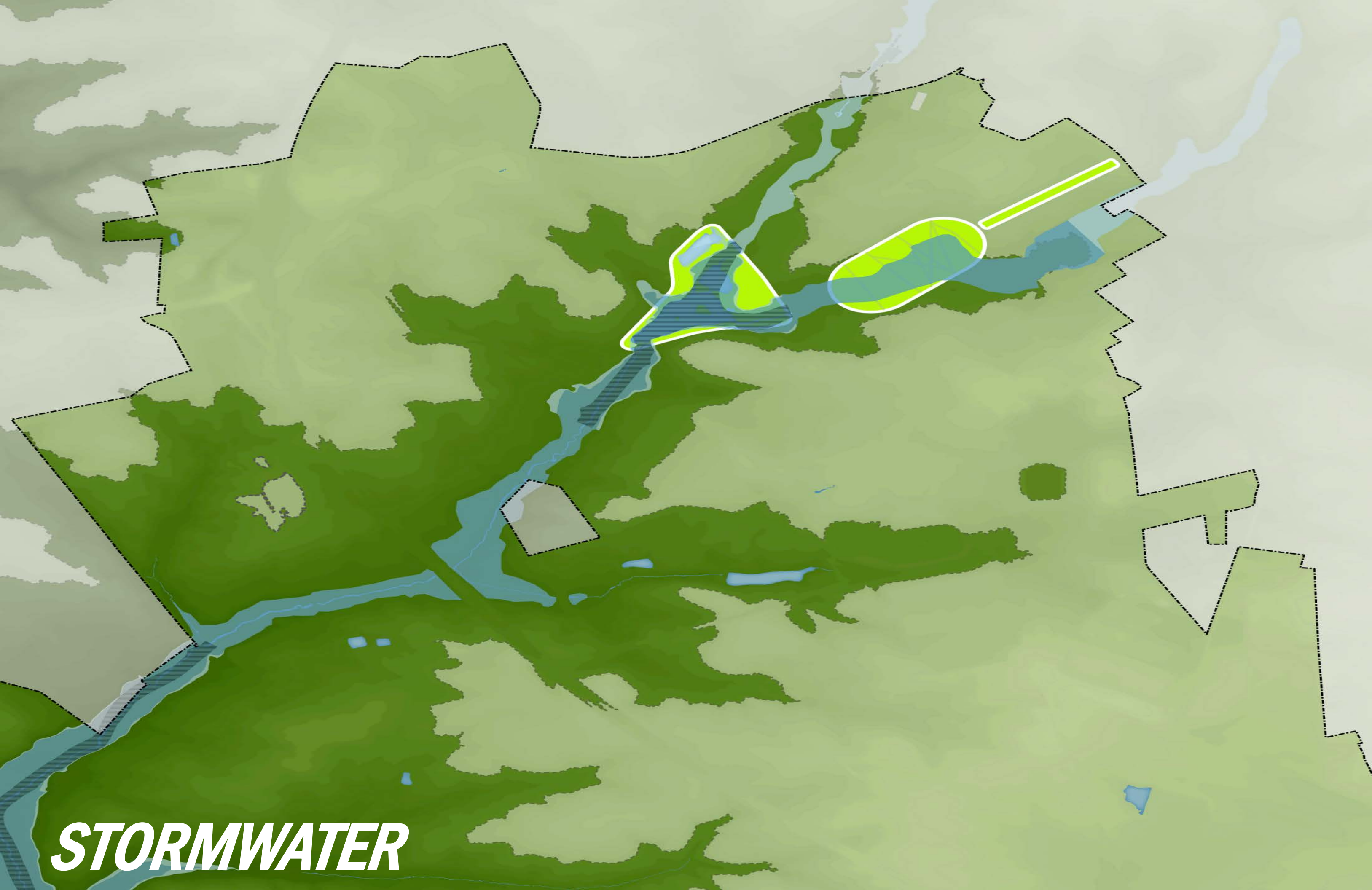
TOPOGRAPHY



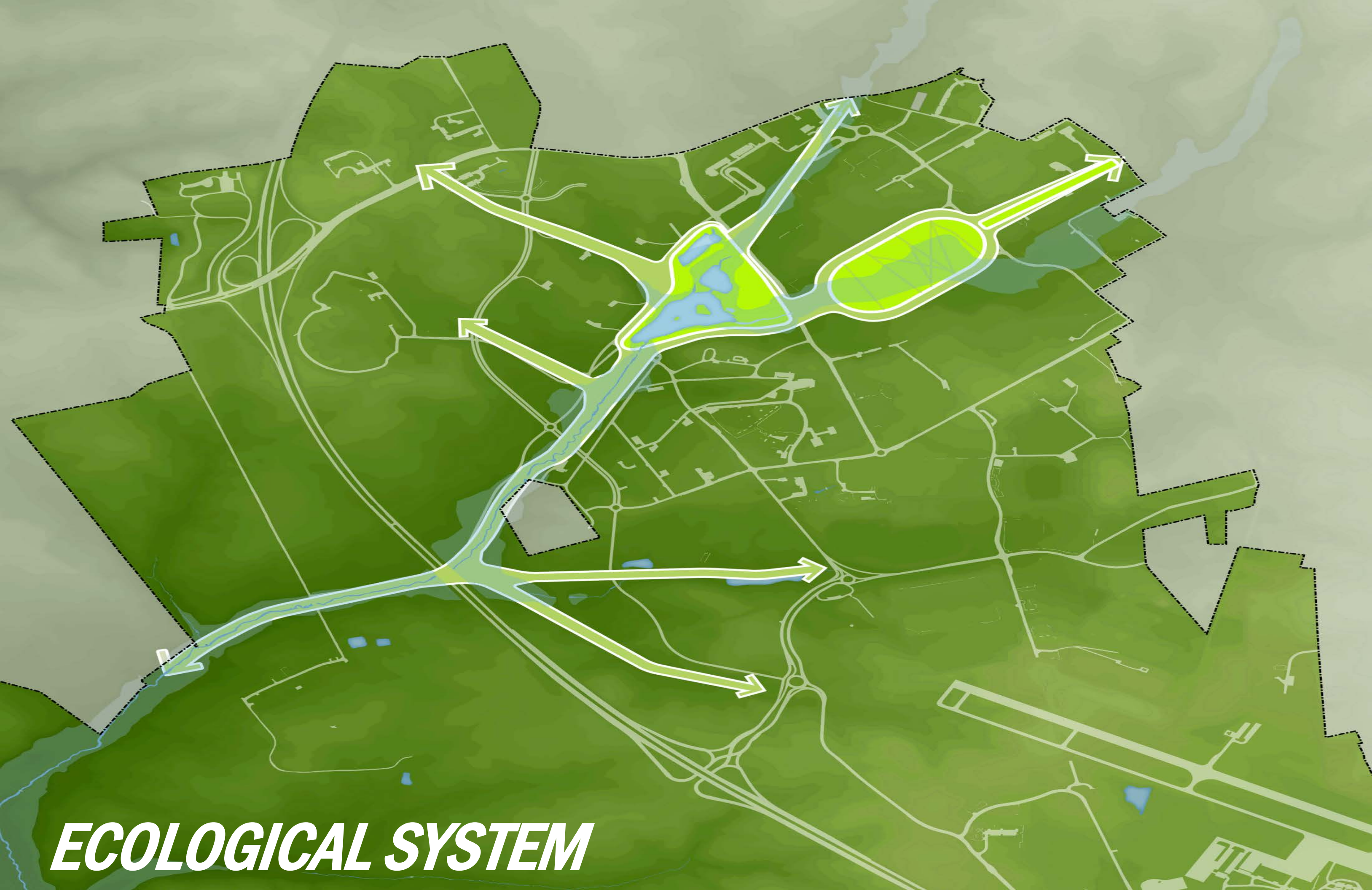
TOPOGRAPHY



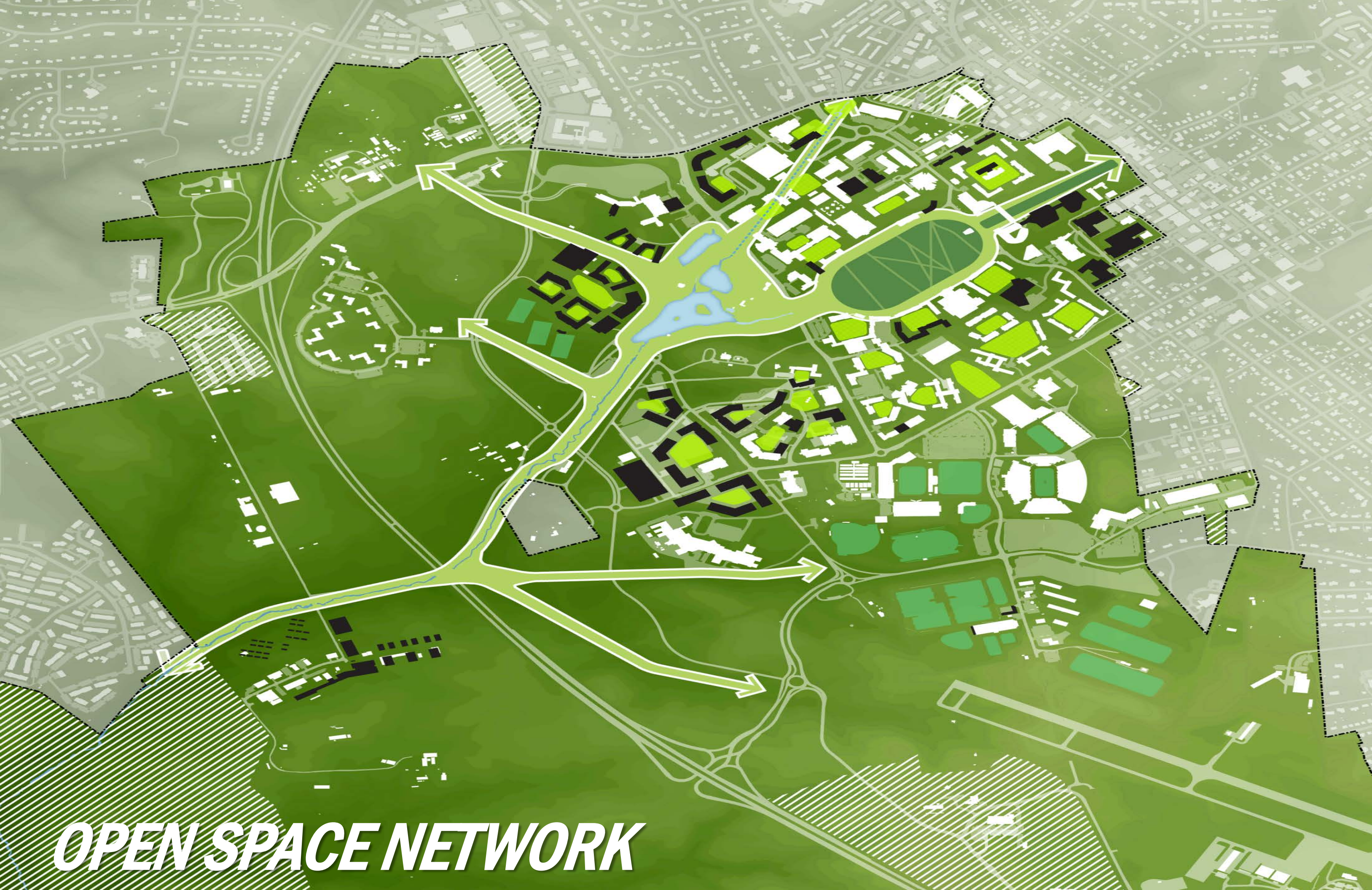
ICONIC LANDSCAPES



STORMWATER



ECOLOGICAL SYSTEM



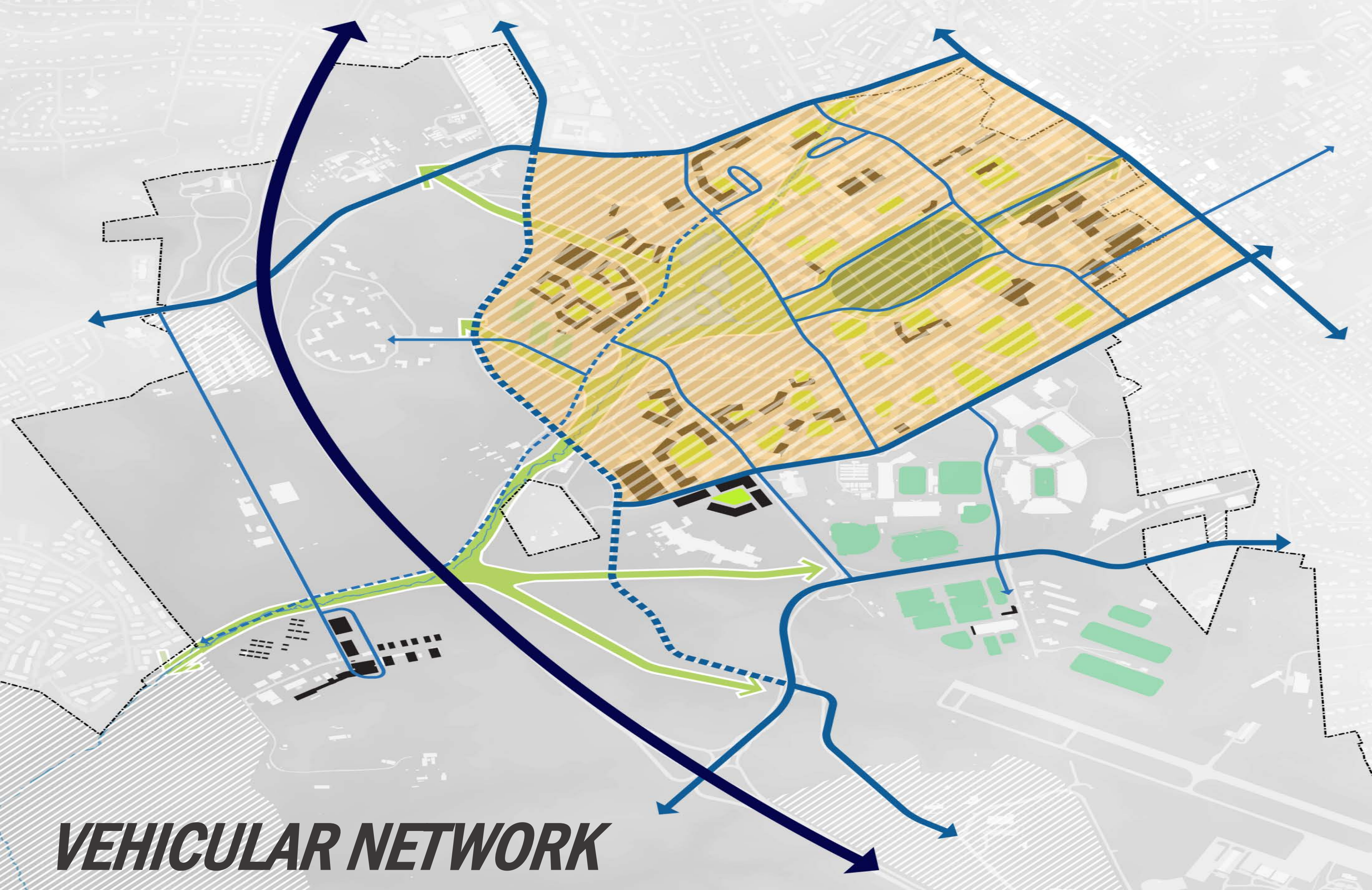
OPEN SPACE NETWORK



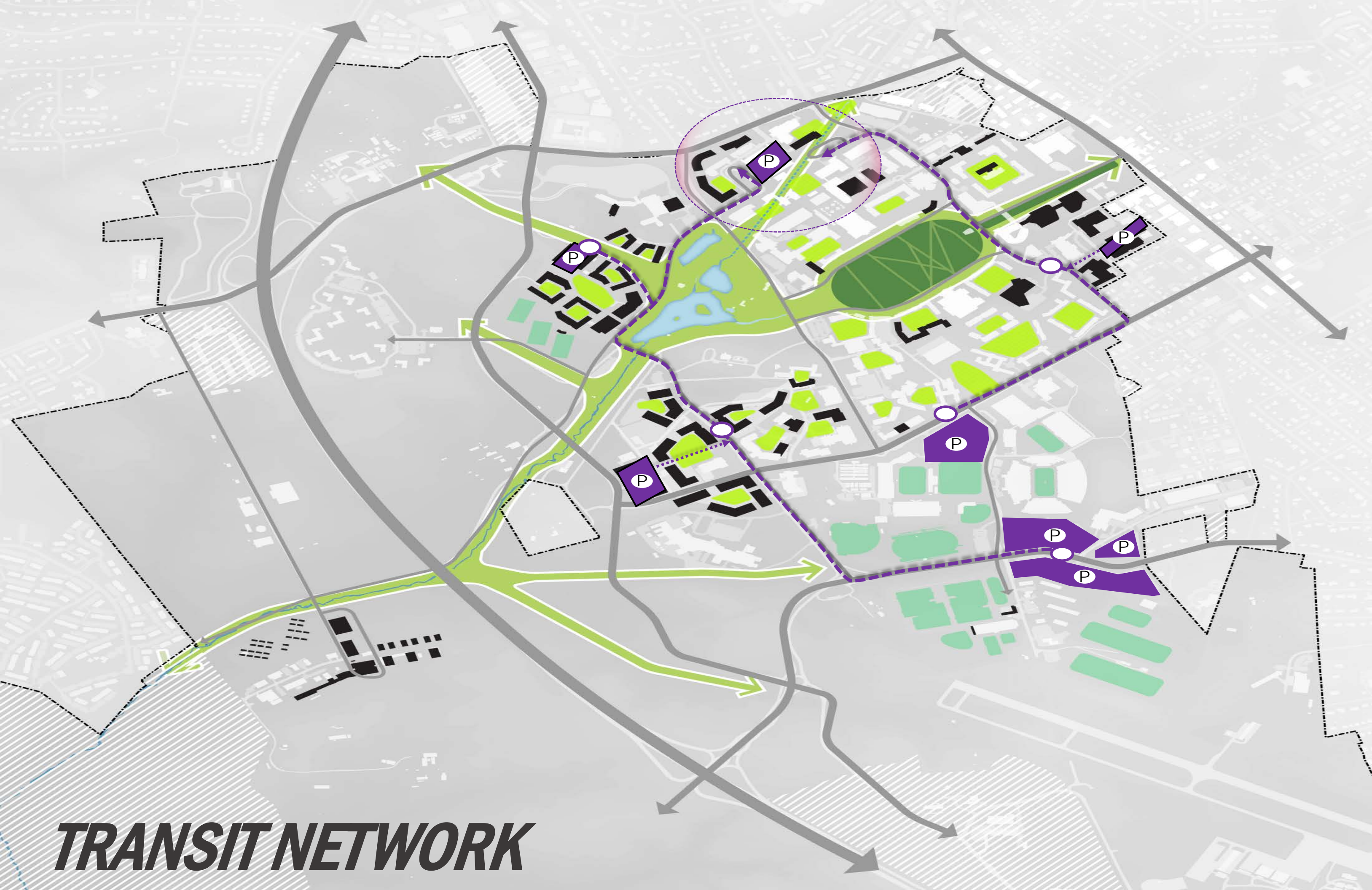
ACCESS FOR ALL – GREEN LINKS



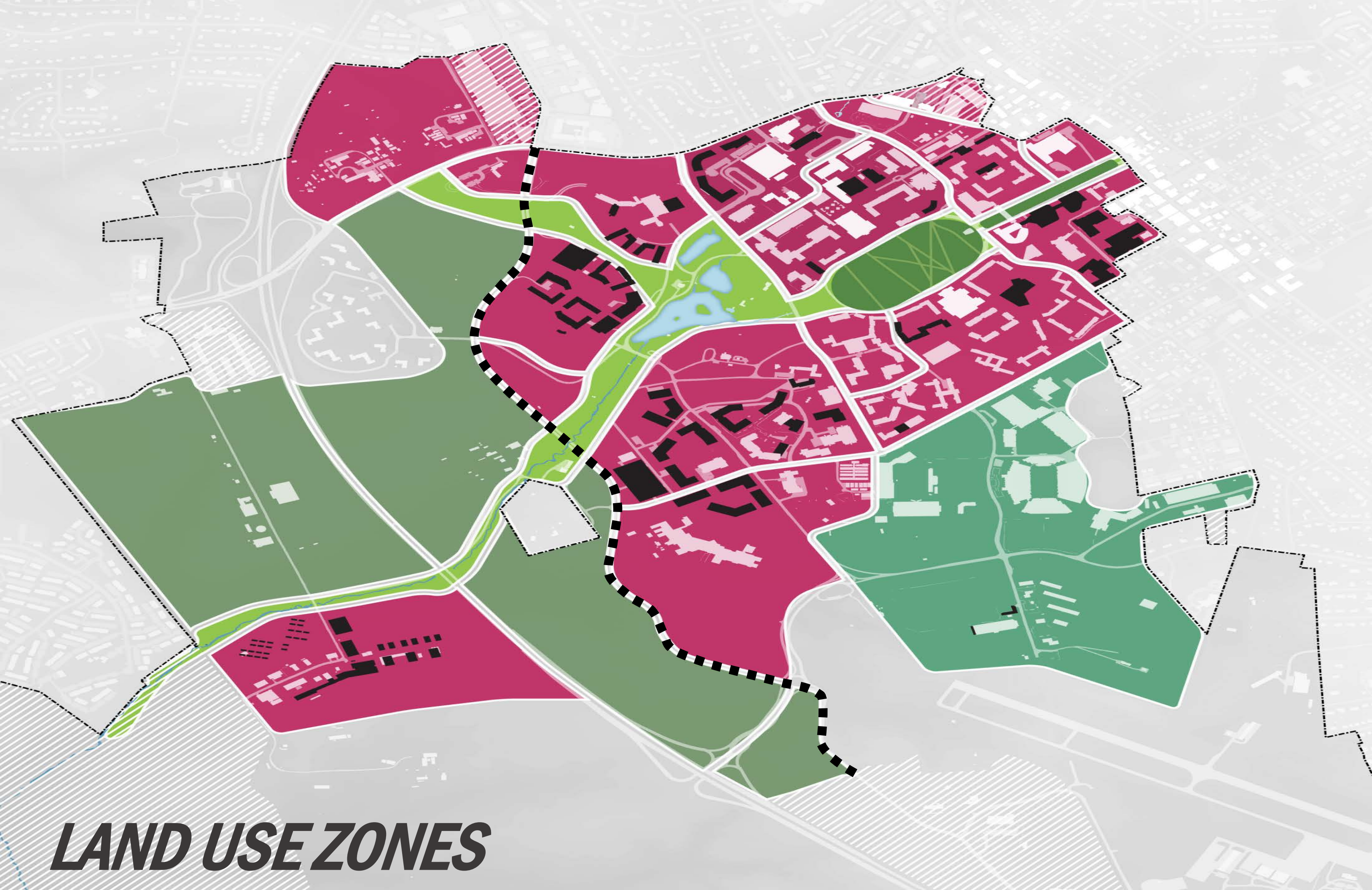
BIKE NETWORK



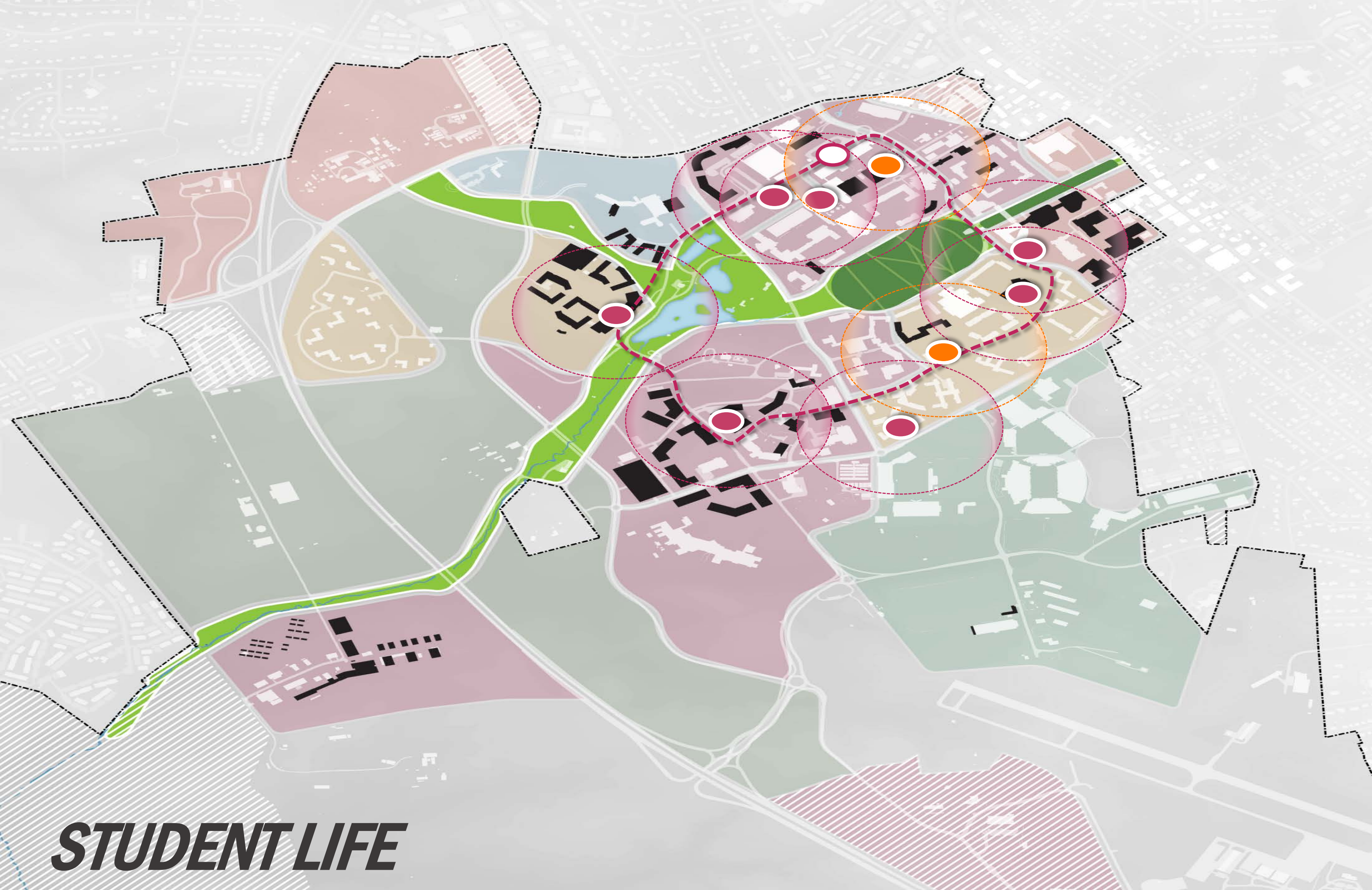
VEHICULAR NETWORK



TRANSIT NETWORK



LAND USE ZONES



STUDENT LIFE



HOUSING



ACADEMIC AND RESEARCH



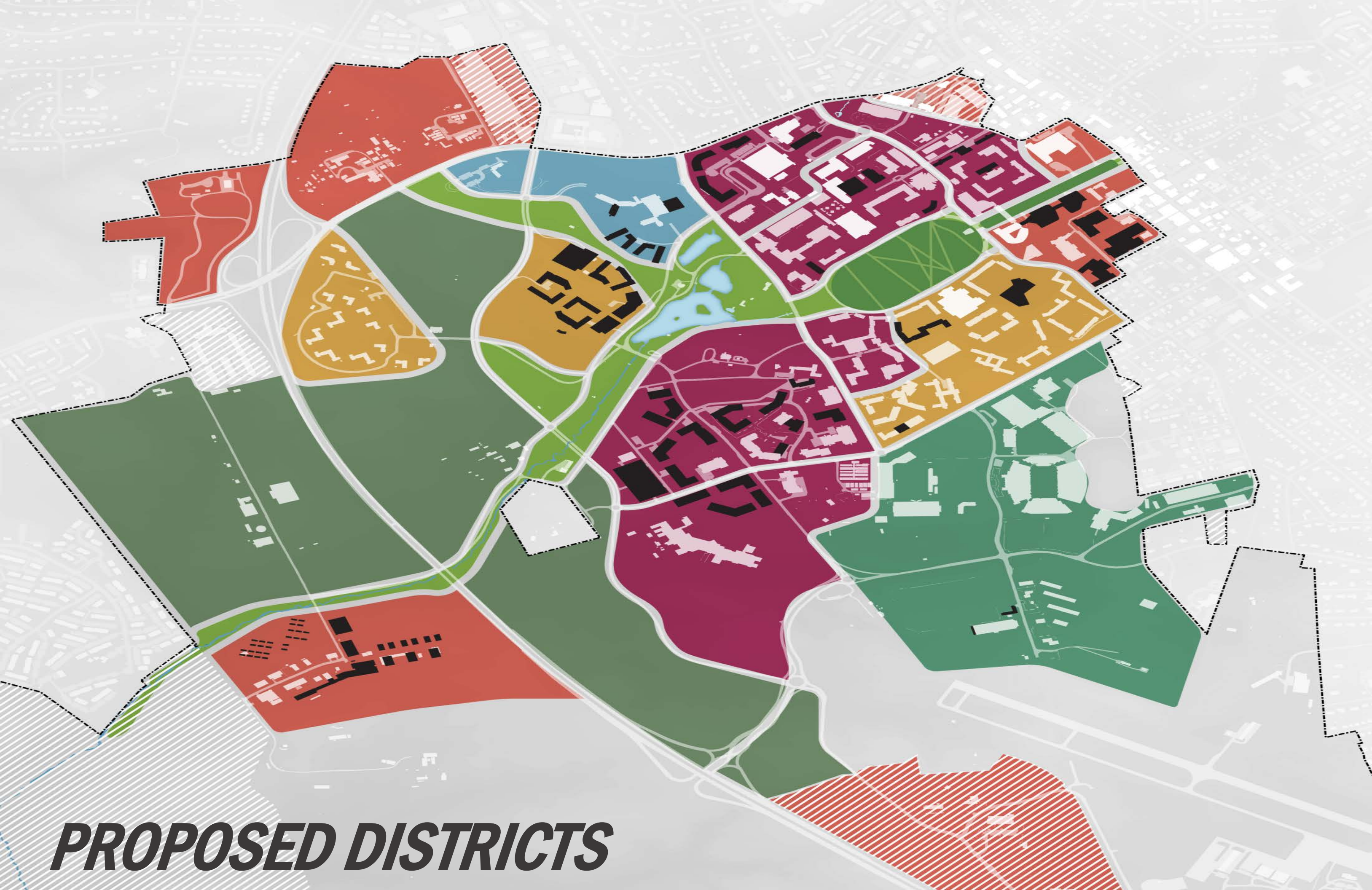
STRATEGIC PARTNERSHIP



PROPOSED FRAMEWORK



PROPOSED FRAMEWORK

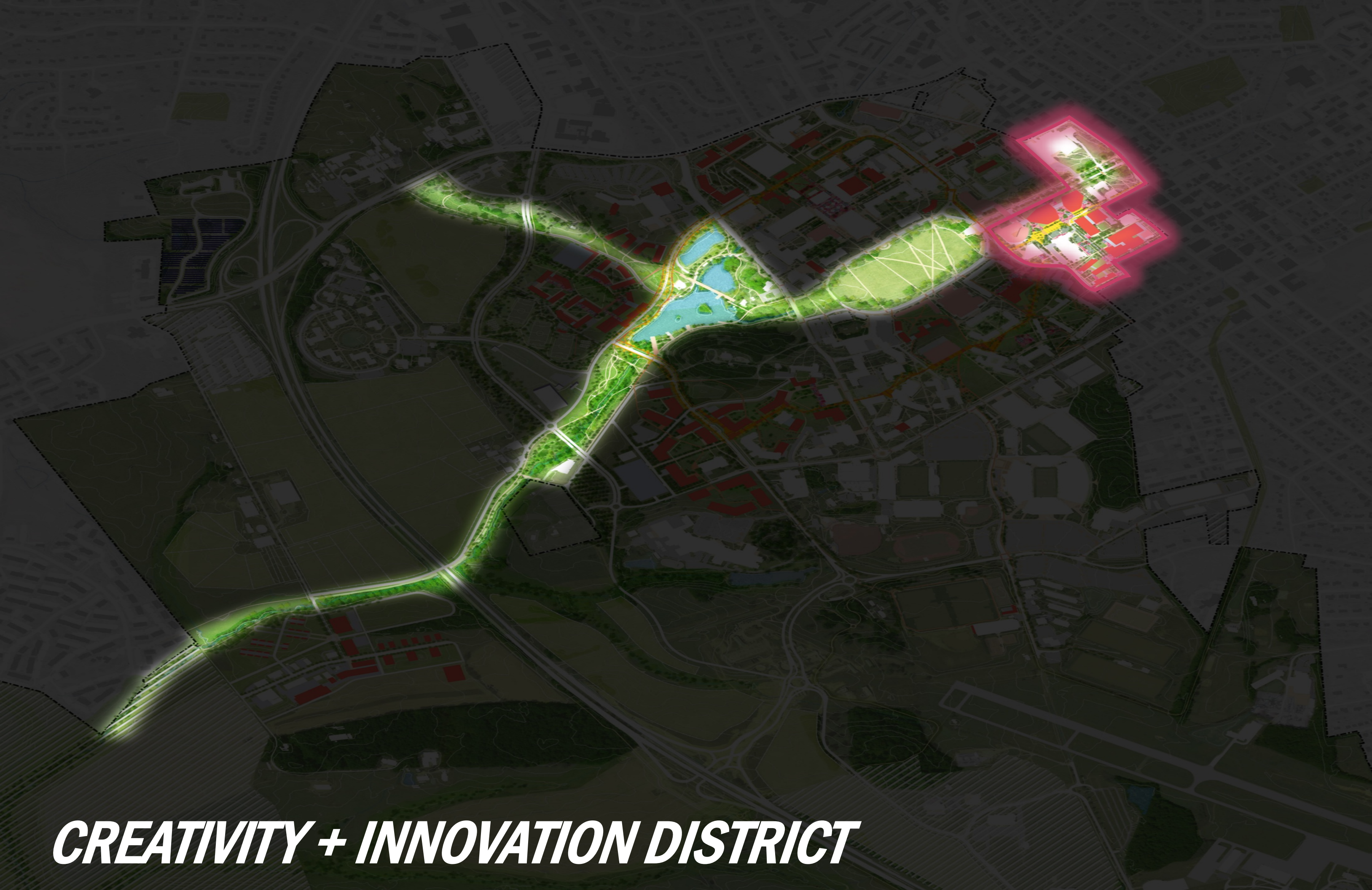


PROPOSED DISTRICTS



DISTRICTS

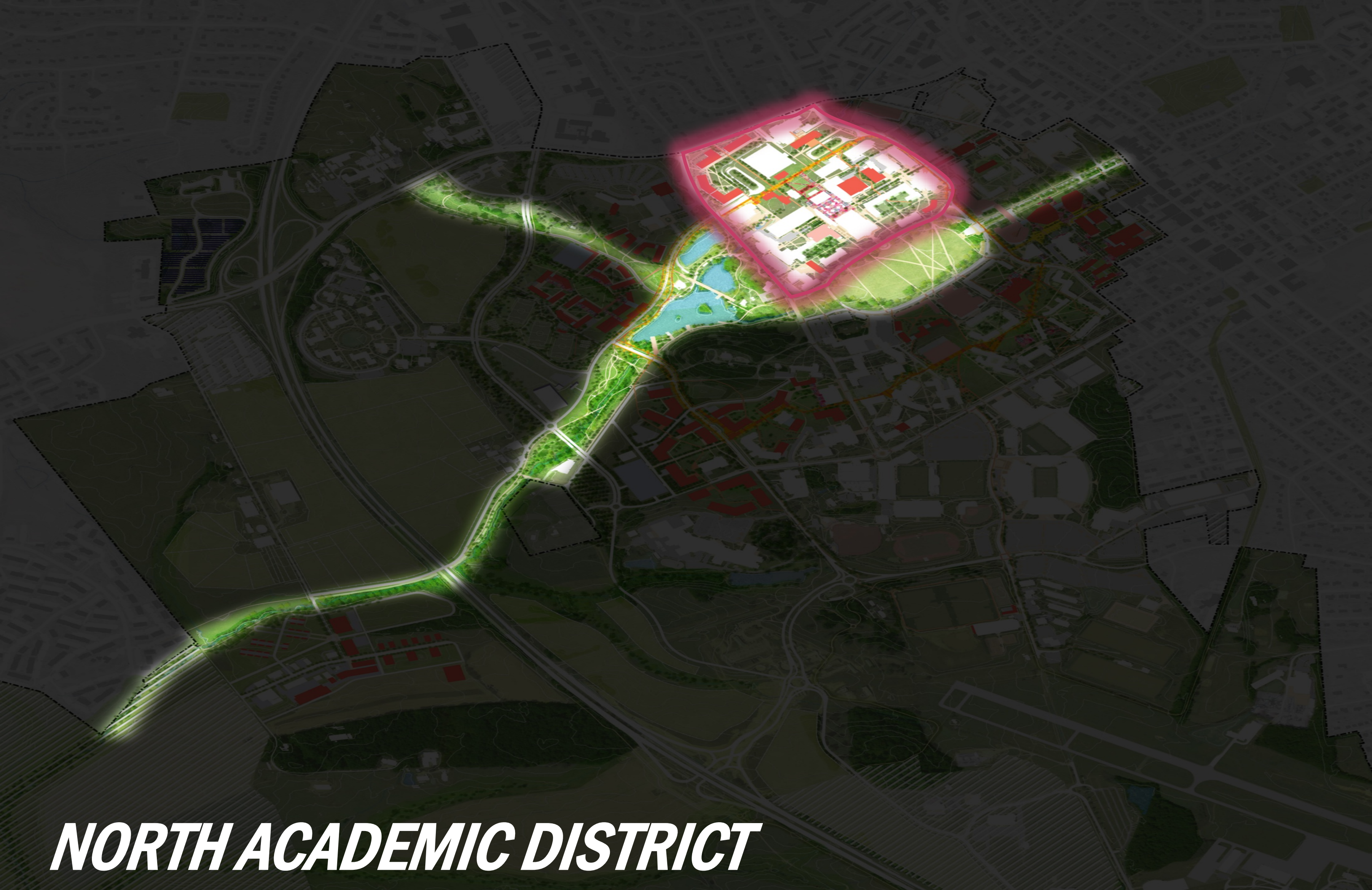




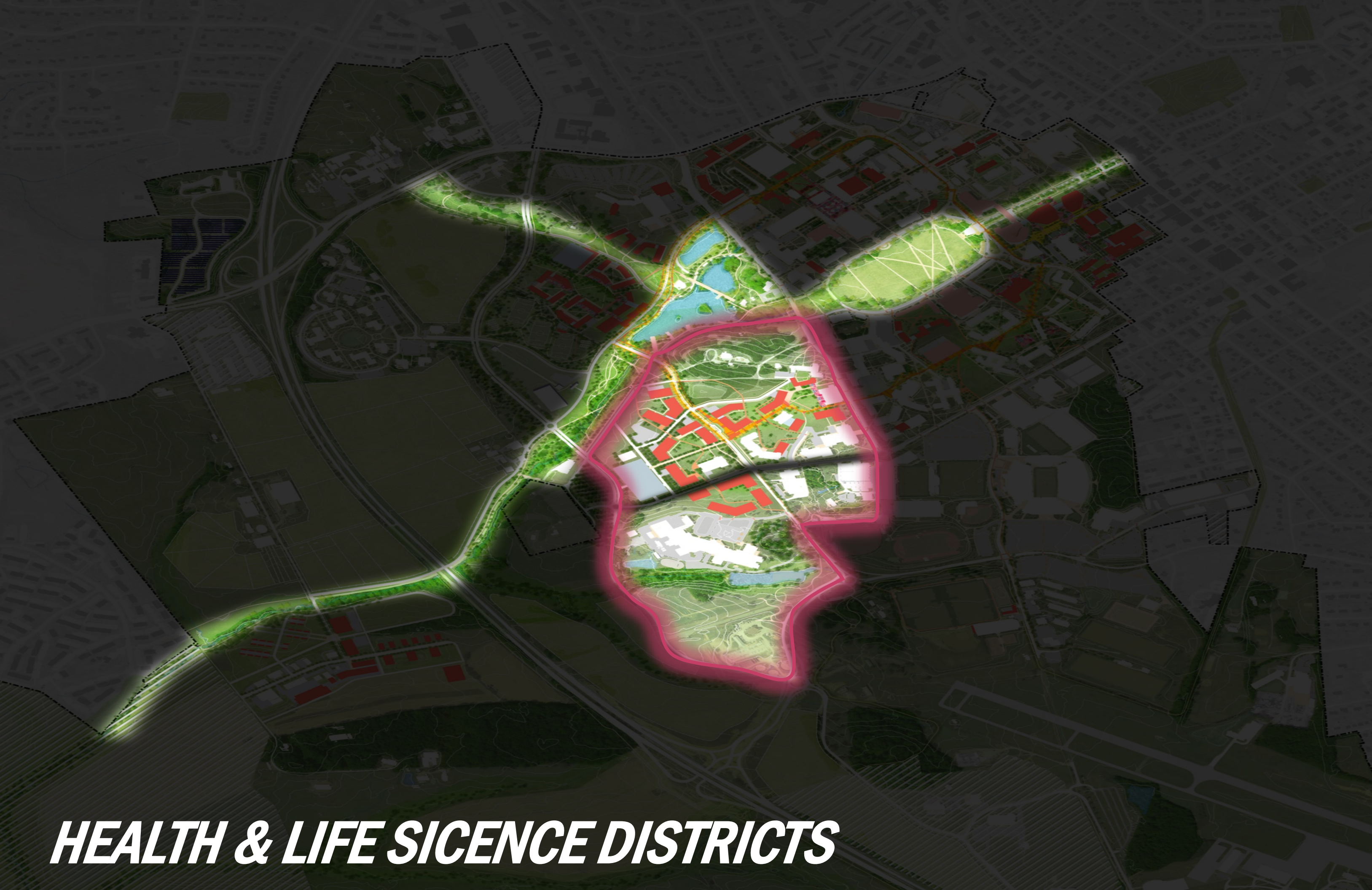
CREATIVITY + INNOVATION DISTRICT



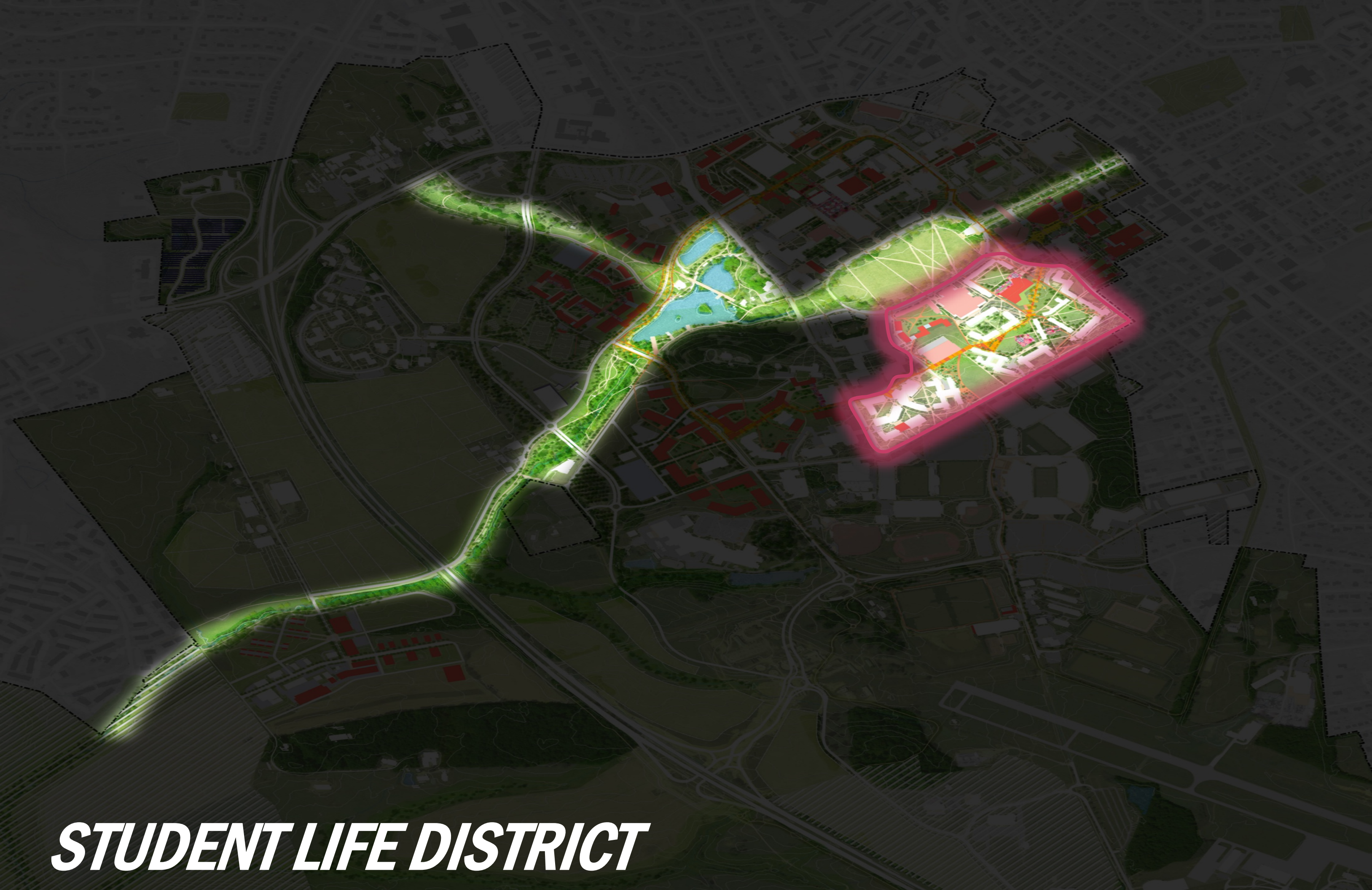
UPPER QUAD & NORTHEAST DISTRICT



NORTH ACADEMIC DISTRICT



HEALTH & LIFE SICCENCE DISTRICTS



STUDENT LIFE DISTRICT



***21ST CENTURY LIVING LEARNING
& GATEWAY DISTRICTS***



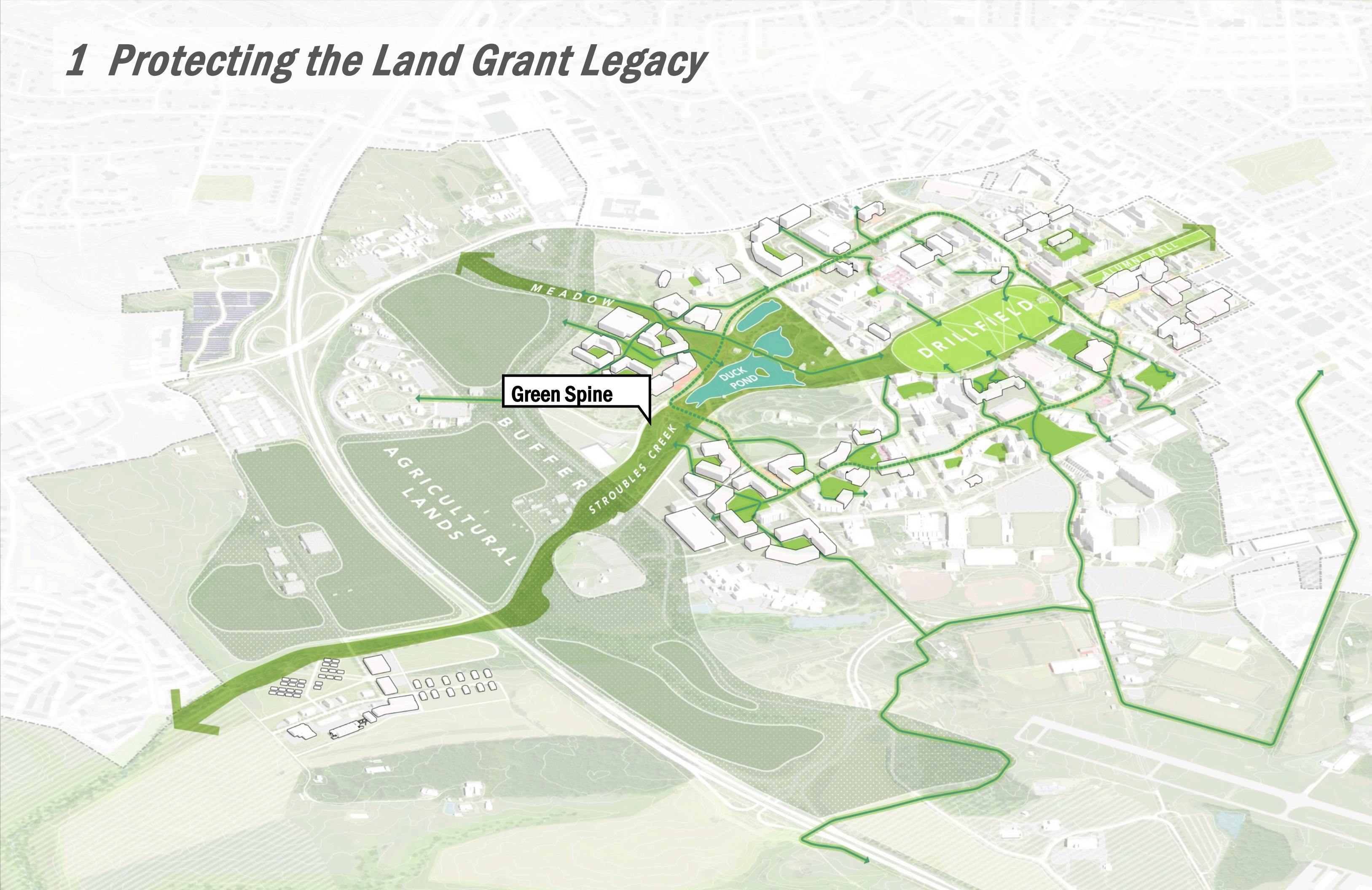
GLADE ROAD



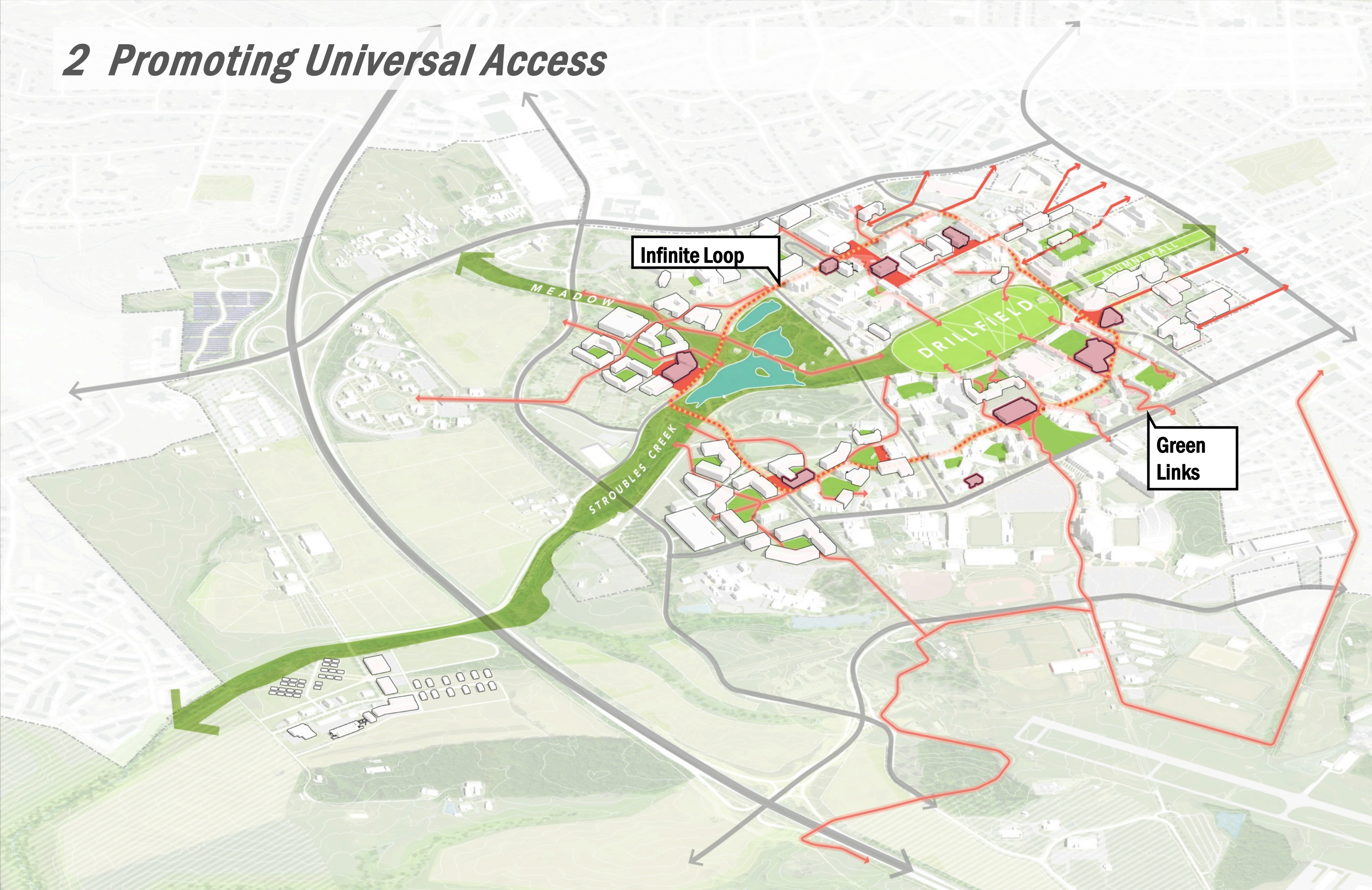
PROPOSED FRAMEWORK

GUIDING PRINCIPLES

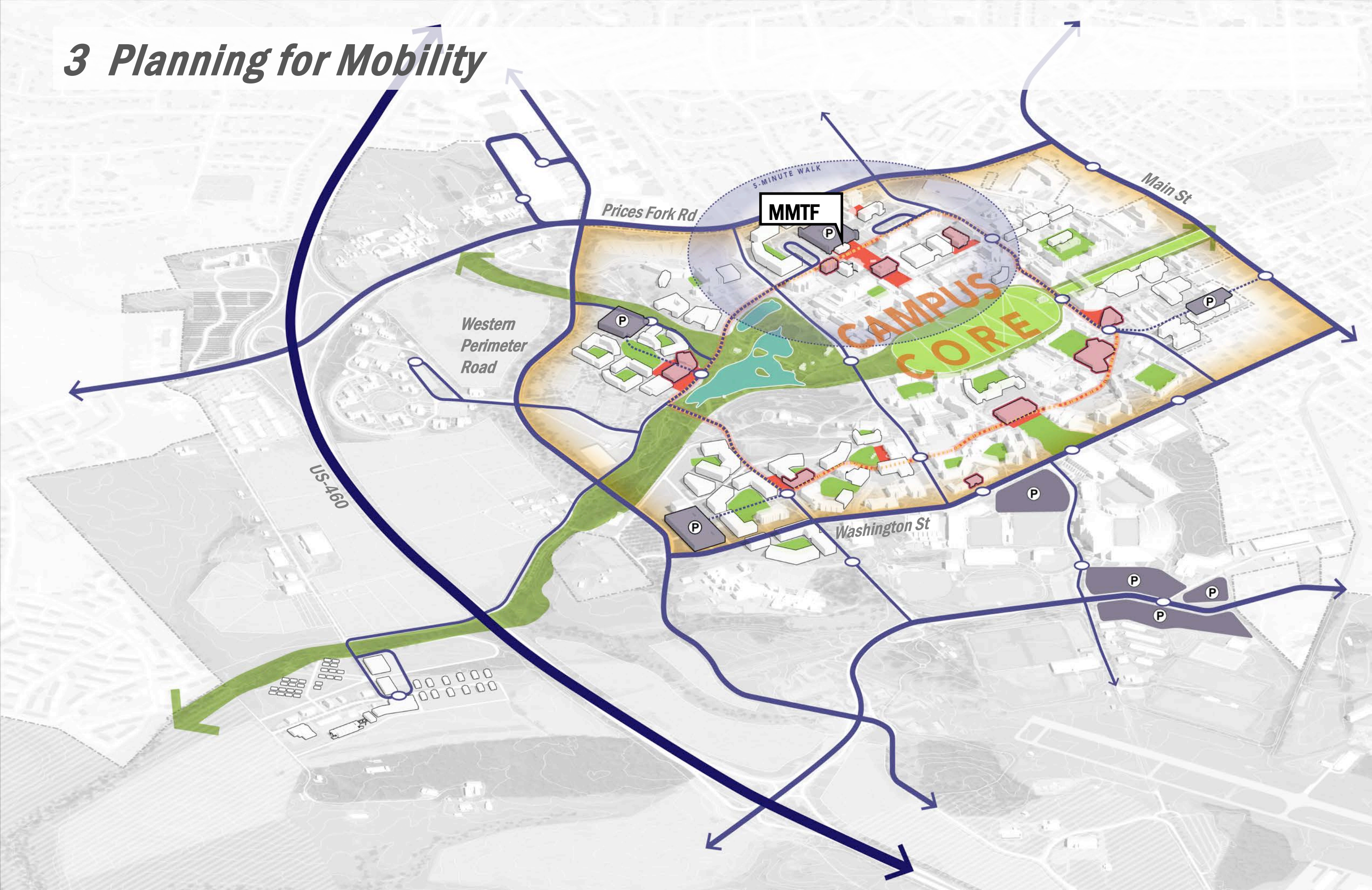
1 Protecting the Land Grant Legacy



2 Promoting Universal Access



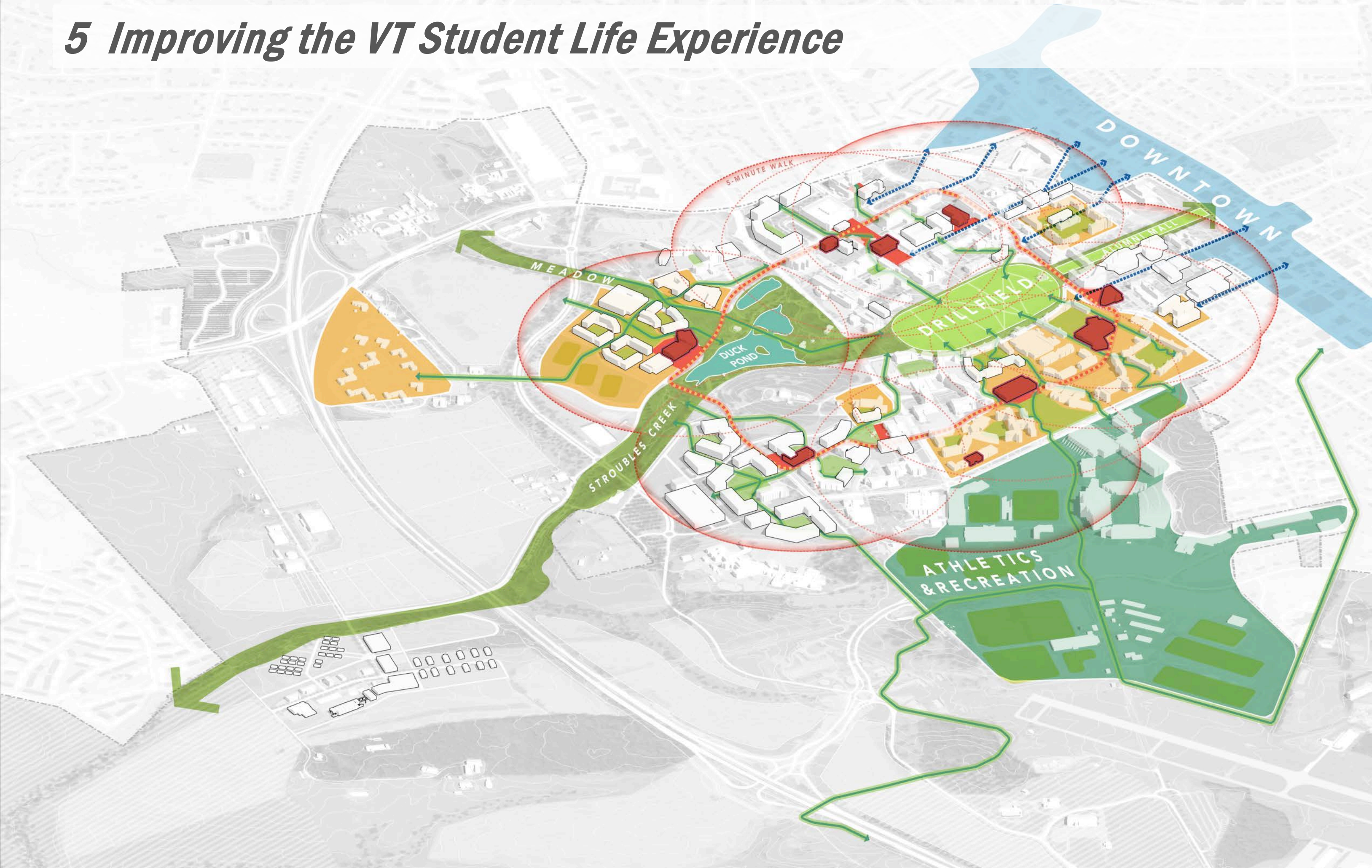
3 Planning for Mobility



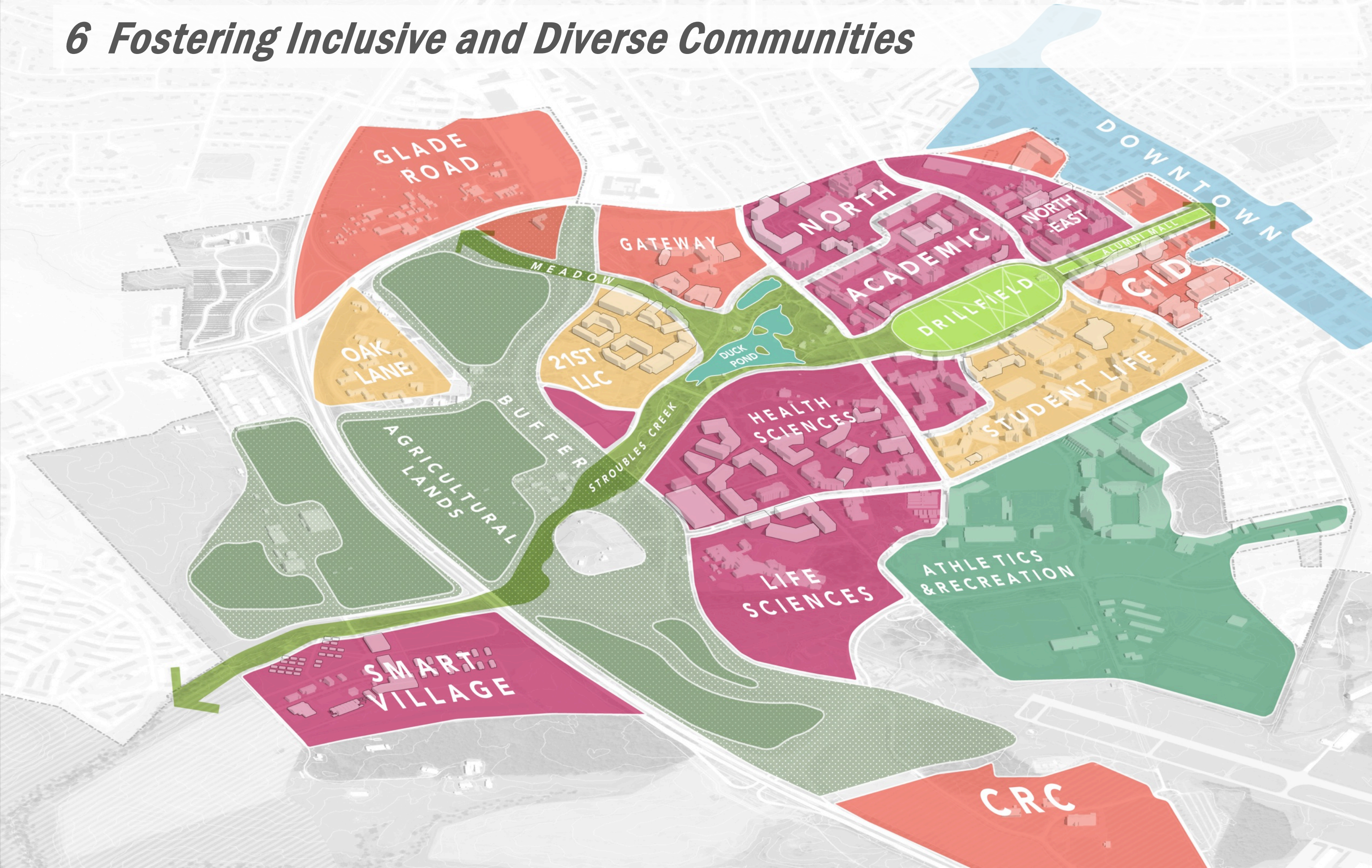
4 Accommodating “Smart Growth”



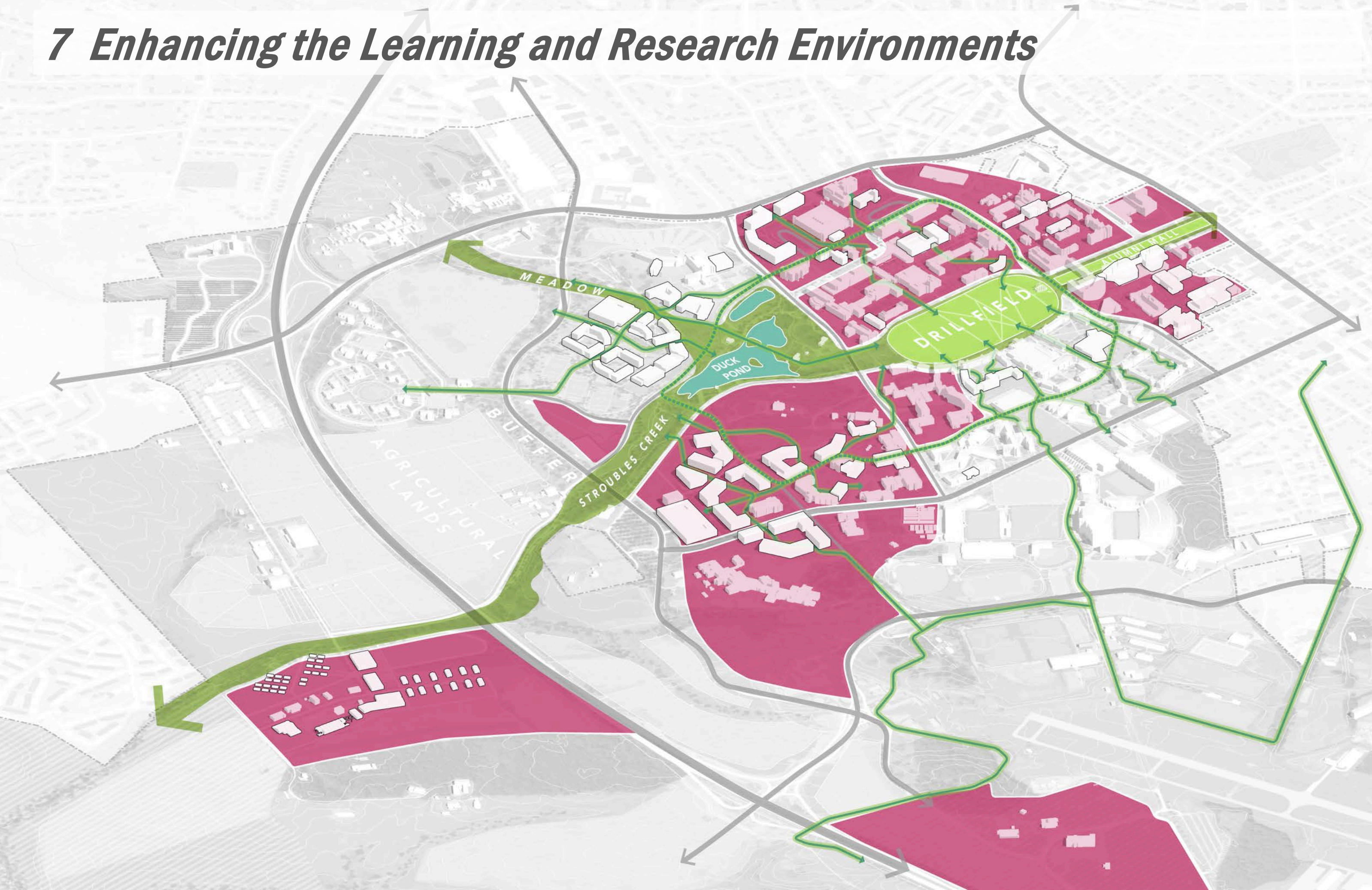
5 Improving the VT Student Life Experience



6 *Fostering Inclusive and Diverse Communities*



7 Enhancing the Learning and Research Environments



8 Expanding Strategic Partnerships

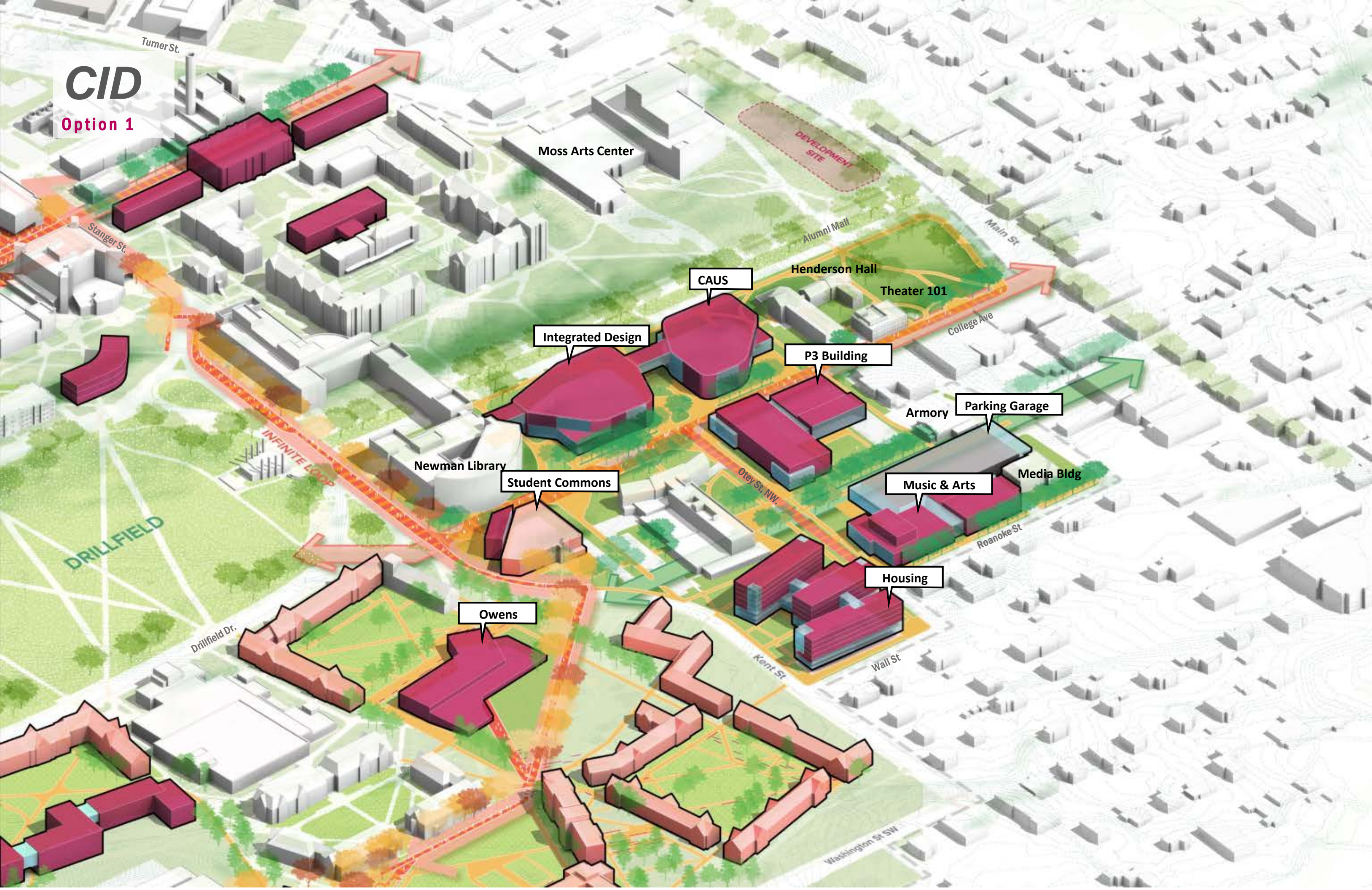


SAMPLE INITIATIVES

CREATIVITY + INNOVATION DISTRICT

CID

Option 1



Moss Arts Center

DEVELOPMENT
SITE

CAUS

Henderson Hall

Theater 101

Integrated Design

P3 Building

Armory

Parking Garage

Newman Library

Student Commons

Music & Arts

Media Bldg

Housing

Owens

DRILLFIELD

Drillfield Dr.

Otey St NW

Roanoke St

Kent St

Wall St

Washington St SW

Turner St.

Stanger St.

Alumni Mall

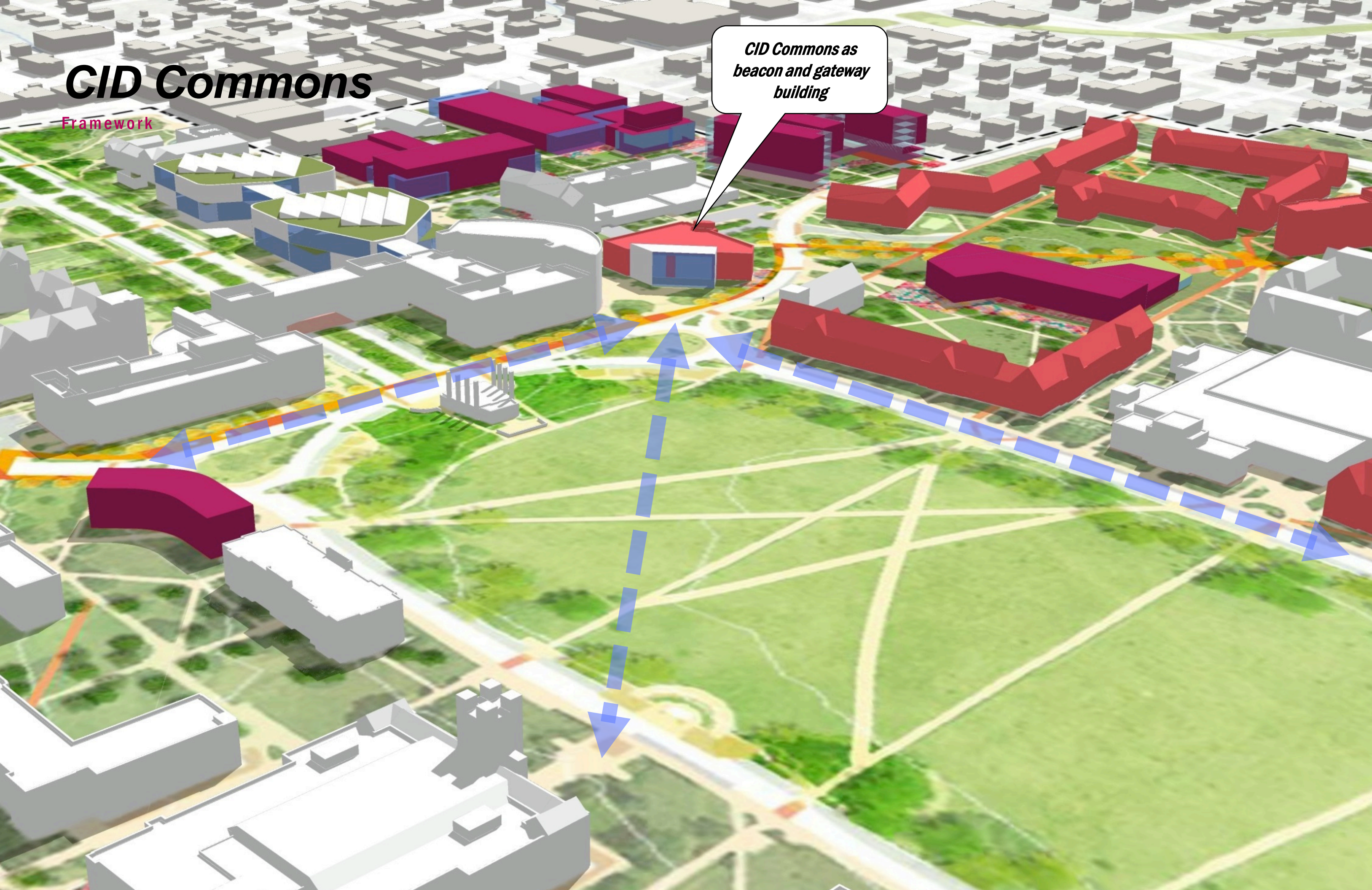
Main St

College Ave

CID Commons

Framework

*CID Commons as
beacon and gateway
building*



Precedents

CID Commons View to Campus



New Classroom Building

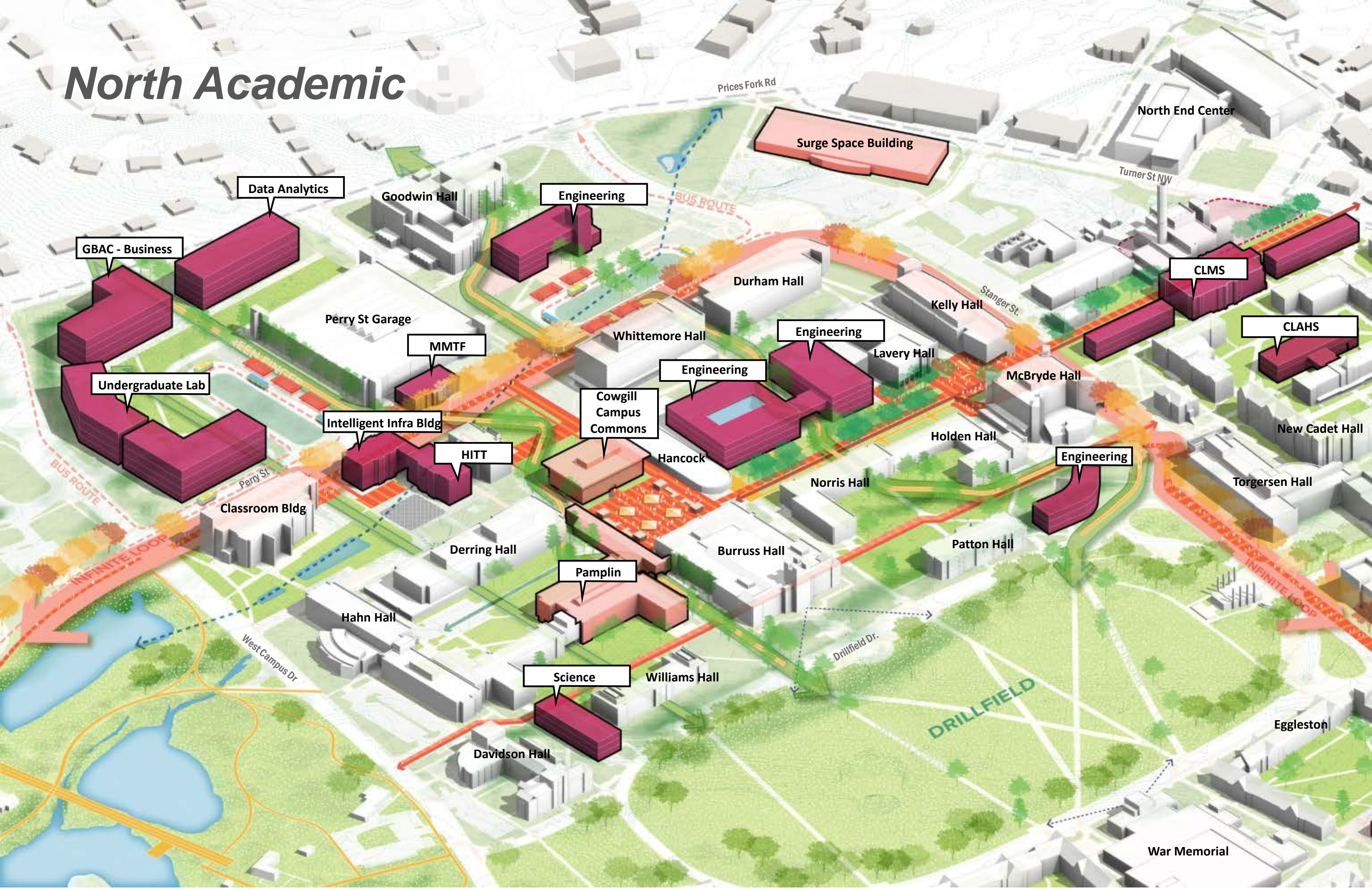
Precedents

CID Group Study



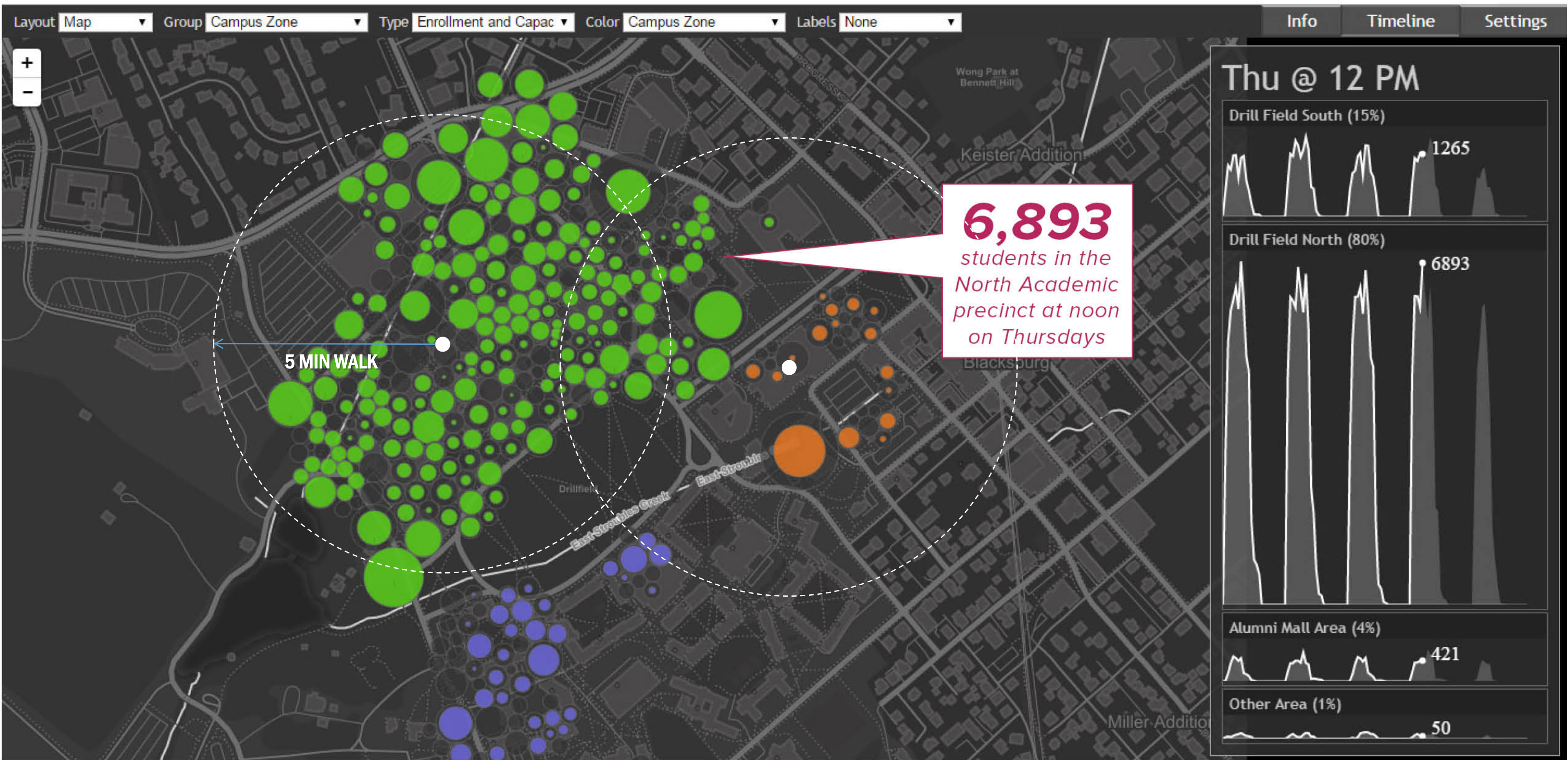
NORTH ACADEMIC DISTRICT

North Academic



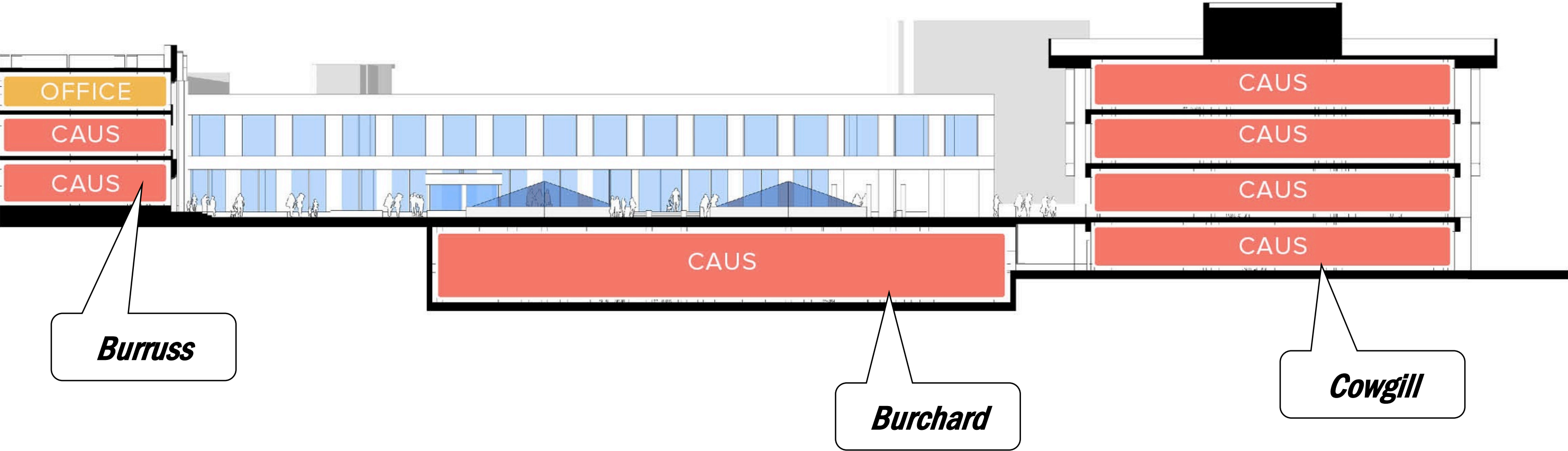
North Academic Core Scheduled Activity – Fall 2015

12:00 pm Thursdays (peak)



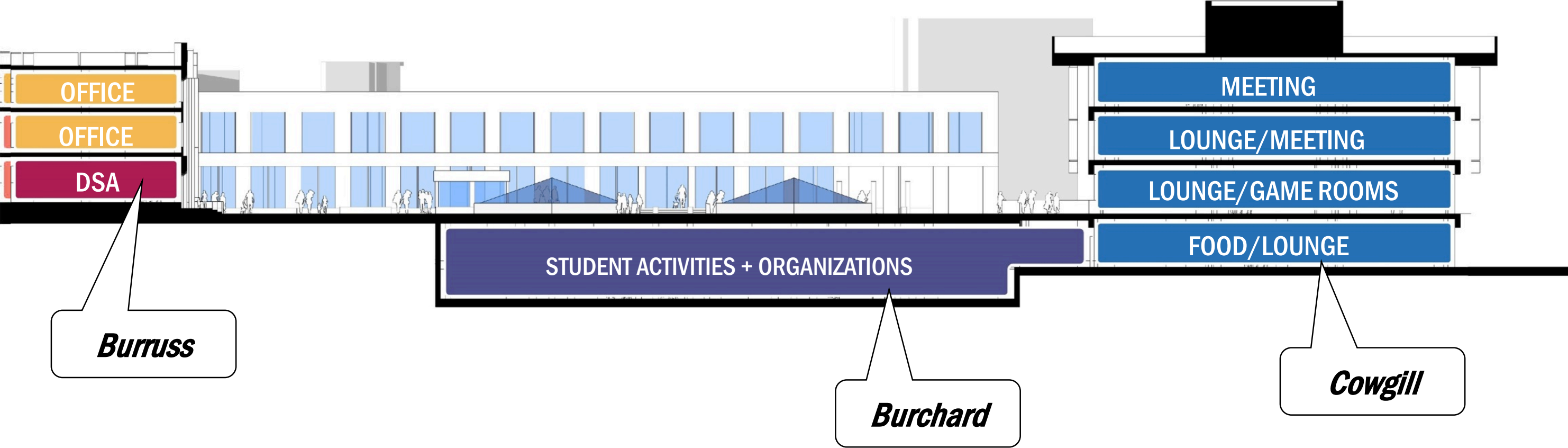
Existing Program

North Academic Central Campus Common



Proposed Program

North Academic Central Campus Common



Existing Conditions

Cowgill Lawn



Existing Conditions

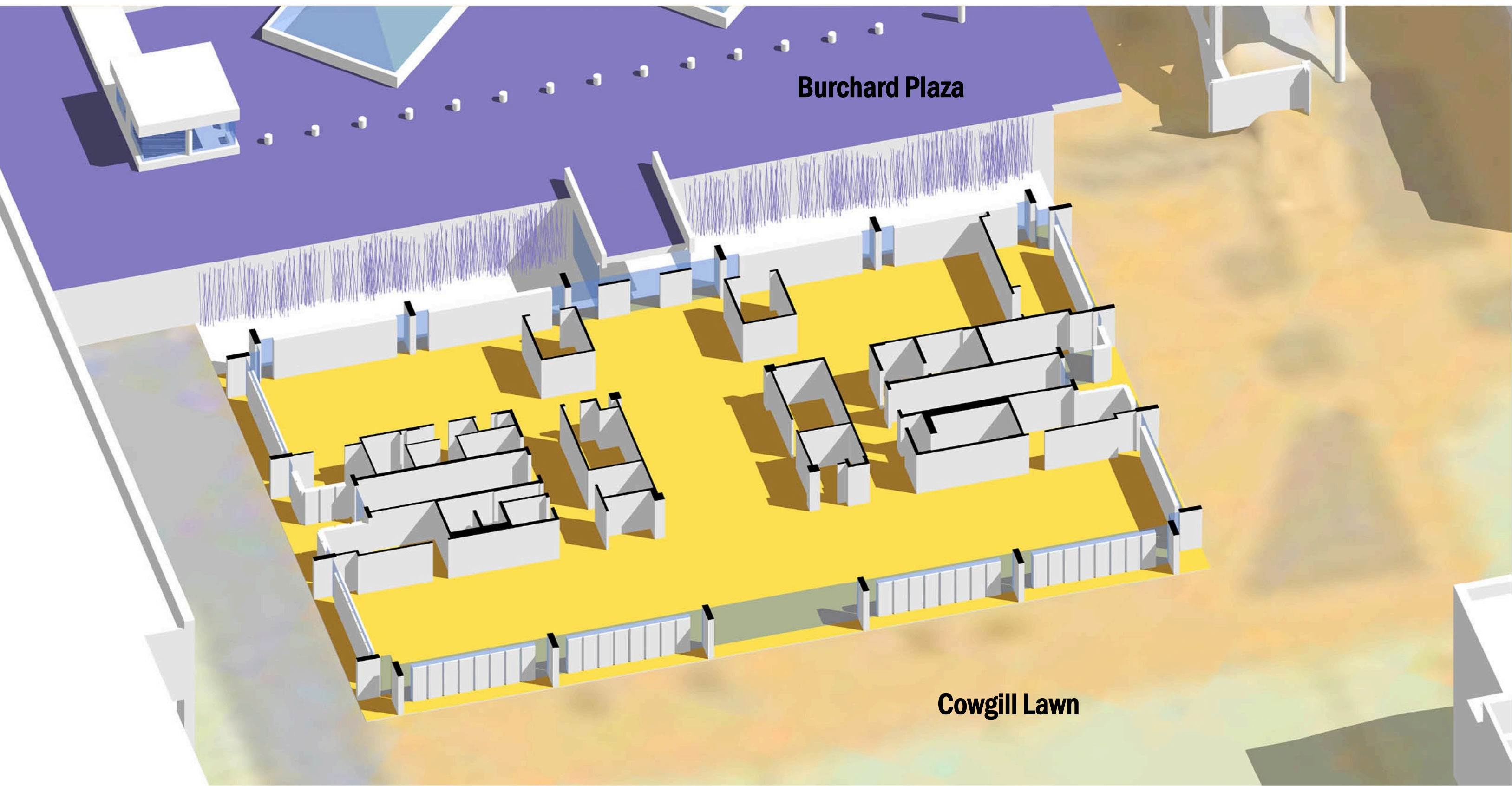
Cowgill Interior



Cowgill Hall

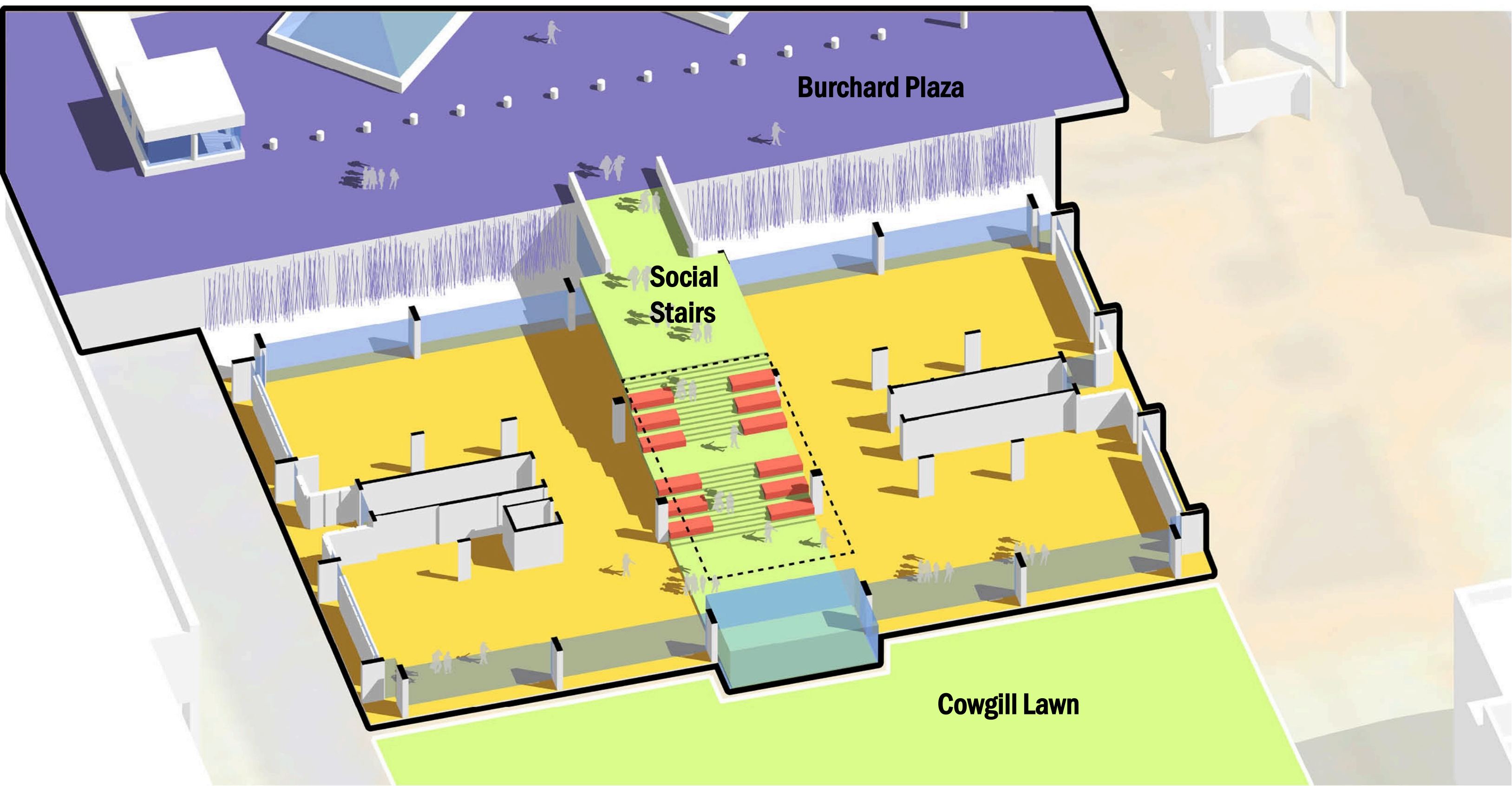
Existing Conditions

North Academic Central Campus Commons



Proposed Conditon

North Academic Central Campus Commons



Precedents

North Academic Central Campus Commons: Social Stairs and Atrium



Existing Conditions

Burchard Plaza



Provide new seating opportunities.

Increase planting, shade, and pervious surfaces

Create new branded landscape destination

Existing Conditions

Burchard Student Spaces






ADDITIONAL STUDIES

Watersheds

STORMWATER FLOW

13 total watersheds on campus.
Varying degrees of pervious/
impervious surfaces in each.



Impervious Surface

Pervious Surface

SC10-A


437.1 Acres

Campus Drainage Shed

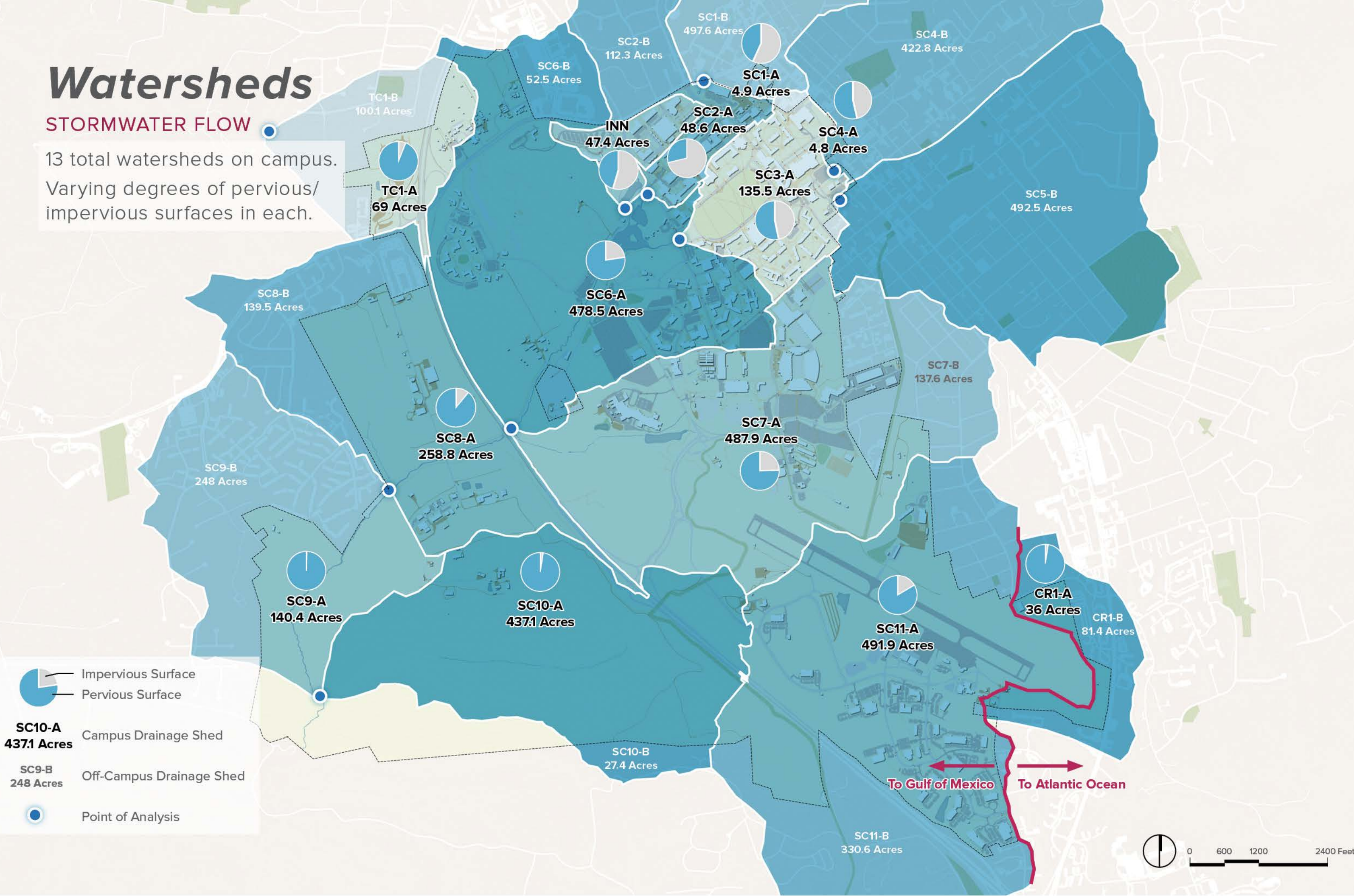
SC9-B

248 Acres

Off-Campus Drainage Shed



Point of Analysis



Agricultural Research Land

CAMPUSWIDE LANDHOLDINGS

CALS LAND MASTER PLAN CONCEPT

02/23/17

1. REMOVE @ GLADE RD
26 Ac

5. ADD @ GOLF
COURSE
32 Ac

2. REMOVE @ HYPER-
LOOP, UAV, & W.P.R.
20 Ac

3. REMOVE @ SMART VILLAGE
48 Ac

4. REMOVE @ W.P.R.
6 Ac

CAN WE ADD HERE?

6. ADD @ SOUTHGATE
32 Ac

7. ADD @ CRC BUFFER
42 Ac

- 1. - 26 Ac (Move to Kentland?)
- 2. - 20 Ac
- 3. - 48 Ac
- 4. - 6 Ac
- 5. + 32 Ac
- 6. + 32 Ac
- 7. + 42 Ac

+6 ACRES NET TOTAL

"LAND GRANT BUFFER"

- Crop
- Pasture
- Ecological Land Use
- Livestock Management
- Livestock Facilities
- Housing
- Teaching & Research
- Turfgrass

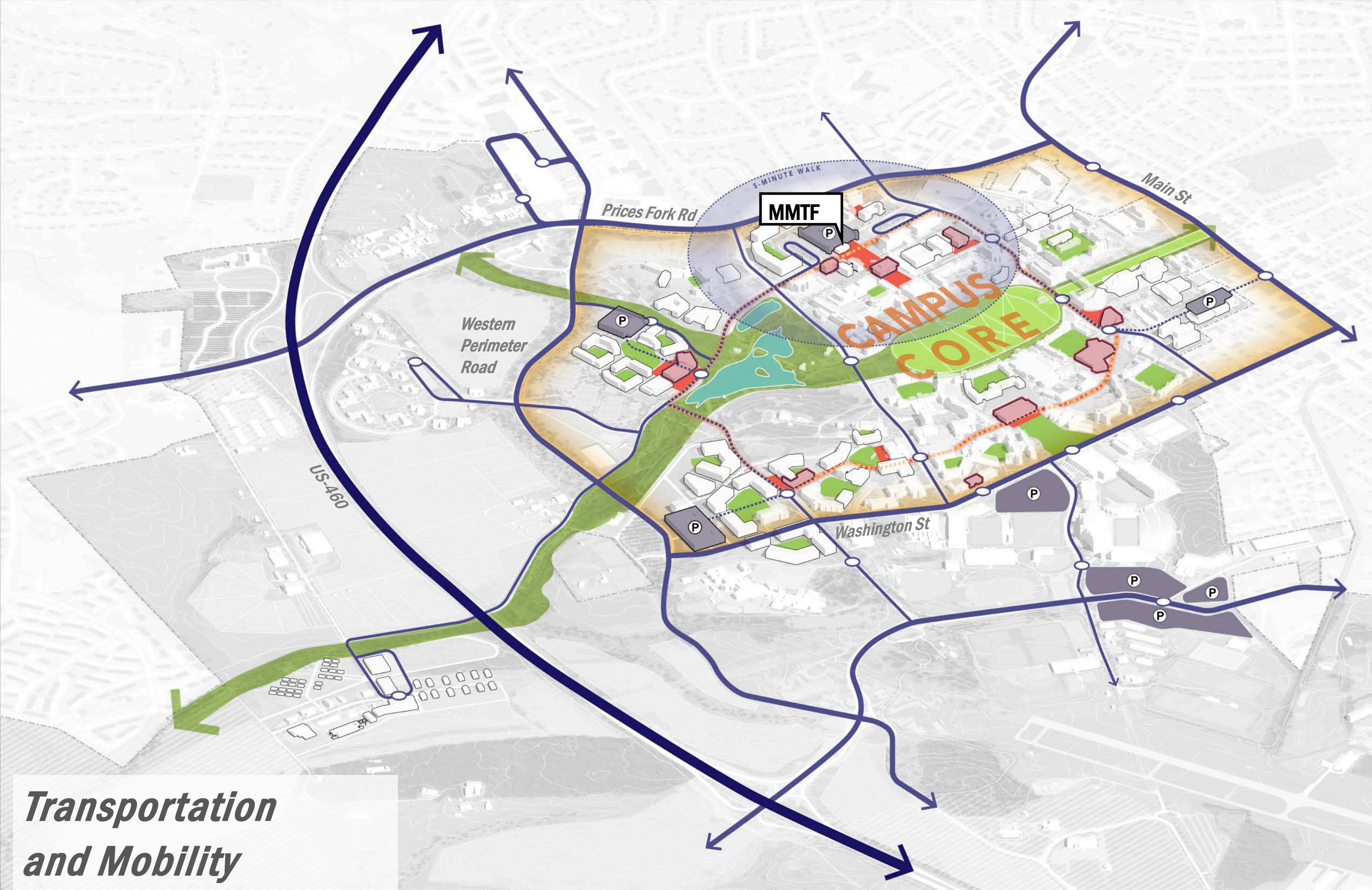


Accessibility Study: Category A – Required + Achievable

Accessibility Recommendations

● A - required + achievable





MMTF

Prices Fork Rd

Main St

Western
Perimeter
Road

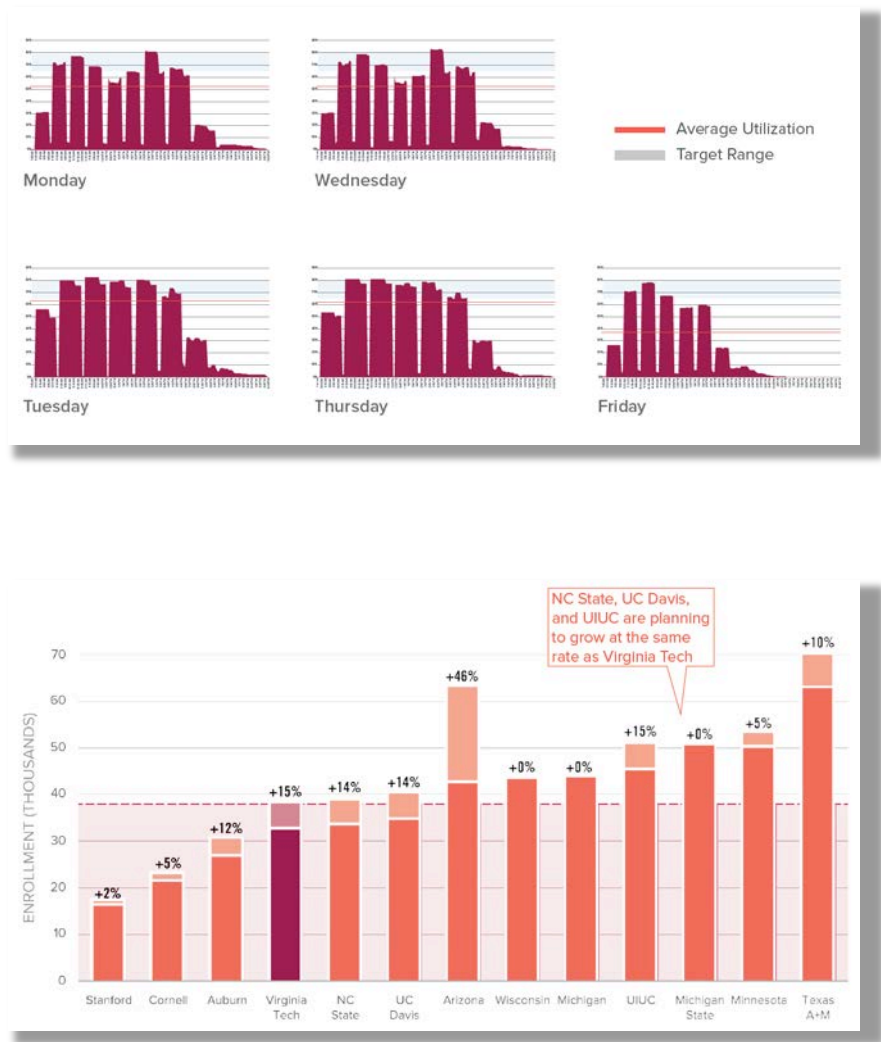
US-460

Washington St

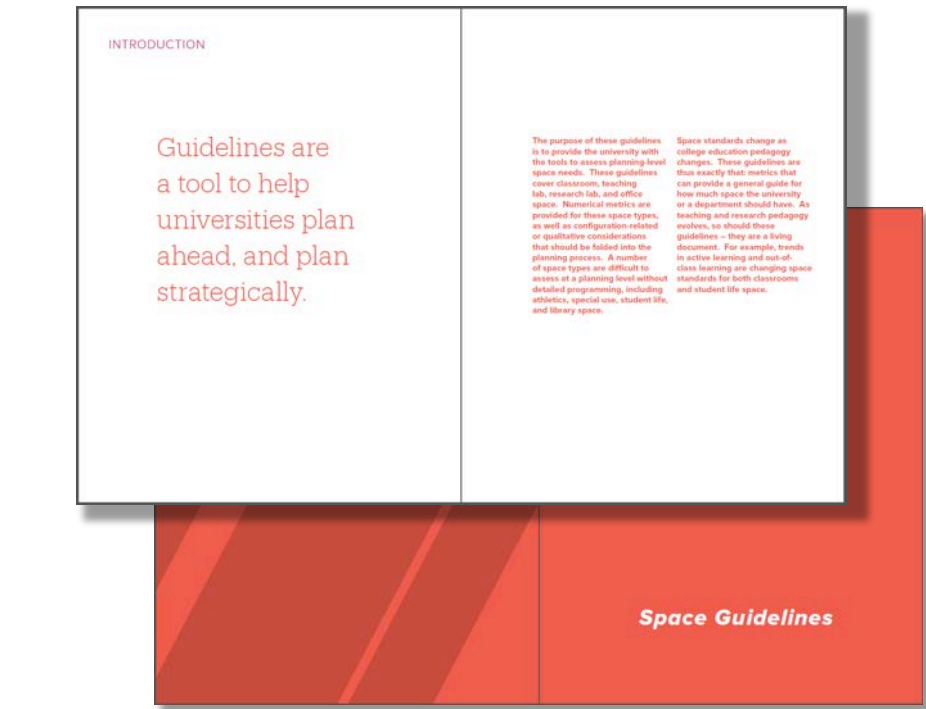
*Transportation
and Mobility*

Space Utilization Study

PROGRESS UPDATE

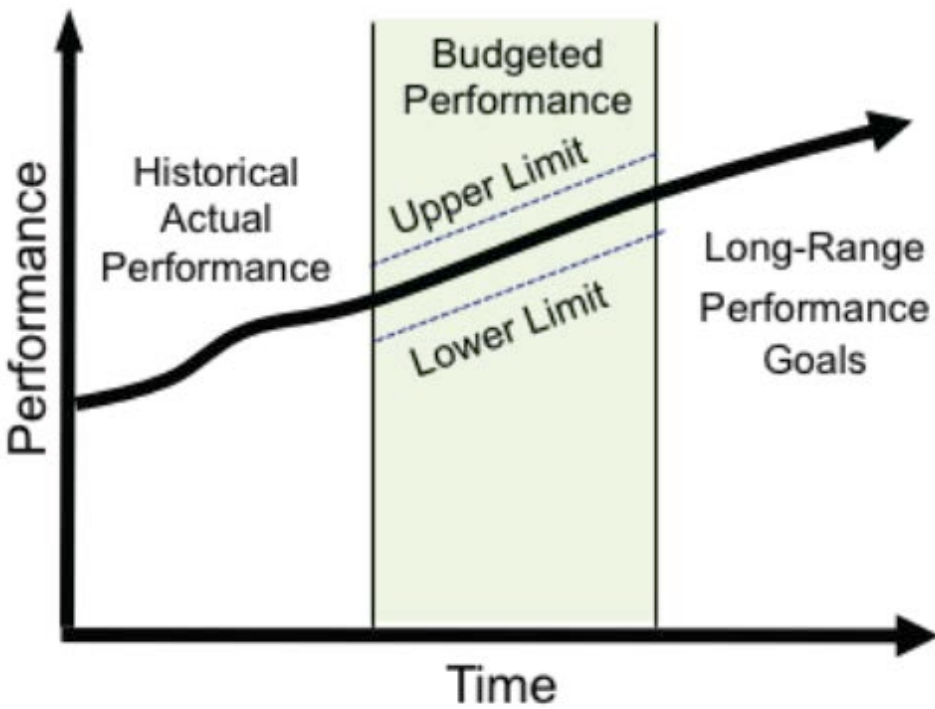


SPACE UTILIZATION &
PEER BENCHMARK
ANALYSIS



DRAFT SPACE POLICY
& GUIDELINES TO UNDERGO VETTING
PROCESS

PIBB & Space Utilization
Management (SUM)



FUTURE: INTEGRATION WITH
NEW BUDGET MODEL



DISCUSSION

CAPITAL PROJECT STATUS REPORT



LIVE ◀ LEARN ▶ WORK

- ▶ Board of Visitors Meeting: *April 3, 2017*
- ▶ Christopher H. Kiwus, PE, PhD
Associate Vice President and Chief Facilities Officer

PROJECTS APPROVED, NOT YET FUNDED

- ▶ Chiller Plant Phase II
- ▶ Livestock and Poultry Research Facilities I
- ▶ Undergraduate Science Laboratory
- ▶ Virginia Tech Carilion Research Institute Biosciences Addition



PROJECTS IN PROGRESS

- ▶ Eastern Shore AREC Equipment Storage Building
- ▶ Health Center Improvements/Student Wellness Services
- ▶ Holden Hall Renovation
- ▶ Improve Kentland Facilities
- ▶ Lane Electric Substation Expansion
- ▶ Multi-Modal Transit Facility
- ▶ O'Shaughnessy Hall Renovation

- ▶ Undergraduate Science Laboratories Renovations



PROJECTS UNDER CONSTRUCTION

- ▶ Athletic Facilities Improvements
- ▶ Biocomplexity Institute Data Center Expansion
- ▶ Fire Alarm Systems and Access
- ▶ Renovate/Renew Academic Buildings
- ▶ Residential Door Access Improvements
- ▶ Unified Communications and Network Renewal Project
- ▶ Upper Quad Residence Halls



BUILDING AND GROUNDS COMMITTEE						
April 3, 2017						
Capital Project Status Report						
Project Name	Project Description	Estimated Total Project Cost	Non-General Funds	Project Teams	Contract Completion Date	Project Status
APPROVED, NOT YET FUNDED						
Chiller Plant Phase II	This project includes the replacement and upgrade of central plant equipment in the existing campus chiller plants and the expansion of the underground distribution infrastructure to link campus chiller substations and bring existing campus buildings online. The improvements include the replacement of two outdated chillers in the North Plant with two new upgraded larger capacity chillers; and addition of up to two new 1,500 ton chillers in the Southwest Plant. The project also includes the replacement and upgrade of ancillary equipment with state-of-the-art, optimally sized pumping and system support equipment, and the expansion of the distribution system to connect the two plants. The project accommodates LEED refrigerant requirements by replacing outdated, inefficient chiller equipment with equipment that uses newer refrigerant types.	\$40,000,000	\$0	Affiliated Engineers, Inc. (AEI) Atlanta, GA	TBD	The A/E has been selected and is under contract. Schematic designs are underway and will be submitted to the university for review in May 2017.
				TBD		
Livestock and Poultry Research Facilities I	This proposed project will provide a combination of new replacement facilities and renovated facilities at the Blacksburg campus and three nearby university production and research farms.	\$22,500,000	\$0	TBD	TBD	The A/E has been selected and contract negotiations are currently being finalized.
				TBD		
Undergraduate Science Laboratory	This project will construct a new undergraduate science laboratory facility of 102,000 gross square feet (GSF) to accommodate the growing demand for STEM-H degrees at Virginia Tech.	\$74,800,000	\$0	TBD	TBD	17 A/E's have submitted proposals for the Feasibility Study. Selection will be made by the end of April 2017.
				TBD		
Virginia Tech Carilion Research Institute Biosciences Addition	This project will construct an approximately 105,000 gross square foot (GSF) building adjacent to the Virginia Tech - Carilion Research Institute in Roanoke, VA. The new facility will include high intensity biomedical research capable laboratories with surgical-type suites, Biosafety Level Three laboratories, and animal imaging facilities that require high field magnetic resonance imaging. The remaining space will include high intensity dry laboratory research and training spaces including computational facilities, offices, and procedural training rooms.	\$67,000,000	\$0	TBD	TBD	The state has authorized university submittal of a request for planning funds. The forms have been submitted for Virginia Department of Planning and Budget approval. This project will follow the university's PPEA process. A detailed scope is currently being prepared.
				TBD		
DESIGN						
Eastern Shore AREC Equipment Storage Building	This project includes the construction of an agricultural equipment storage building at the AREC in Painter, Virginia.	\$502,000	\$535,000	Dewberry Charlotte, NC	July 2017	A construction contract has been awarded and the Notice To Proceed has been issued. The construction contractor is scheduled to mobilize and begin construction on March 27, 2017. Completion is scheduled for the end of July 2017.
				Austurian Group, Inc. Virginia Beach, VA		
Health Center Improvements/Student Wellness Services	The planning authorization for the Health Center Improvements project was updated by the Board of Visitors at the March 2016 meeting to initiate a revised and comprehensive solution for student wellness services.	TBD	\$3,071,000	Cannon Design	TBD	The A/E contract has been awarded and the Feasibility Study is underway to upgrade McComas Hall and perform a major renovation of War Memorial Hall for the Schiffert Health Center, Cook Counseling, Recreational Sports, College of Liberal Arts and Human Sciences programs, and College of Agriculture and Life Sciences. Programming presentation meetings scheduled for March 29-30.
				TBD		
Holden Hall Renovation	This project includes the renovation of an approximately 21,000 gross square foot (GSF) portion of Holden Hall. The remaining 21,000 GSF of the existing building will be demolished and replaced with approximately 80,000 GSF of new engineering instruction and research space for a total building size of 101,000 GSF.	\$62,000,000	\$17,500,000	Moseley Architects Virginia Beach, VA	TBD	The A/E and the Construction Manager at Risk have been selected. Schematic design is underway.
				W.M. Jordan Co.		
Improve Kentland Facilities	This project includes new construction of three buildings totaling approximately 28,900 gross square feet (GSF) including a metabolism research laboratory, an applied reproduction facility, and a bovine extension teaching/research facility to serve Agency 229, Virginia Cooperative Extension and the Virginia Agricultural Experiment Station.	\$9,363,000	\$0	Spectrum Design, PC Roanoke, VA	TBD	Bids for construction of the three buildings were received in December 2016. However all three bids exceeded the construction budget. Value engineering negotiations with the apparent low bidder have rendered savings, but the savings are not sufficient to close the gap. Additional cost savings measures are under consideration in order to award the contract and begin construction in the spring/summer of 2017.
				TBD		

Project Name	Project Description	Estimated Total Project Cost	Non-General Funds	Project Teams	Contract Completion Date	Project Status
Lane Electric Substation Expansion	This project will expand the existing electrical sub-station to add approximately 37 percent additional power capacity to serve the campus Life Sciences and Northwest Precincts and the Corporate Research Center's proposed expansion.	\$6,500,000	\$6,500,000	AEP and VTES	TBD	The project is administered by Virginia Tech Electric Service in coordination with Appalachian Power Company (APCo) and Appalachian Electric Power (AEP). Construction of two control buildings is complete and VTES is continuing electrical fit-out inside. New 69 kilovolt electrical lines have been checked and are satisfactory. APCo is continuing fit-out of additional 69 kilovolt metering points. Transformer procurement is underway, and delivery is anticipated between summer/fall 2017.
				AEP and VTES		
Multi-Modal Transit Facility	This is a Capital Lease Project administered by the Town of Blacksburg and funded by Federal Transportation Administration grants and a university match.	TBD	TBD	Wendel Associates Buffalo, NY	August, 2020	Sixty percent (60%) design documents have been completed by the Town of Blacksburg's (ToB) A/E and have been reviewed by the university. Ninety percent (90%) design documents are scheduled for delivery to the ToB for review in June 2017. Current schedule shows full design documents will be completed by December 2017 and bidding for construction is anticipated between January and March 2018. Construction is anticipated to begin in spring 2018. The project is being designed to LEED Platinum standards, providing a campus sustainability demonstration showcase.
				TBD		
O'Shaughnessy Hall Renovation	This project includes major renovation of a 72,000 gross square foot (GSF) student residence building into a living-learning community.	\$21,500,000	\$1,750,000	Moseley Architects Virginia Beach, VA	August 1, 2018	Ninety-five percent (95%) design documents have been completed and are under review. Construction is anticipated to begin in May 2017 with completion in August 2018.
				WM Jordan, Roanoke, VA		
Undergraduate Science Laboratories Renovations	This project will repurpose up to seven laboratory spaces in Derring Hall and up to three laboratories in Hahn Hall. These repurposed laboratories will expand space to meet growing demand for course sections in biology, chemistry, organic chemistry, physics, and microbiology.	\$600,000	\$600,000	Studio Twenty Seven Architecture Washington, DC	TBD	The university initiated programming and space analysis for the renovation of selected labs in Derring Hall and Hahn Hall. A/E procurement is complete and schematic designs are underway with submission to the university planned for March 2017. Programming/Schematic Design workshops have been completed and documents will be issued for review on March 20. Site utilities surveying is complete. A Schematic Design presentation will be scheduled for the end of March. Hazardous material sampling is complete.
				TBD		
CONSTRUCTION						
Athletic Facilities Improvements	This is an umbrella project for improvements to multiple athletics facilities, including Rector Field House, Baseball, Tennis, and Cassell Coliseum Bowman Room (Nutrition Center).	\$37,500,000	\$37,500,000	Rector: Cannon Design Baseball: Cannon Design Tennis: TKA Architects Nutrition: Hanbury	Rector and Baseball - Spring 2018, Tennis and Nutrition - TBD	Sub-projects as follows: <u>1) Rector Field House</u> - Includes building renovation and a new addition to provide for softball, throws area, support space, and entry improvements. Site utilities construction is in progress. Project completion is anticipated for spring 2018. <u>2) Baseball</u> - Includes building renovation and an addition to provide for improved baseball team and training facilities. Design-Build contract has been awarded and design is proceeding. Site construction and initial demolition is underway. <u>3) Tennis</u> - Includes building renovation and an addition to provide for improved tennis team and training facilities. The Feasibility Study to provide concept plans and cost estimate has been completed. Design/Build procurement has been initiated. <u>4) Nutrition Center</u> - Includes the potential renovation and/or new construction to provide improvements for athletic team training and nutrition program. A feasibility study to identify a site, and to provide concept plans and cost, has been completed. Project is on hold pending funding authorization.
				Rector: Branch Baseball: Whiting Turner Tennis: TBD Nutrition: TBD		
Biocomplexity Institute Data Center Expansion	This project includes the renovation of four rooms in the Biocomplexity Institute of Virginia Tech (BI) building into a high performance computing center.	\$5,900,000	\$5,900,000	TSS Columbia, MD	April 3, 2017	Construction is underway and is on track for completion in April 2017.
				Whiting-Turner Baltimore, MD		

Project Name	Project Description	Estimated Total Project Cost	Non-General Funds	Project Teams	Contract Completion Date	Project Status
Fire Alarm Systems and Access	This project provides for critical life safety improvements in several educational and general facilities on campus. Fire alarm systems will be installed or expanded in as many campus buildings as funding allows, including Architecture Annex, Food Science and Technology, Lane Hall, Litton Reaves Hall, Newman Library, Norris Hall, Patton Hall, Randolph Hall, War Memorial Hall, Wallace Annex, and Whittemore Hall.	\$4,900,000	\$0	Multiple A/E Firms	Summer 2017	Architecture Annex, Food Science Technology, Lane Hall, Wallace Annex, War Memorial Hall, and Whittemore Hall are complete. Patton Hall and Randolph Hall are in construction. Funding for Norris Hall and Litton Reaves Hall is under review by the Virginia Department of General Services.
				Multiple Contractors		
Renovate/Renew Academic Buildings	This project will renovate three existing campus buildings - Sandy Hall, Liberal Arts Building, and the original portion of Davidson Hall. Collectively, these renovations will increase the functionality of three underutilized building assets, address several deferred maintenance issues, and reduce critical space deficiencies. A small addition is planned for Sandy and Liberal Arts Buildings to provide for an elevator, ADA accommodations, and circulation space improvements.	\$35,029,000	\$0	Glavè & Holmes Associates Richmond, VA	Spring 2018	The construction contract has been awarded and the Notice To Proceed has been issued. Construction started on all three buildings in February 2017 with substantial completion for all three buildings scheduled for April/May 2018.
				Branch & Associates Roanoke, VA		
Residential Door Access Improvements	Project to retrofit and install wireless electronic door access locks on approximately 4,520 student room doors campus-wide.	\$7,735,000	\$7,735,000	Hokie Passport, CNS, and CBORD	Fall 2017	The last phase of electronic lock installations for this project is complete. The installation of 54 electronic key control boxes is also complete. The dispersal of the new aptiQ cards for the buildings where locks were installed during the spring 2017 semester is underway. Those buildings are: Pritchard, AJ, Newman, and Main Eggleston. Programming efforts within Hokie Passport are on schedule to implement the full programming of the system by summer 2017.
Unified Communications and Network Renewal Project	This project replaces outdated equipment and upgrades campus communications systems, providing infrastructure and equipment enhancements over a five year period. The project scope includes upgrades to the Internet Protocol (IP) Network, the cable plant, and equipment rooms in buildings throughout campus.	\$16,508,000	\$16,508,000	Multiple A/E Firms	December 2017	The data center team is building private cloud reference architectures to validate design assumptions, test automation and orchestration capabilities, and finalize hardware and software requirements for the data center network upgrade. The framework for the private cloud architecture will be determined and the team will start procurement planning by the end of April 2017. The cabling and network upgrade projects are substantially complete as crews focus efforts to complete work in Litton-Reaves Hall.
				Various Contractors		
Upper Quad Residential Facilities	This project provides for the demolition and construction of replacements for Brodie and Rasche residence halls to serve the Corps of Cadets. The new residence halls totaling approximately 210,000 gross square feet (GSF) will provide over 1,000 beds in double and triple rooms sharing hall community bathrooms. These new residence halls will be constructed at the approximate location of the original Rasche Hall and Brodie Hall. Both buildings will provide double and triple occupancy rooms that meet the residence and in-room storage space needs of the cadets. Both new residence halls will provide dedicated meeting, community, and group spaces, specifically designed to meet Corps program and organization needs. Thomas Hall and Monteith Hall will also be demolished as part of this project.	\$91,000,000	\$91,000,000	Clark Nexsen Charlotte, NC	Pearson - August 8, 2015 Second Residence Hall - April 2017	Construction of Pearson Hall (Rasche Hall replacement) is complete. Substantial completion for the second residence hall is anticipated in April 2017. Furniture, fixtures, and equipment (FFE) are scheduled to begin delivery and installation in April 2017. Thomas and Monteith Halls are scheduled for demolition in summer 2017 pending final approval by the Virginia Department of Historical Resources of an intensive level survey for mitigation of historical significance of the buildings.
				Barton Malow Company - Charlottesville, VA		

Existing
Proposed

\$50 M
Intelligent Infrastructure and Construction Complex
College of Architecture and Urban Studies
College of Engineering

BLACKSBURG

\$ 2.05 M
Autonomy Study Corridor
Architecture Research & Demonstration Facility
Structural Engineering Laboratory

\$10 M
Smart Design and Construction Park at Plantation Road

NORTHERN VIRGINIA

Virginia Connected Corridors
Cyber Security Labs
Smart Energy Labs

\$2 M Intern Hub
Urban Smart Track \$3.5 M

VTI Complex and Smart Road

\$10 M Rural Smart Track
Lipsey Farm Purchase \$0.9 M

Virginia Tech
Capital Project for Planning the
Intelligent Infrastructure
And Human-Centered
Communities Destination Area
April 2017