

# Campus Master Plan 2020

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Appalachian State University







## Letter from the Chancellor

Dear Friends:

Appalachian State University has completed the development of its Campus Master Plan 2020. After more than one year of discussion and planning involving hundreds of individuals from the University, Town of Boone and Watauga County communities, I am delighted to share this forward looking blueprint with you.

The plan represents a comprehensive document that presents new ideas and facilities to support the University's Strategic Plan 2008-2012 approved the Board of Trustees in September 2008. The campus master plan supports new and ongoing academic and student life initiatives while remaining steadfast in maintaining and adding to the beauty of our campus. While it includes recommendations for additional academic and student residential space, it also deals with problems of access and transportation management. The plan addresses opportunities for accommodating growth while remaining sensitive to the needs of our community. Our commitment to being a leader in environmental sustainability is also emphasized as a goal in future projects.

Implementing the campus master plan will require continued input from the campus and local community and will also necessitate additional financial resources and support. This thorough but flexible road map provides a workable guide for how our University will effectively serve its students, faculty, staff and community in the years to come.

Sincerely yours,

Kenneth E. Peacock  
Chancellor



# Acknowledgements

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# Contents

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## 1 *Introduction*

Desire to Educate . . . . .	1
Growing Into a University . . . . .	1
National Recognition . . . . .	1
Quality and Diversity. . . . .	1
ASU Strategic Plan 2008-2012 . . . . .	2
Statement of Vision. . . . .	2
Statement of Mission . . . . .	2
Statement of Essential Character . . . . .	2
Statement of Core Values. . . . .	2
Statement of Core Assets. . . . .	2
Planning Process . . . . .	3
Observation Phase. . . . .	3
Conceptual Phase . . . . .	4
Precinct Studies . . . . .	4
Design Standards . . . . .	5
Campus Master Plan Phase . . . . .	5

---

## 2 *Analysis*

Context. . . . .	7
Aerial . . . . .	8
Slope Analysis. . . . .	9
University Zones. . . . .	10
Building Analysis . . . . .	11
Parking. . . . .	12
Multi-modal Access and Circulation . . . . .	13
Street Design . . . . .	14
Ride-sharing . . . . .	15
AppalCART Transit Services . . . . .	15

---

### **3 Campus Master Plan Update**

Guiding Principles . . . . .	18-19
Master Plan Recommendations . . . . .	20
Circulation . . . . .	20-21
Parking Added . . . . .	22-23
Open Space . . . . .	24
Natural Amenities . . . . .	25
New Academic Buildings . . . . .	26
New Residential Buildings . . . . .	27
New Support Buildings . . . . .	28
New Research Buildings . . . . .	29
Campus Master Plan 2020 . . . . .	30-31
East Campus . . . . .	32-33
West Campus . . . . .	34-35
Additional Master Plan Recommendations . . . . .	36
Sustainable Design Recommendations . . . . .	37

---

### **4 Design Guideline Update**

General Considerations . . . . .	39
Parking and Transportation . . . . .	30
Utilities and Infrastructure . . . . .	41
Landscaping . . . . .	42
Service Enclosures/Screening . . . . .	43
Shelters . . . . .	43
Statuary/Sculpture . . . . .	43
Furnishings . . . . .	44

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### **Appendix**

Reference Maps . . . . .	46-55
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[www.masterplan2020.appstate.edu](http://www.masterplan2020.appstate.edu)

*Like any organization that wishes to remain both viable and vibrant, Appalachian State University must plan ahead for its future. A strategic plan was recently approved by the Board of Trustees, which provides a blueprint for the directions that the faculty, staff, administration and Board of Trustees wish Appalachian to pursue. Now, the infrastructure of the campus must be enhanced to meet the goals and objectives laid out in the strategic plan. To make this happen, ASU is updating its master plan. The updated master plan will be published in 2010. It will be in place until 2020--hence, our designation: Master Plan 20/20, which also implies clear sight toward the future. (However, revisions prior to 2020 are possible, depending on the circumstances.)*

*There are important questions that must be answered: Will there be enough parking spaces to meet future needs? Where might additional parking spaces be located? Are there enough AppalCART routes? With the number of students increasing as mandated by the University of North Carolina, and with an increasing number of current students wishing to live on or near campus, how and in what ways will housing be provided in the future? How will more square footage for academic programs be provided, and how might more efficient use of existing buildings be accomplished?*

*Thank you for your support in this process.*



# 1 Introduction

## Desire to Educate

When Blanford B. Dougherty and his brother Dauphin D. Dougherty founded Watauga Academy in 1899 with just 53 students enrolled in three grades, they were motivated by a driving desire to educate teachers for the mountains of northwestern North Carolina.

In 1929, the school became a four-year, degree-granting institution named Appalachian State Teachers College. More than 1,300 students were enrolled in the bachelor of science degree programs for primary grades education, physical education, math, english, science, and history.

Appalachian attained national standards by becoming accredited by the American Association for Teacher Education in 1939, and the Southern Association of Colleges and Schools in 1942.

## Growing Into a University

Between 1955 and 1969, with Dr. William H. Plemmons as president, Appalachian was transformed from a single-purpose teachers college into a multipurpose regional university.

Appalachian State Teachers College became Appalachian State University in 1967. Appalachian experienced a doubling of enrollment during the 1970s to about 9,500.

## National Recognition

Dr. Herbert Wey succeeded Dr. Plemmons in 1969, first as president and then in 1971 as chancellor. Dr. Wey introduced innovations that won Appalachian its first national recognition as an institution of change. He started the student teacher program, College of Business, which reduced the number of required courses so that students could experiment with more elective courses. Watauga College was born, and the bachelor of arts degree was added.

## Quality And Diversity

Dr. John E. Thomas, the next chancellor, was an engineer, a lawyer, and a manager. Committed to a master plan of controlled growth to a maximum resident enrollment of 10,000 students, Chancellor Thomas focused on recruiting a first-rate faculty. Cultural life on campus broadened, marked

by well-known, dynamic performers, concerts, theatre, recitals, and speakers. He supported international studies and education, and during this time, exchange programs were set up with campuses in countries including China, Germany, and Costa Rica.

The results of these progressive changes have garnered regular recognition of Appalachian in national publications, such as U.S. News & World Report, as one of the outstanding comprehensive universities in the Southeast and nation.

Dr. Francis T. Borkowski succeeded Dr. Thomas in 1993. In addition to emphasizing the goal of diversifying Appalachian's student body and faculty, he presided over the creation of ground-breaking partnerships with two-year colleges in the region and strengthened Appalachian's affiliations with other universities around the globe. During this period, Appalachian not only maintained its customary place on the list of outstanding comprehensive universities annually identified by such publications as US News & World Report, but also was named Time Magazine's College of the Year in 2001.

Dr. Kenneth E. Peacock became Appalachian State University's sixth chancellor in July 2004. During his tenure, Appalachian has experienced significant growth in several areas, and the quality of the university's academic programs has continued to advance, directing extensive national attention to Appalachian. The University has become a destination of choice among the State's brightest and best high school graduates. Appalachian ACCESS, a new University scholarship program offering North Carolina's low-income students living at or below the poverty level a four-year university education debt-free, was first awarded to members of freshman class in 2007. Under Chancellor Peacock's guidance, the Strategic Plan 2008-2012 was prepared to provide a planning document for the University to follow for a five-year period. Additionally, under Chancellor Peacock's leadership, more than \$195 million in capital improvements and new construction has been completed with another \$124 million worth of construction projects currently in progress. And in addition to being consistently recognized by U.S. News & World Report, during Chancellor Peacock's tenure Appalachian has been ranked in the top 30 of Kiplinger Personal Finance magazine's list of the top 100 values in public colleges and universities in the nation.



## ASU Strategic Plan 2008-2012

### Statement of Vision

Appalachian aspires to be a model 21st century, nationally-recognized university combining the best characteristics of liberal arts and research institutions by resourcefully blending teaching and scholarship. To achieve this objective, Appalachian is committed to attracting, educating, and graduating the best students as well as producing the highest levels of scholarship. Additionally, the university will provide excellent value; will be an influential world citizen; and will develop a distinctive identity built on the university's strengths, location, and tradition.

### Statement of Mission

Established in 1899 as Watauga Academy, Appalachian State University has evolved into a preeminent university located in a unique, rural mountain environment. As a member of the University of North Carolina, Appalachian's fundamental mission is to discover, create, transmit, and apply knowledge to address the needs of individuals and society. This mission is achieved by providing undergraduate students a rigorous liberal education that emphasizes transferable skills and preparation for professional careers; offering graduate students distinctively relevant programs and maintaining a faculty whose members serve as excellent teachers and scholarly mentors for their students and who produce high levels of scholarship and creative activities.

Appalachian recognizes that the success of the university depends upon the achievement and cooperation of a diverse community of students, faculty, and staff and strives to implement policies and allocate resources accordingly. We accept our responsibility to be actively involved in addressing the educational, economic, cultural, and societal needs of the changing region, state, nation, and world. As a publicly-funded institution, Appalachian is committed to accomplishing its initiatives through efficient and effective resource utilization.

### Statement of Essential Character

We are a unique institution with a combination of large enrollment, rural location, and high quality. In many ways we combine the best of a small liberal arts college (e.g., close relationships among staff, faculty, and students) and a large research university (e.g., breadth of programming and scholarship). Our public identity emphasizes our strong undergraduate curriculum in both liberal arts and professional programs.

### Statement of Core Values

We believe the success of the university depends upon personal achievement, and we maintain as our top priority appropriate policies and resource allocation strategies to promote student, faculty, and staff development.

We support a culture that promotes diversity, shared responsibility, and mutual respect.

We embrace shared governance.

We emphasize open communication and transparent decision processes.

We have genuine respect for the natural environment and a commitment to principles of sustainability.

### Statement of Core Assets

We have dedicated, active, and innovative faculty, staff, students, and administrators.

We have a location in an aesthetically pleasing, culturally and recreationally rich mountain environment and a campus that attracts faculty, staff, and students seeking a high quality of life.

We have expertise and programs capable of providing economic, educational, healthcare, and cultural leadership through partnerships with regional and state organizations.

We have loyal and supportive alumni and retired faculty and staff.

We have a state legislature that historically has valued and supported higher education.

We have a history of providing a student-centered university experience, preparing students to be effective, responsible citizens, and providing high-quality instruction at relatively low cost.

## Planning Process

The forum for the ASU Campus Master Plan 2020 update was based on a series of intensive workshops conducted on the campus. During each workshop, the design team engaged members of the campus and community in dialogue, fact-finding, and decision making. In addition, members of the team participated in sessions for the Town of Boone Land Use Plan project, which paralleled this process.

Each workshop included interview sessions, walking tours and concept development. A portion of the analysis and bulk of the conceptual plan development occurred during these all-day work sessions.

Following the workshops, the design team continued to develop concepts and prepared documentation for each phase. This approach allowed the master plan to be more cohesive in concept and much more efficient in execution.

The overall schedule for this planning process took approximately six months. The scope of services was defined as “a project approach to develop a physical updated Master Plan that effectively embodies the campus community’s mission by integrating five distinct phases of work through on-site workshops”. The five phases include:

1. Observations
2. Conceptual Plan
3. Precinct Studies
4. Design Standards
5. Master Planning

The process can be compared to simultaneously using a telescope and a microscope; to think globally in order to act locally. It should be understood that the success of this plan was determined by the execution of specific details on the scale of a precinct, building, or walkway.

## Observation Phase

The Observations Phase included the accumulation and analysis of quantitative and qualitative data necessary to generate a realistic portrait of the design challenge. The team relied upon existing data, studies, visual assessment, interviews and separate on-going planning and design efforts.

With the assistance of the University, existing information pertaining to the following conditions was gathered, analyzed and documented in the form of meeting reports, diagrams and presentations:

1. Analysis of Programs:
  - Strategic Initiatives
  - Existing Master Plan
  - Projected Growth Studies
2. Analysis of Precedent:
  - Historic Development
  - Successful Regional Communities
  - Industry Standards and Models
3. Analysis of Place - Natural and Man Made Systems:
  - History
  - Building Use and Character
  - Landscape and Vegetation
  - Centers and Edges
  - Surface Hydrology
  - Geology and Landform
  - Utilities
  - Codes and Regulations
  - Contextual Influences (global, regional & site)
  - Access Points and Circulation
4. Analysis of Transportation
  - Walk-ability Audit
  - Parking Utilization and Needs
  - Connectivity
  - Transit Analysis and Needs
  - Pedestrian and Bike Connectivity
  - Transportation Strategies





*Preliminary Master Plan Concept Generated During Workshop*

## Conceptual Phase

To initiate the Conceptual Phase, planning participants generated a set of Guiding Principles stating the philosophical positions of the campus community. These principles, together with the information accumulated during the observations phase, informed the content and composition of the conceptual plan.

With a broad-brush approach, like a “sketch before a painting,” the plan illustrated the structure, layout and relationships of:

- Planned Open Space
- Circulation Systems
- Buildings
- Focal Points

The Conceptual Campus Master Plan was used to describe development ideas, obtain input, and build consensus from stakeholders. Proposed and existing buildings and grounds are illustrated and differentiated from one another.

## Precinct Studies

The Precinct Studies explored discrete areas of the campus at a greater level of detail in order for the project team to test technical feasibility and refine information generated in the Conceptual Plan Phase. These elements include:

- Building Setbacks
- Massing
- Civil Engineering Issues
- Pedestrian Circulation
- Vehicular Circulation Systems
- Service Points
- Treatment of Open Space and Entrances
- General Code Compliance
- Landscape Composition

## Design Standards

Concurrent with the Precinct Studies was the development of Design Standards for streetscape and architecture in order to support, through a codified system, architecturally unified precincts and campus-wide planning proposals. The information generated is integrated to inform decisions in the precinct plans. The final standards document serves as a flexible reference for the evaluation of existing and future implementation projects and includes the following elements:

1. Precinct Design Guidelines are provided to describe height and massing of buildings, street and open space proportions and the defining characteristics of each. Relationships of buildings, streets and open spaces to each other and to the overall plan are articulated.
2. Campus Architectural Guidelines define architectural features, styles and vocabulary of new buildings. The proportion of building fenestration, treatment of openings, organizational elements, and appropriate architectural materials were evaluated.
3. Streetscape Guidelines establish and describe the landscape architectural treatment of specific types of streets, public space, parks and woodland environments. Standards for treatment of pavement, lighting, walls plantings, furnishings, signage, and other elements that identify special spaces were created.

## Campus Master Plan Phase

The final Master Plan consists of documents and presentations that aggregate the information prepared in previous project phases. This often takes the form of a plan view drawing showing existing and proposed buildings and open space and illustrative before and after perspective views. Also included is an implementation plan, recommending how this plan can be incrementally achieved over time.





# 2 Analysis



*2.1 Context Map*

## Context

Appalachian State University, located in Boone, NC is comprised of approximately 1,258 acres of land in various locations through out Watauga County. In addition, the university maintains 124 acres at the Dark Sky Observatory in Wilkes County. There are currently two out-of-state properties which include the Appalachian Loft in New York, NY and the Appalachian House in Washington, DC.

## Aerial

Diagram 2.2 represents a 3-dimensional topographical model and current boundary outline of the main campus and downtown area. This information graphically represents a snapshot of the extreme topography and defines the limited availability of buildable area.

2.2 Aerial

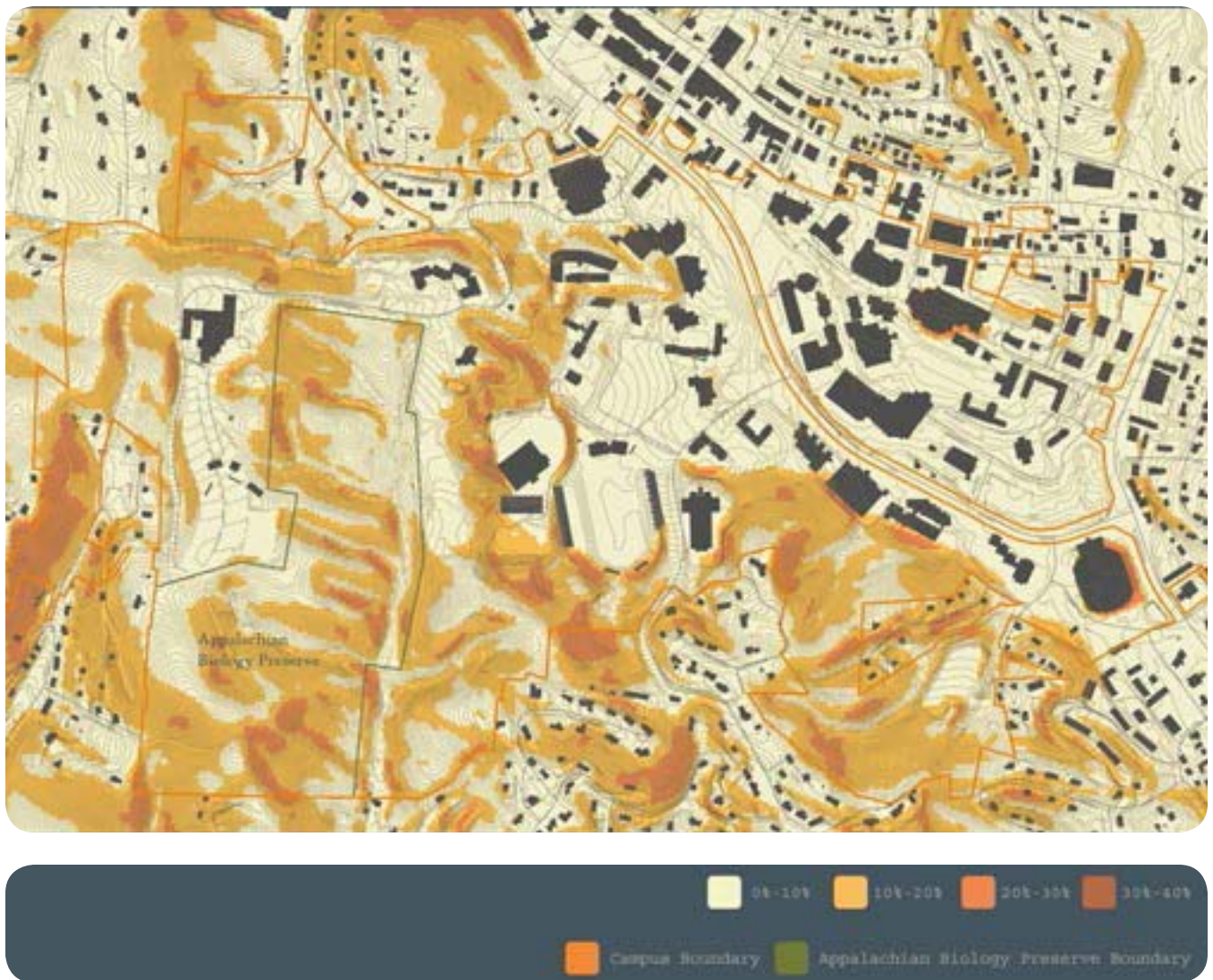




## Slope Analysis

Diagram 2.3 Slope Analysis was provided to define in detail the existing slope conditions in relationship to the figure ground of the main campus. This evaluation graphically communicates potential buildable areas by identifying land area with a slope of 0%-10%. Shaded areas denote slopes from 10% up to 40%.

2.3 Slope Analysis



## University Zones

Diagram 2.4 represents an evaluation of the proximity of the various building types on campus and highlights key pedestrian crossings. The graphically defined zones include: Residential, Administrative, Academic, and Athletic.

2.4 University Zones



## Building Status

Diagram 2.5 demonstrates the existing building conditions on the main campus. Potential buildings to be demolished include a total of 334,208 gross square feet.

Mountaineer Apartments	75,000 gsf
Duncan Hall	81,887 gsf
L. S. Dougherty	20,538 gsf
Lucy Brock Nursery	3,051 gsf
Coffey Hall	24,760 gsf
Home Management	4,437 gsf
East Hall	78,828 gsf
I.G. Greer	45,707 gsf

2.5 Building Status



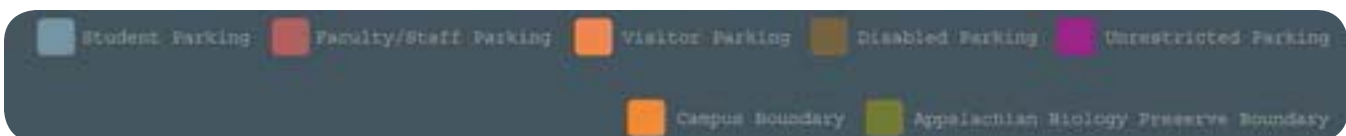
## Parking

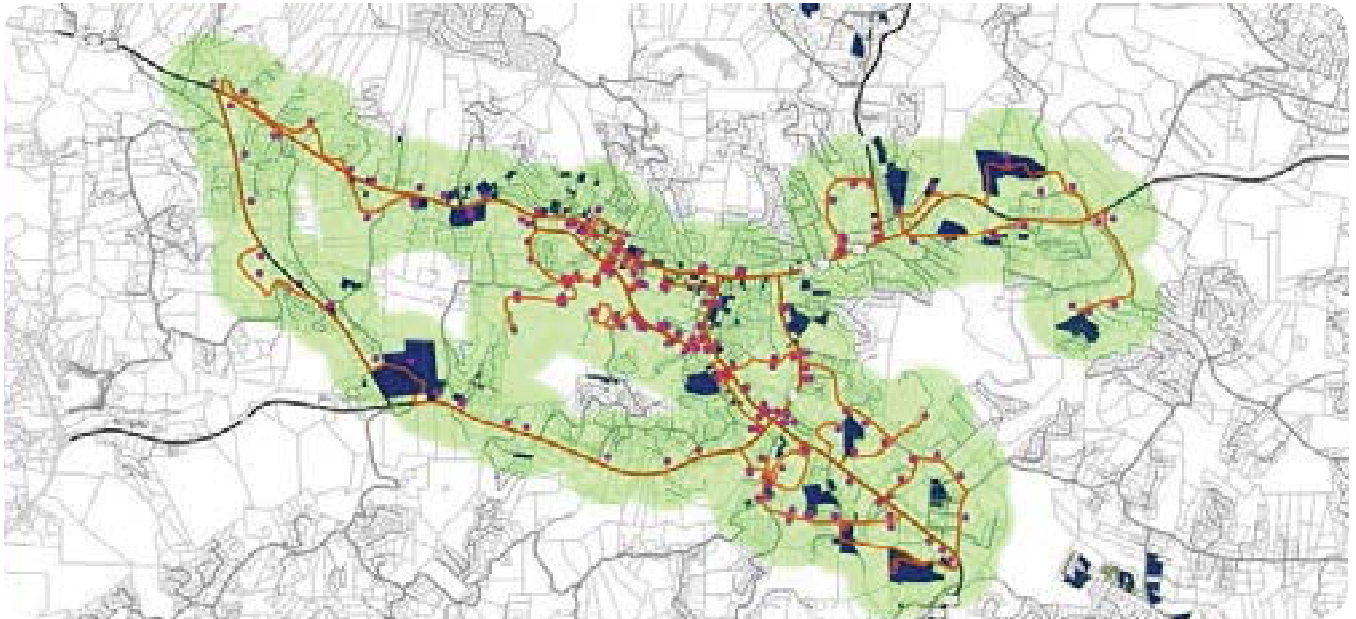
The availability, convenience, and cost of parking can have a significant impact on travel behavior and mode choice. Providing the right amount and location of well-designed on-street and off-street parking is a goal for the campus. Based on the projected student head count for 2018, the anticipated number of parking spaces required = 790 spaces.

Design Considerations:

- Explore parking management strategies that reduce the ratio of cars per students living on campus, expanding the Town of Boone bicycle network, promote ridesharing, and continue expansion of transit services.
- Consider new parking facilities at the periphery of campus to intercept vehicles before they penetrate the campus core. This will reduce the intrusion of vehicles into campus resulting in a more walkable, pedestrian-oriented campus.
- Consider certain surface parking lots with intercept parking garage facilities to free up the land for other uses. Surface lots can be redeveloped for campus buildings and reduce the visual impact of vehicles on the campus.
- Explore creating a “park once” environment by developing intercept parking garages at the perimeter of campus to capture vehicle traffic at edge of the campus and create a walkable campus core.

### 2.7 Parking





2.8 Transit Circulation

## Multimodal Access and Circulation

The layout and configuration of the street system is a key component of the design guidelines. The placement of different street types at suitable locations can affect the amount of vehicular travel on each street, the comfort and safety of pedestrian and bicycle travel along and across the street, the success of abutting land uses, and the quality of campus life. Connectivity is an important consideration in planning a sustainable community. A connected grid network of streets provides easy connections between campus facilities, making them closer together and accessible by walking and bicycling. Multiple path choices for most trips disperse local traffic across the entire system and reduce the impact of vehicles on the campus environment.

### Design Considerations:

- Consider a campus street system that approximates a grid pattern. The primary characteristic of such a pattern is connectivity, where multiple routes are available for a given trip. Given, the topographic constraints of the campus, it is not necessary that every local street be a strict part of the grid. However, a large proportion of streets need to fulfill their function within the grid for connectivity benefits to be realized.
- Consider a design to narrow streets and encourage sharing of roadways by cars, bicycles and pedestrians. Most campus streets can be two lanes wide to facilitate pedestrian and bicycle crossings and minimizing the roadway impact on adjoining land uses.
- Explore the connection of streets in a manner that enables convenient transfers between transit services.
- Consider an approach to capture vehicular traffic destined to the campus at intercept parking garage locations at the perimeter of the campus. After parking their vehicle, the driver would be provided with convenient access to a grid of pedestrian friendly streets throughout the campus.
- Explore the design of main roads such as Rivers Street as flexible corridors that accommodate a mix of travel modes, including driving, walking, cycling, and AppalCART transit services. Main roads would be supported by a grid of minor campus streets.

## Street Design

Street design standards, particularly the right-of-way and lane width components of those standards, can influence many aspects of travel behavior that affect campus livability. Travel volumes and speeds can be influenced by the design of right-of-way width, lane width, turn radii, and structural components such as cross slope and material type.



*View of Hardin Street*



*View of Rivers Street*



*Intersection at Hardin and Rivers Street*



*View of Stadium Drive*

### Design Considerations:

- Consider integrating context sensitive design measures into campus street design, choosing tools such as textured surfaces, street curvature, narrowed lanes, roundabouts, on-street parking, raised crosswalks, or bulb-outs which can enhance the campus experience for pedestrians and cyclists.
- Explore utilizing sustainable street design methods that reduce the impervious area and introduce green paving technologies as possible.
- Consider development of Level of Service (LOS) standards to assess acceptable volumes of travel on roadways by transit, bicycles and pedestrians.







# 3

## Campus Master Plan Update



## Guiding Principles

The Guiding Principles for the 2020 Appalachian State University Campus Master Plan were created by the design team and the stakeholders group to define the parameters for future growth and development on campus. Each principle served as a “filter” for the decision-making throughout the process. The guidelines are listed as follows:



### 1. Preserving Our History

The University shall preserve and protect the history and traditions in the University’s culturally rich mountain environment through the use of civic art, historical markers, and University symbols for a more traditional campus environment that enhances the reputation of Appalachian State in the community, the state, and the nation.

### 2. Meeting Regional, State & National Needs

The University shall actively participate in national and international exchange of information and resources to: advance new knowledge; attract business, researchers and students; and, enrich the intellectual life of the campus and the region.



### 3. Model for Learning

The University shall embrace the latest technologies to enhance teaching spaces and encourage lifelong learning through enriching the university experience with culturally diverse campus hubs that integrate multiple housing options, a variety of open spaces for social learning, and flexible academic facilities to give this public institution an intimate feel.



### 4. Building Strong Town Relationship

The University shall engage the citizens of Boone and the region in the spirit of cooperation as learners, teachers, and partners to identify mutually beneficial opportunities; to address the physical and infrastructural needs of the community; and, to apply University resources for the benefit of both campus and community.

## 5. Defining Campus Perimeter

The University's campus planning efforts shall be linked to the Town of Boone's 2030 Master Land Use Plan and enhance the balance between the Town and the University with appropriate land use transitions and visual cues that define boundaries without restricting physical access.

## 6. Appropriate Land Utilization

The University shall efficiently utilize the capacity for growth within the University's existing boundaries by transforming under-utilized parcels into dense areas of sustainable buildings and open spaces that serve multiple functions including the aesthetic, social, and environmental benefits, but also growing responsibly in Boone and the region deemed appropriate by the University and the stakeholders.

## 7. Ecological Responsibility

The University shall emphasize the quality of the natural environment as a function of the institution to preserve natural habitat; improve storm water management practices; integrate native plant material; and, to allow new development to flow seamlessly with the natural landscape, enabling ecological research and learning opportunities.

## 8. "Green" is Evident

The University shall uphold a sustainable doctrine by the incorporation of new technologies for existing and future facilities by providing efficiencies in energy, economic, and environmental performance that are substantially better than conventional practice as a model for the region and state.

## 9. Pedestrian Priority

The University shall develop an efficient and safe transportation network that encourages walking, biking, and the use of transit throughout the campus and town. Automobiles will be intercepted at the periphery of campus in structured parking, creating a pedestrian-oriented central campus accessed by pedestrian and bicycle-friendly streets and pathways as well as integrated, high-frequency transit service.

## 10. Open Space Allocation

The University shall create regular intervals of open space as organizing elements with a network of interconnected tree-lined pedestrian malls, outdoor rooms, shaded gardens and activity hubs, punctuated with water features enabling student and faculty interaction for social learning and recreation.



## Master Plan Recommendations

The findings of the Analysis and Program Phases define the basis for the design of the Master Plan. A variety of site and program studies were evaluated throughout the design process following the workshop in October, 2008. The alternatives were reviewed by the Master Plan Advisory Committee through December 2008. A preliminary draft was presented to the Board of Trustees on September 24<sup>th</sup>, 2009.

The “Guiding Principles” served as a filter for the final plan. As a result, the following recommendations emerged:

### Circulation

#### 0-4 years

1. Install a landscape median and spot median with landscaping along Rivers Street between Bodenheimer Drive/Depot Street and Stadium Drive. The existing outer lanes should be configured for shared transit-bicycle ways. The median will provide a pedestrian refuge, and the textured crossing surfaces will articulate the crossing location.
2. Construct a gateway roundabout announcing the entry to the campus at Rivers Street and Hardin Street. This roundabout will allow for a section transition and announce to the motorist that they are entering a more pedestrian-friendly campus realm.



*Campus Circulation Diagram*

**5-9 years**

1. Construct a flush-traversable median between Hill Street and Stadium Drive. The flush median can be used as a reversible travel lane for football games or event ingress and egress. The existing outer lanes should be configured for on-street parking and bicycle lanes or become shared transit-bicycle ways. The median will provide a pedestrian refuge and textured crossing surfaces will articulate the crossing location.
2. Remove the section of Academy Street adjacent to I.G Greer and the Dougherty Administration Building to create a future building site. Improvements will be required along University Drive to address the new flow of traffic.

**10+ years**

1. Provided that there continues to be excess vehicular capacity on the existing four-lane section of Hardin Street, install improvements to the street section to include one travel lane in each direction, on-street parking, curb bump-outs, bike lanes, and a spot-flush median.
2. Construct a new connecting road to extend Brown Street from East Howard Street to King Street.

**Additional Considerations**

- Work together with the North Carolina Department of Transportation to encourage the development of alternative regional connections that reduce the role Rivers Street plays in moving local as well as regional traffic.



*East Campus Circulation Improvements*



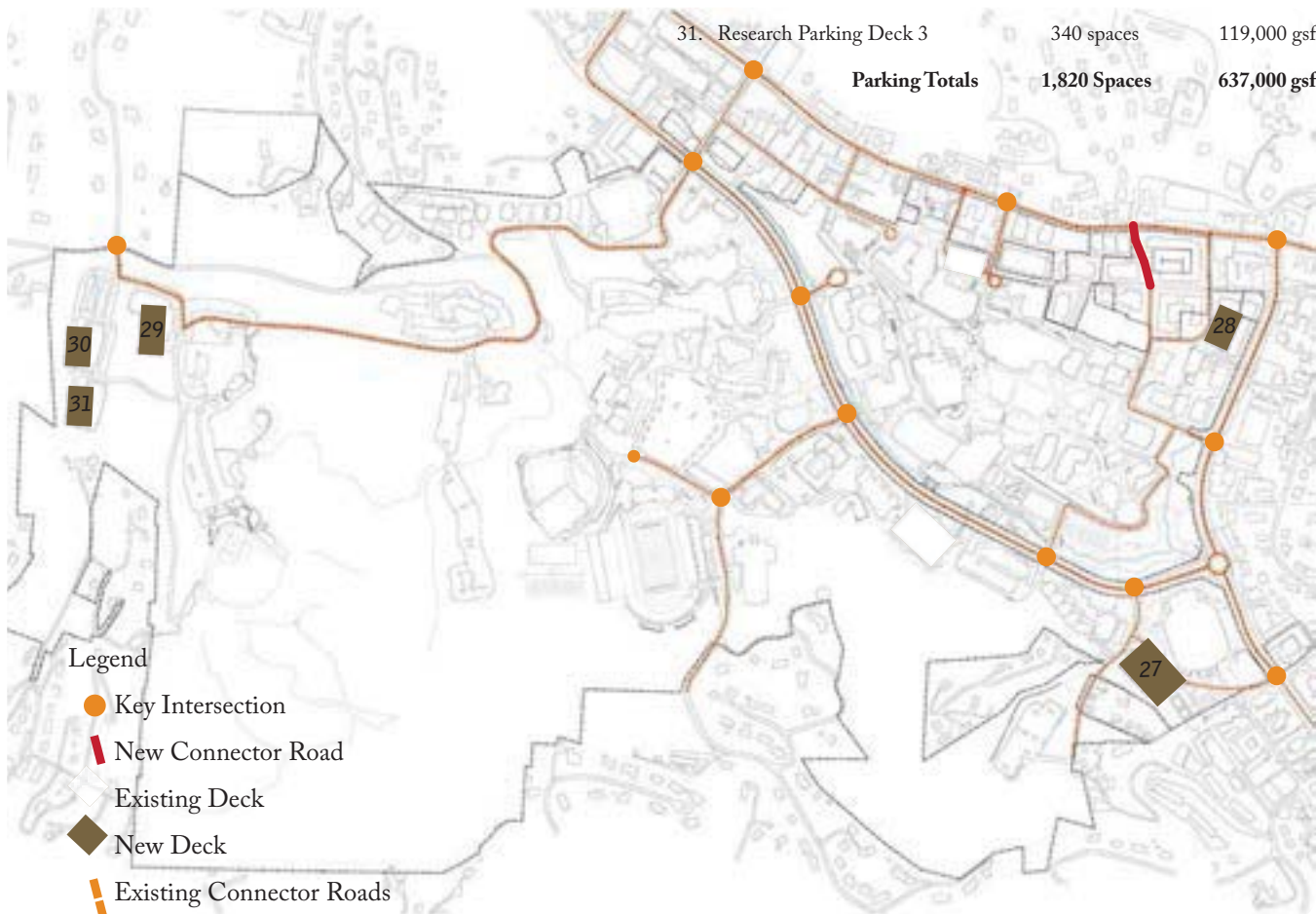
## Parking Added

### 0-4 years

1. Construct a 400 space intercept parking garage behind the Holmes Convocation Center.
2. Construct secure, weather-protected and convenient scooter, motorcycle, and bicycle parking structures.
3. Provide storage lockers in various buildings around campus for faculty, staff, students who bike from off-campus locations.
4. Provide long-term and weather protected bicycle parking for residential halls and main campus destinations. Locker rooms, bicycle hangers, and highly secure facilities can be provided at residential locations whereas some covered spaces and lockers can be provided for other major destinations such as the library or academic buildings where users are expected to be for durations of longer than two hours.
5. Construct new service road and parking area along existing cemetery for Cone Hall and the new Center for Student Leadership complex.

## New Transportation Buildings

27. Holmes Parking Garage	400 spaces	140,000 gsf
28. Legends Parking Garage	400 spaces	140,000 gsf
29. EEE Parking Deck	340 spaces	119,000 gsf
30. Research Parking Deck 2	340 spaces	119,000 gsf
31. Research Parking Deck 3	340 spaces	119,000 gsf
<b>Parking Totals</b>	<b>1,820 Spaces</b>	<b>637,000 gsf</b>



**5-9 years**

1. Construct a 400 space intercept parking garage at Legends along Hardin Street.
2. Re-configure Raley Lot to accommodate new transit drop-off and day-light Boone Creek.
3. Promote green vehicle choices by providing alternative fuel stations or hybrid plug-ins at premium parking locations.
4. Consider construction of a “Table Top” parking structure at the State Farm lot to increase the capacity of the remote parking facility.
5. Introduce on-street parking on Hardin Street and other roads to calm traffic and enhance the pedestrian experience as part of an overall road diet program.

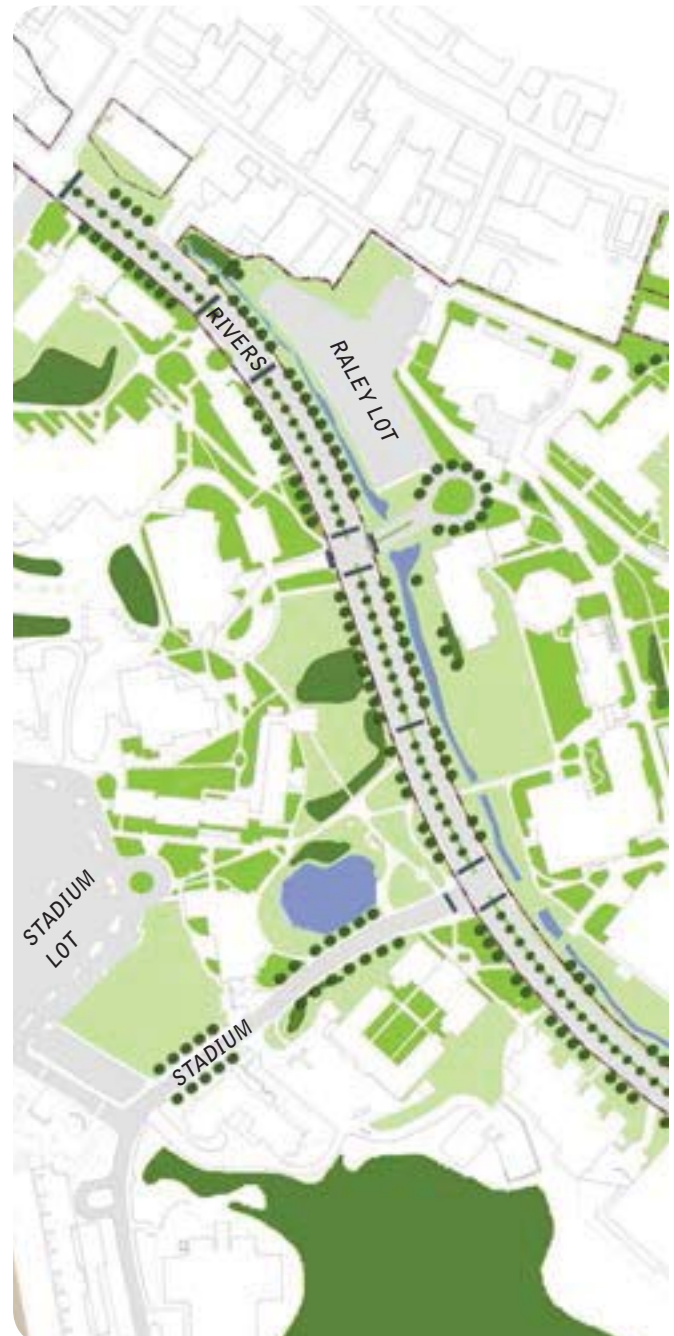
**10+ years**

1. Remove miscellaneous drive and parking areas behind Turchin Visual Arts Center and construct new drive, additional parking and pedestrian paths and open space.
2. Upon removal of East Hall, remove adjacent 29-space parking area and open up as green space.

**Additional Considerations**

- Investigate revenue-generating, shared-use parking facility at Howard Street and Hardin Street for campus and downtown and consider sharing costs with the Town of Boone.
- Promote green vehicle choices by providing more desirable parking spaces for users.
- Offer parking fee incentives for carpools and vanpools, biking, walking, and transit, such as paying a monthly transportation rebate for staff and faculty who don’t purchase a parking pass or who use a rideshare parking space. This can be coupled with a “guaranteed ride home” program for those who receive the rebate.
- Create a tiered parking fee program which charges a premium for centrally-located facilities and less for periphery garages and remote facilities.
- Sell daily, monthly, and annual parking spaces to faculty, staff, students, and the public on a first-come, first-serve basis, with preference for monthly and daily users and higher rates for monthly and annual parkers to reduce the “sunk cost” effect of parking fees.

- Expand current policy of remote freshmen parking to other groups of students (sophomores and potentially juniors) who reside in on-campus housing facilities.
- Disaggregate parking and residential uses by opening residential parking areas to all campus users and allowing cheaper residential rates to residents who don’t purchase a parking permit.
- Promote sharing of parking facilities among compatible uses, such as educational facilities on weekdays and football patrons on weekends.



*Stadium Drive and Raley Lot Improvements*

## Open Space

The Master Plan recommends that the University continue to enhance the natural beauty of the campus by creating additional open space while investing and maintaining the areas that exist on campus today. The primary open space areas on campus include:

- A. Durham Park
- B. Sanford Mall
- C. Chapel Wilson
- D. Tomlinson Park
- E. Duck Pond Field
- F. Research Institute



*Sanford Mall*

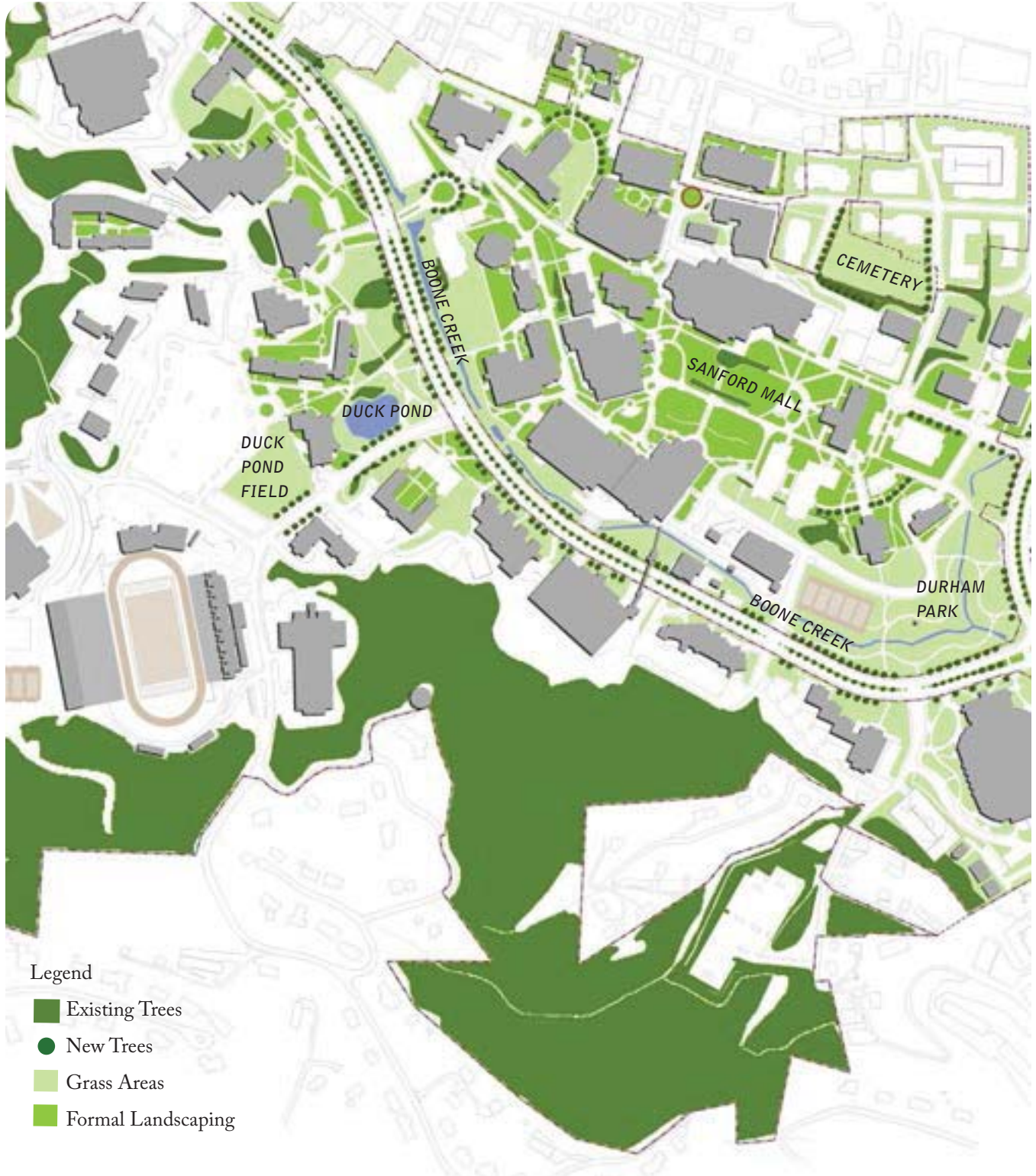


*Campus Open Space & Formal Landscaping Master Plan*



## Natural Amenities

Improvements to the natural amenities of the main campus will include daylighting Boone Creek along Rivers Street from Depot Street past Stadium Drive.



## New Academic Buildings

1. Center for Student Leadership and Excellence	16,000 gsf
2. Arts & Science Building	150,000 gsf
3. Broyhill Music Center Expansion	40,000 gsf
4. Kerr Scott Hall Expansion	16,000 gsf
5. Wey Hall Expansion	16,000 gsf
6. Walker Hall Expansion	16,000 gsf
7. Dance and Performing Arts Studio	25,000 gsf
8. Academic Building 1	100,000 gsf
9. Raley Hall Expansion	26,000 gsf
10. Academic Building 2 (Lucy Brock Day Care)	100,000 gsf
11. Academic Building 3	100,000 gsf
<b>Academic Total</b>	<b>605,000 gsf</b>



*Walker Hall*



*New Academic Buildings Master Plan*



*Living Learning Center*

## New Residential Buildings

12.	Living Learning Community (includes Academic space)	300 beds	125,000 gsf
13.	Center for Student Leadership	500 beds	175,000 gsf
14.	Justice Hall Addition	60 beds	21,000 gsf
15.	Mountaineer Hall	440 beds	100,000 gsf
16.	Student Residence Hall 1	115 beds	40,000 gsf
17.	Student Residence Hall 2 (includes dining facility)	170 beds	75,000 gsf
18.	Student Residence Hall 3	170 beds	60,000 gsf
<b>Residential Totals</b>		<b>1,755 beds</b>	<b>596,000 gsf</b>

## New Mixed-Use Buildings

M Private Mixed-Use Development



*New Residential Buildings Master Plan*

## New Support Buildings

19. Student Union Expansion	60,000 gsf
20. General Support Building	Renovation
21. Administration Building 1	60,000 gsf
22. Legends Entertainment Complex	100,000 gsf
<b>Support Total</b>	<b>220,000 gsf</b>

## New Mixed-Use Buildings

M Private Mixed-Use Development



*Plemmons Student Union*



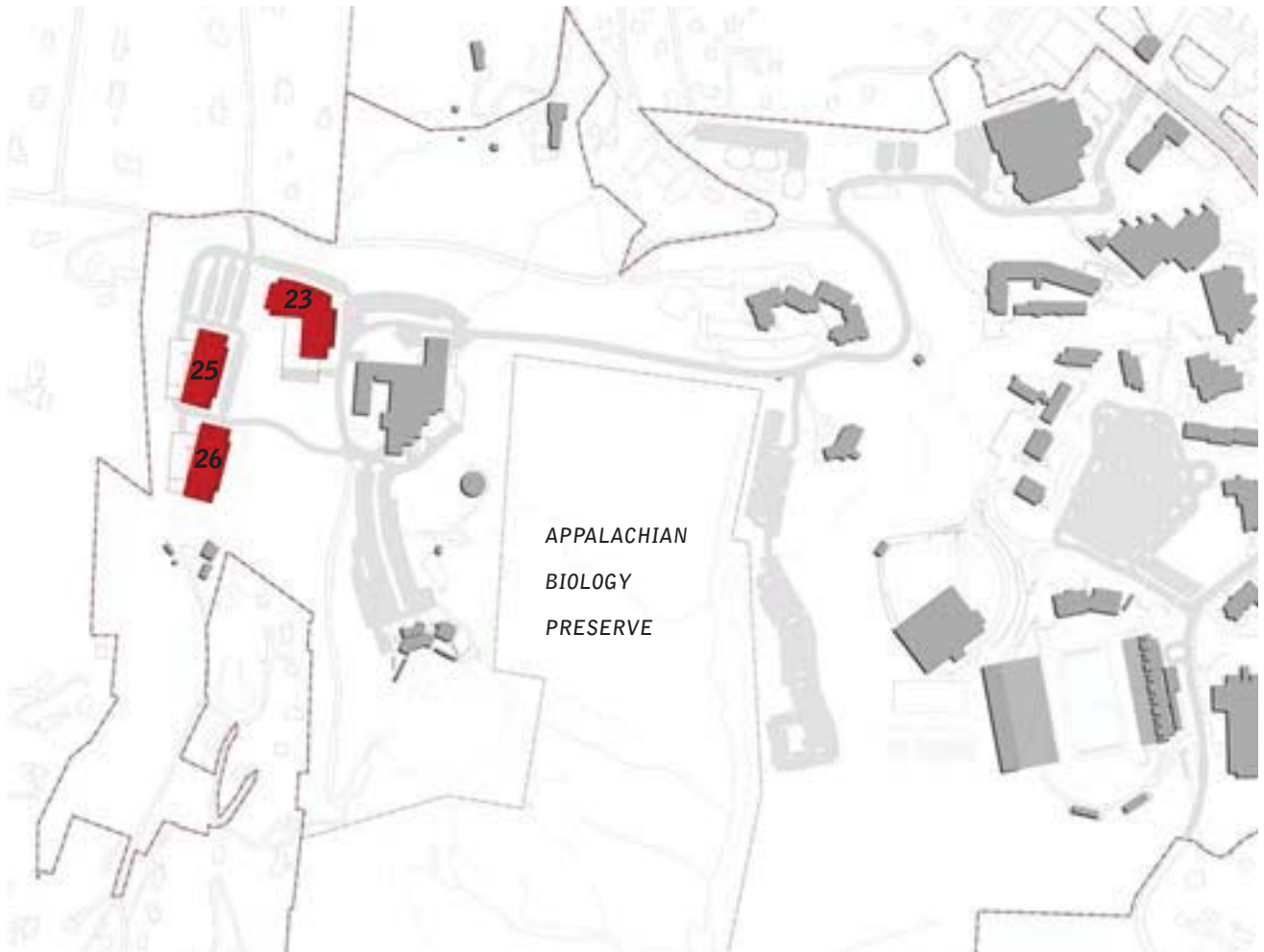
*New Support Buildings Master Plan*

## New Research Buildings

23.	Research Institute for Energy, Economics & Environment	100,000 gsf
25.	Research Building 1	100,000 gsf
26.	Research Building 2	100,000 gsf
<b>Research Total</b>		<b>300,000 gsf</b>

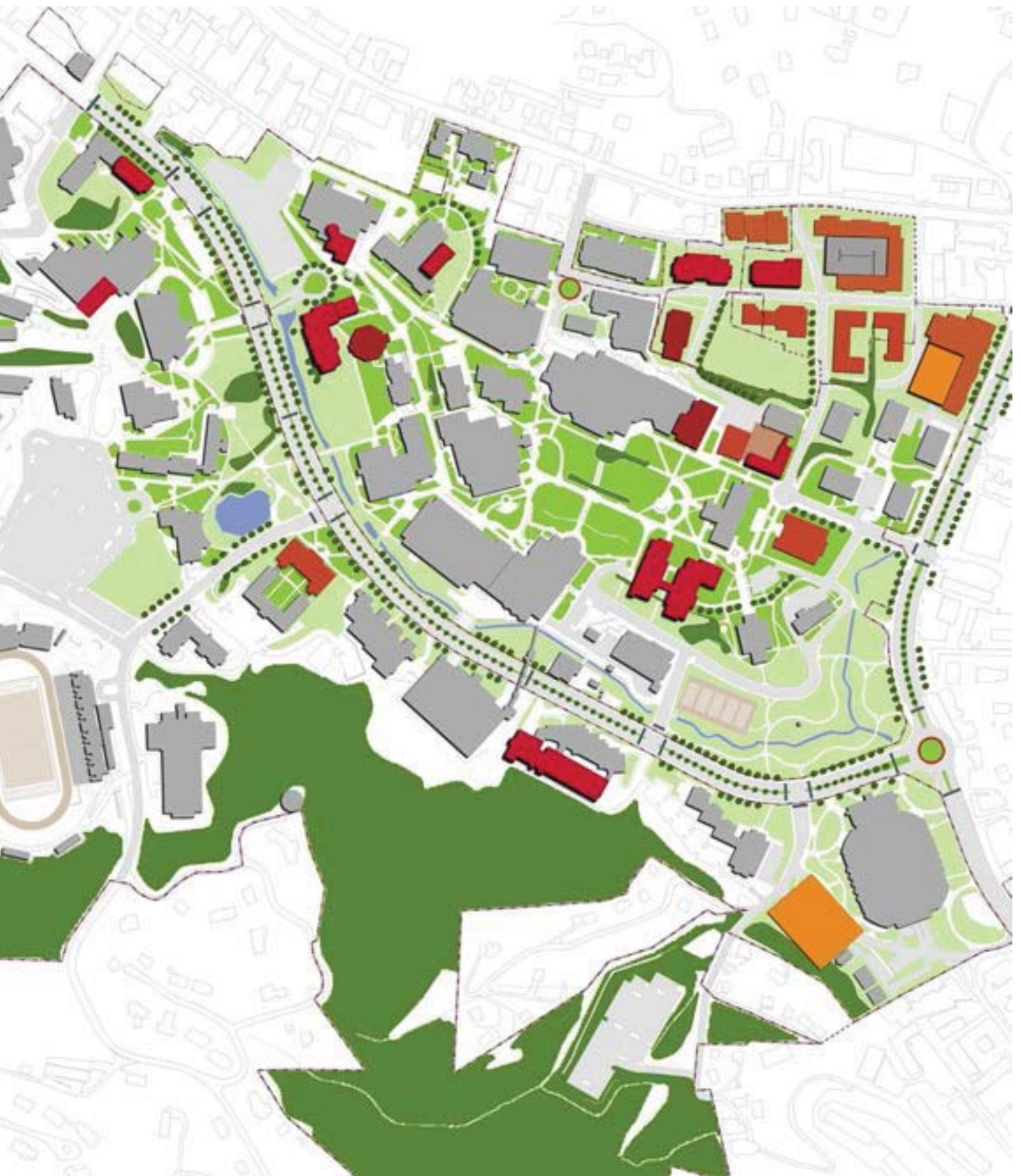


*Smith-Wright Building*



*New Research Buildings Master Plan*





## East Campus Summary

### New Buildings

1.	Center for Student Leadership and Excellence	16,000 gsf
2.	Arts & Science Building	150,000 gsf
6.	Dance and Performing Arts Studio	25,000 gsf
7.	Academic Building 1	100,000 gsf
8.	Raley Expansion	26,000 gsf
9.	Academic Building 2 (Lucy Brock)	100,000 gsf
10.	Academic Building 3	100,000 gsf
11.	Living Learning Community	125,000 gsf
12.	Center for Student Leadership Residence Hall	175,000 gsf
13.	Justice Hall Addition	21,000 gsf
16.	Student Residence Hall 1	40,000 gsf
17.	Student Residence Hall 2	60,000 gsf
18.	Student Residence Hall 3	60,000 gsf
19.	Student Union Expansion	60,000 gsf
20.	General Support Building	Renovation
21.	Administration Building 1	60,000 gsf
22.	Legends Entertainment Complex	75,000 gsf
	<b>East Campus Buildings Total</b>	<b>1,193,000 gsf</b>

### M. Private Mixed-Use Development

### New Parking Decks

28.	Legends Parking Deck (400 spaces)	140,000 gsf
	<b>East Campus Deck Total</b>	<b>140,000 gsf</b>

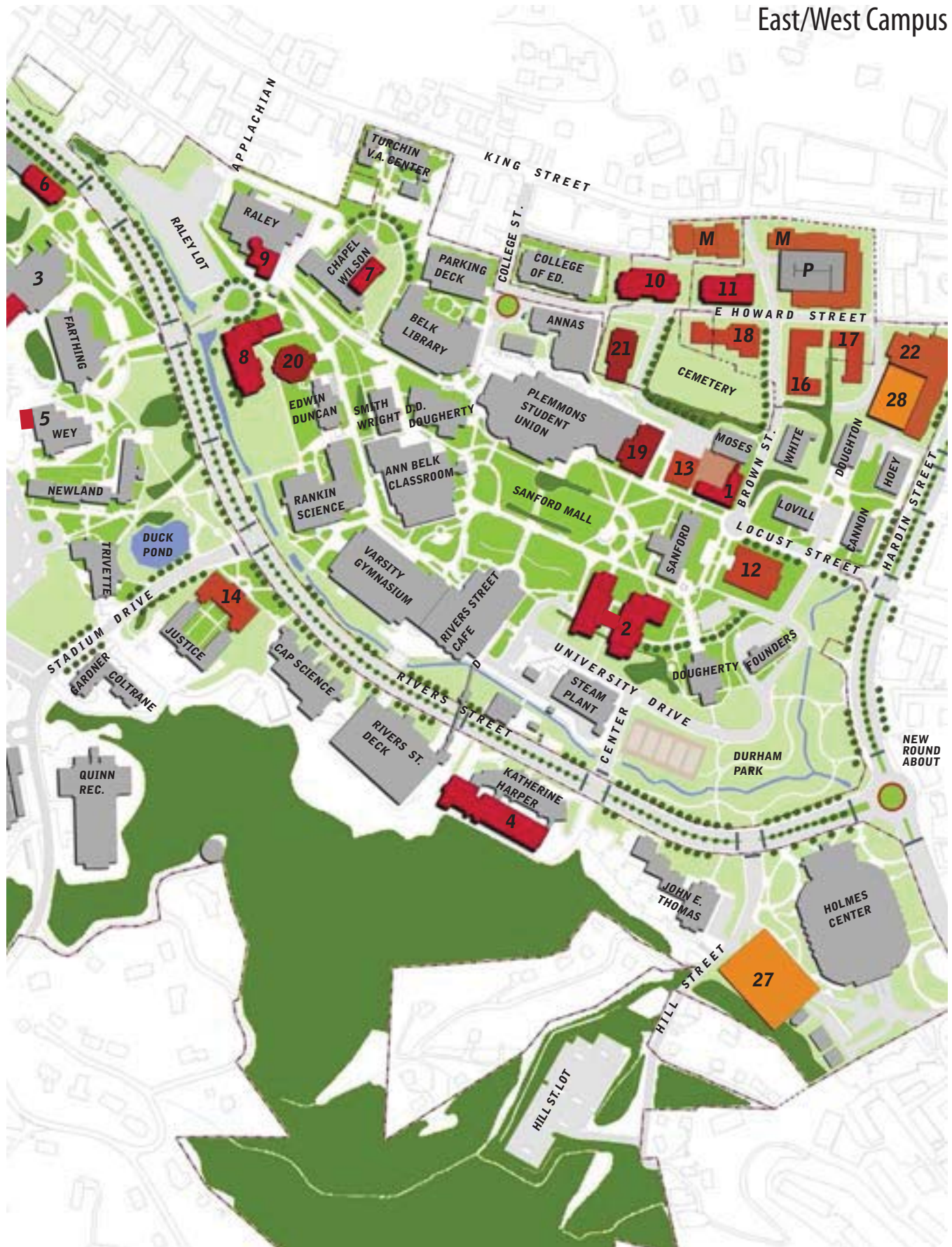
### P. Shared-Use Private Parking Deck



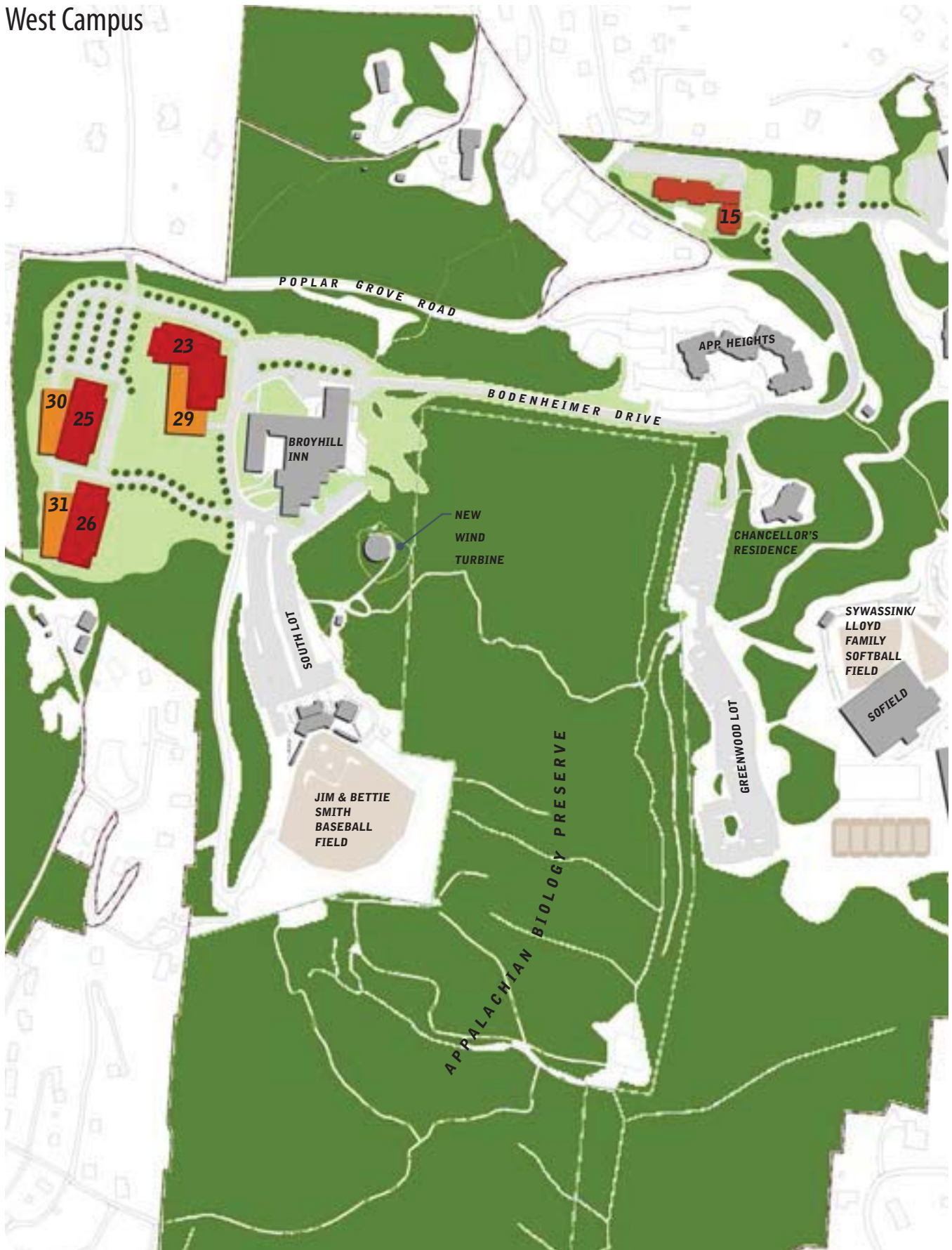
Sanford Hall



# East/West Campus



# West Campus



## West Campus Summary

### New Buildings

3.	Broyhill Music Center Expansion	40,000 gsf
4.	Wey Hall Expansion	16,000 gsf
5.	Walker Hall Expansion	16,000 gsf
15.	Mountaineer Hall	140,000 gsf
23.	Research Institute for Energy, Economics & Environment	100,000 gsf
24.	Not Used	
25.	Research Building 2	100,000 gsf
26.	Research Building 3	100,000 gsf
	<b>West Campus Buildings Total</b>	<b>512,000 gsf</b>

### New Parking Decks

27.	Holmes Center Parking Deck (400 spaces)	140,000 gsf
29.	EEE Parking Deck (340 spaces)	119,000 gsf
30.	Research Building 1 Parking Deck (340 spaces)	119,000 gsf
31.	Research Building 2 Parking Deck (340 spaces)	119,000 gsf
	<b>West Campus Deck Total</b>	<b>497,000 gsf</b>



Chancellor's Residence

## Additional Master Plan Recommendations

Through the course of the Master Planning process, the design team collected and documented a long list of key policy-related issues. Each of these items were evaluated and discussed with various stakeholders groups and University staff throughout the course of the project. The Additional Master Plan Recommendations reinforce the design criteria demonstrated in the physical plan and should be implemented as follows:

### Appalcart Transit Services

#### 0-4 years

1. Work with AppalCART and Charlotte Area Transit System (CATS), Piedmont Authority for Regional Transportation (PART), & Triangle Transit Authority (TTA) to introduce regional service to the City of Charlotte and to extend the current Greensboro service to the Piedmont Triad International Airport (PTI) and eventually Raleigh.
2. Collaborate with AppalCART in connecting new remote parking facilities with transit services.
3. Identify locations for remote park-and-ride facilities off-campus.
4. Work together with AppalCART to introduce vanpool service connecting the campus with Tennessee and other long distance commuting destinations.
5. Create “mini-hubs” with expanded bus bays and shelters at the Raley Lot and near the College Street parking deck.
6. Work with AppalCART to reduce headways on the most popular routes to 5 minutes in peak hours and 7 to 10 minutes during off-peak times.
7. Assist in the expansion of services by raising the student transportation fee.

#### 5-9 years

1. Replace existing prefabricated shelters with architecturally-specific shelters for campus.

### Ride-sharing

#### 0-4 years

1. Initiate a carpooling program that assists students, faculty and staff in finding a commute partner. This may involve partnering with an organization such as [www.SharetheRideNC.org](http://www.SharetheRideNC.org).
2. Initiate discussions with AppalCART and other organizations to introduce a vanpool program in which a dozen or more commuters share the cost.
3. Provide premium parking spaces in existing and future facilities for carpool and vanpool vehicles.
4. Offer incentives to ride-sharing such as: transportation rebate, preferred parking for carpools, “Emergency Ride Home” programs and occasional parking permits.

## Sustainable Design Recommendations

Parallel to the development of the physical master plan, the design team engaged various stakeholders and members of the University to address the vision for “sustainable design” on campus. The outcome of these discussions is defined under the 8th Guiding Principle which states:

“The University shall uphold a sustainable doctrine by incorporation of new technologies for existing and future facilities, by providing efficiencies in energy, economic, and environmental performance that are substantially better than conventional practice as a model for the state and region.”

It is apparent that Appalachian State University is committed to being good stewards of the physical environment while protecting the natural resources of the region. Changes in the culture of university life will enhance this opportunity. The following outline defines the sustainable criteria and policy recommendations for the 2020 Campus Master Plan:

### Advocacy

- Lobby the state for a revolving fund for sustainable building practices
- Reduce vehicular local/regional dependence
- Enhance access to (regional) transit

### Awareness

- Identify curriculum-based efforts that reinforce current and future sustainable-design initiatives
- Clearly define the “Net Zero” concept for future development of campus
- Provide a program for students to monitor their energy consumption
- Develop a program for sourcing local foods to the campus
- Develop a marketing strategy to highlight sustainable awareness on campus
- Develop a logo for campus that identifies sustainable programs and projects
- Provide visible examples of sustainable technology on campus
- Consider the integration of photo-voltaic technology for new buildings

### Policy

- Preserve nature on campus
- Require faculty, staff and students to practice sustainable living principles
- Identify curriculum based efforts that reinforce current and future sustainable design initiatives
- Implement policy initiatives that identify sustainable practices in all facets of University. Policies should incentivize the “Net Zero” concept and discourage inefficient uses
- Incorporate sustainable materials to the extent practical on all projects
- Restrict freshman from bringing cars to campus
- Encourage growth in distance education efforts for students
- Tie future campus development with expansion of transit services

### Partnerships

- Provide fleet of electric cars for campus use
- Develop program for sourcing local foods to the campus
- Shared infrastructure/resources with local governmental agencies



CAROL GROTNER  
LIBRARY AND INFORMATION CENTER



\* Thank you for your responsible smoking and no tobacco use.

## 4

## Design Guideline Update

**General Considerations****1. The University will adhere to a sustainable environment.**

Appalachian State University is committed to being good stewards of the physical environment while protecting the natural resources of the region. It is the intent that all new buildings and future development on campus will be based on a management approach that develops strategies to sustain the environment.

**2. New buildings on campus will be LEED™ certified.**

Appalachian State University will promote that all new buildings on campus be LEED™ (Leadership in Energy and Environmental Design) certified. Each building project will develop a sound, cost effective sustainable strategy for each facility. The design criteria should address all aspects of the most current LEED™ checklist available.

**3. “Net Zero” design principals will be considered for site development projects.**

Appalachian State University will promote that any new construction on campus employ the “Net Zero Concept” as part of the site design process. This can be measured in different ways (relating to cost, energy, or carbon emissions) and should be related to the importance of energy generation and energy conservation to achieve energy balance.

**4. The inclusion of open space and creating a pedestrian-oriented campus will be a priority for growth.**

Appalachian State University will seek to include design guidelines that highlight their commitment to a “pedestrian-friendly” campus with an increased focus on providing additional outdoor gathering spaces for use by students, faculty and the community.

**5. The Master Plan will be an official document to guide future growth on campus and facilitate communications with the Boone Community.**

Appalachian State University is committed to defining the perimeter of its intended growth while increasing the density of the buildable area on the main campus. Design and construction of new projects will adhere to the design intent of the 2020 Master Plan.



## Parking and Transportation

Existing conditions of parking and transportation on the ASU campus and for the Town of Boone were assessed and included service, parking, transit, vehicular/pedestrian circulation and sustainable strategies. Regional transportation issues were also evaluated.

Parking and Transportation recommendations for future improvements:

1. Provide designated motorcycle and scooter parking areas.
2. Provide masonry bus shelters. See “Service Enclosures/ Screening” for example of campus standard.
3. Provide on-street and off-street bike routes.
4. Provide covered bike storage with construction for future masonry bus shelters.
5. Minimize 30 minute parking in all campus parking lots and decks.
6. Install hybrid plug-in stations in new and existing parking decks.
7. Install alternative fuel stations.
8. Provide “carpool only” parking spaces for 5% of on-campus parking.
9. Phased purchase of electric cars for use by Physical Plant.
10. Provide screening of all new service parking areas adjacent to new buildings. See “Service Enclosures/ Screening.”
11. Install simulated masonry paver pedestrian cross-walks at streets integral with campus.
12. Install control gates at Library Deck to reduce pass-thru vehicular traffic.



Image Source:

1. [www.treehugger.com](http://www.treehugger.com)



1.





## Utilities and Infrastructure

As a result of the workshop interest group sessions, a list of items were identified for improvements to the ASU campus utilities and infrastructure. The following is a summary of the recommended improvements.

**Steam System:** Continued improvements to the existing steam system are recommended to ensure the campus has adequate distribution for future needs.

In addition, planning for infrastructure improvements along East Howard Street and Locust Street should immediately occur.

In general, long distance steam distribution is not the most efficient system and is expensive to expand. It is recommended that the core campus remain on steam and alternatives be considered for some new buildings outside of the core. A secondary system for natural gas should be considered for peripheral areas.

**Electrical Distribution System:** An additional substation on campus will be necessary due to increasing loads. The existing substation is located behind The Holmes Center. A possible substation site would be near the Broyhill Inn & Conference Center. In addition, guidelines for high performance buildings need to be integrated into the design standards.

**Potable Water System:** The 16" main water line from Hardin Street to water plant will eventually have to be replaced.

**Sanitary Sewer System:** If development is considered near the Broyhill Inn & Conference Center, lift stations will need to be installed. All water meters should be replaced on campus over the next 5 years to monitor sewer usage.

**Storm Water System:** Design standards should be developed to harvest rain water.

**HVAC Building Systems:** A plan should be created to replace less-efficient HVAC systems in older buildings to improve energy performance.

**Technology Infrastructure:** It is recommended that a Technology Master Plan be conducted to address the future needs of computers and technology. Connectivity at the main campus as well as the Hickory and future hospital site should be considered.



## Landscaping

The goal for the campus landscape is to achieve a comprehensive campus landscape fabric that is practical and cost-effective to maintain. The overall philosophy of the guidelines is to encourage the use of plant material indigenous to the mountain area to insure long term sustainability.

The plan proposes a mix of formal and informal areas that recognize the existing conditions and build upon the inherent beauty of the campus. As outlined in the Guiding Principles, it is important that the “University emphasize the quality of the natural environment” and “preserve the natural habitat.” For this reason, it is imperative that future growth consider the existing plant material and how this will be integrated into the overall concept of the landscape plan for a specific project.

Landscaping recommendations:

1. Plants to be selected for the campus should be native to the bioregion, long-lived, relatively pest free and practical to maintain.
2. Establish new tree plantings along all major walkways and major campus streetscapes.
3. Define outdoor living spaces and quads to create informal gathering spaces with access to seating.
4. Create additional open space and grassed areas for students to play or relax and to enjoy the natural surroundings of the mountains in the distance.
5. Expose the additional expanse of Boone Creek along Rivers Street and embellish with rock and plant material appropriate to a mountain stream including trees along the banks to provide shading.
6. Provide landscape screening around exposed building equipment such as transformers, back-flow vaults or mechanical units.





## Service Enclosures / Screening

Service area enclosure guidelines should be developed to address the need for partial screening of building service areas. There are a number of locations throughout the campus that were identified during the observation phase of the project.

There are a number options available to address this issue which include:

1. Building orientation and service access can be addressed during the site design phase of new projects.
2. Berms or landscape screening can be applied to existing conditions.
3. Service screen walls constructed of masonry or stone and aluminum railing, as required.



## Shelters

Bicycle shelter guidelines should be developed to address the need for students and faculty to have a safe and protected area to store bicycles from being exposed to inclement weather. The shelters could be constructed similar to the masonry bus shelters with adequate area to store and lock up a bicycle.

In addition, all existing prefabricated metal bus shelters should be replaced over time to improve the overall consistency and appearance from the street.



## Statuary/Sculpture

Several areas of the campus have been identified for formal and informal landscape areas. These outdoor spaces should lend themselves to display of temporary or permanent artwork. It is recommended that guidelines be developed to outline the base materials for installation of future statuary or sculpture. The primary materials should include:

- Stone foundation
- Concrete base or platform
- Bronze plaque (if applicable)

## Furnishings

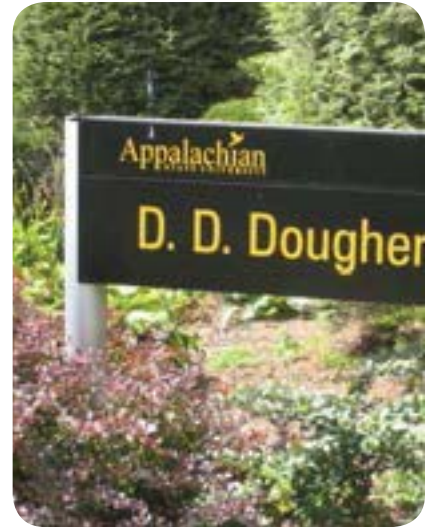
The following are recommended standards for site furnishing to maintain a level of consistency throughout the campus.



Exterior Trash Container



Outdoor Seating



Building Signage



Exterior Stair Handrail



Site Rail



Bicycle Rack



Exterior Light Fixture



Bollard Light



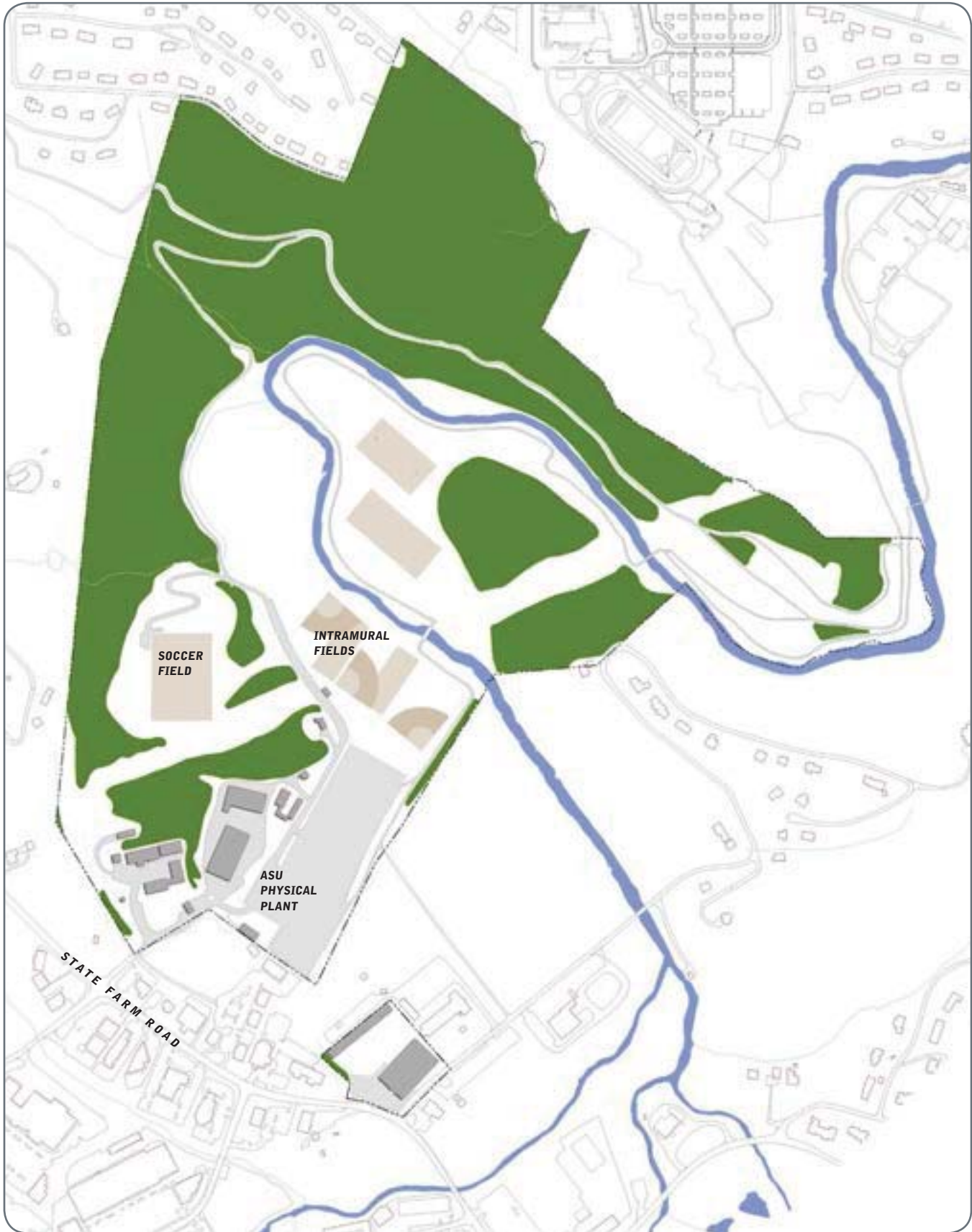
Emergency Call Station

# Appendix

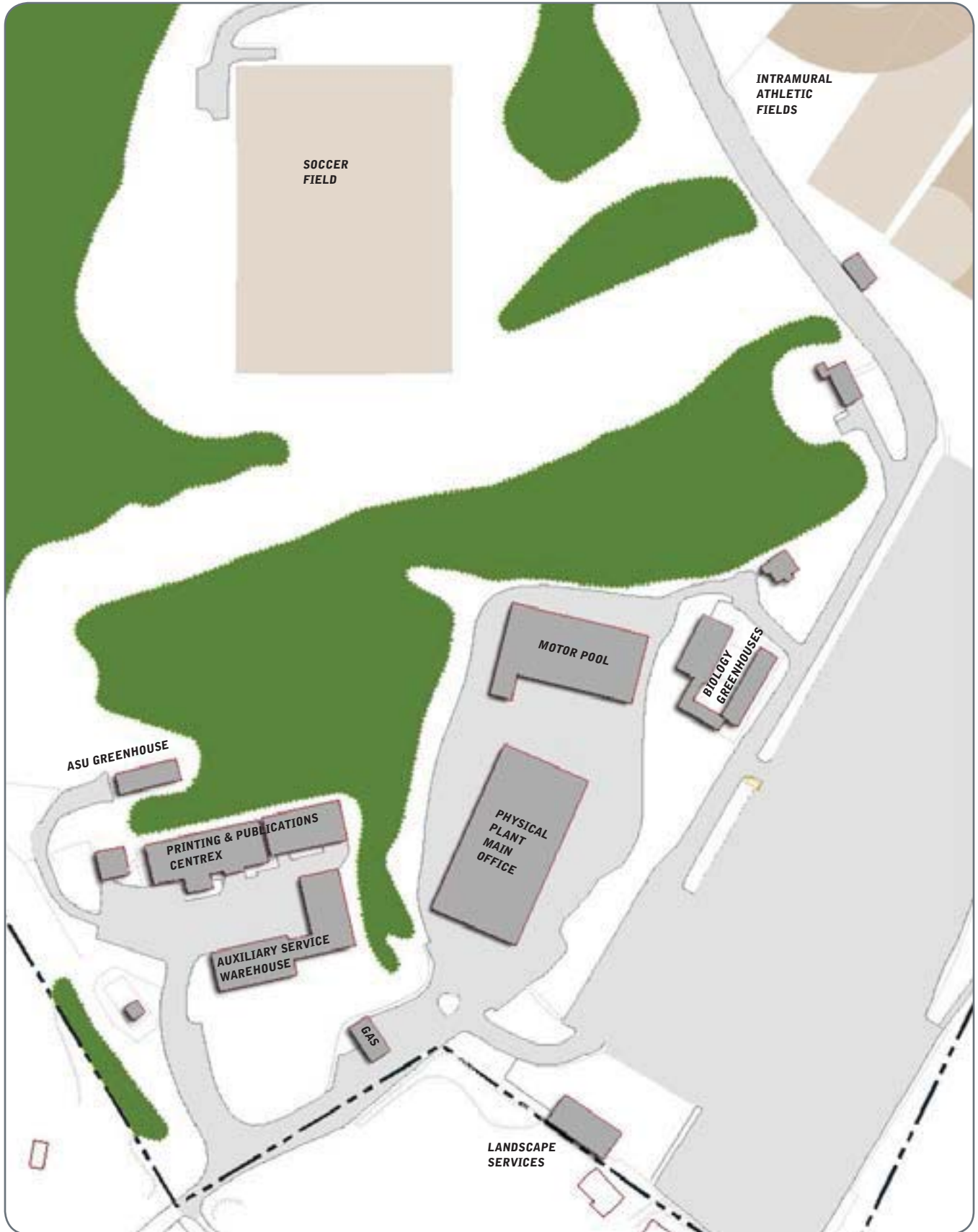
## **Reference Maps**

1. State Farm Road
2. ASU Physical Plant
3. Procurement Center
4. University Hall
5. Appalachian Panhellenic Hall
6. New River Light & Power
7. University Highlands
8. College of Health Sciences and Allied Professions
9. Water Plant Reservoir
10. Water Treatment Plant
11. Town of Boone Land-Use Plan

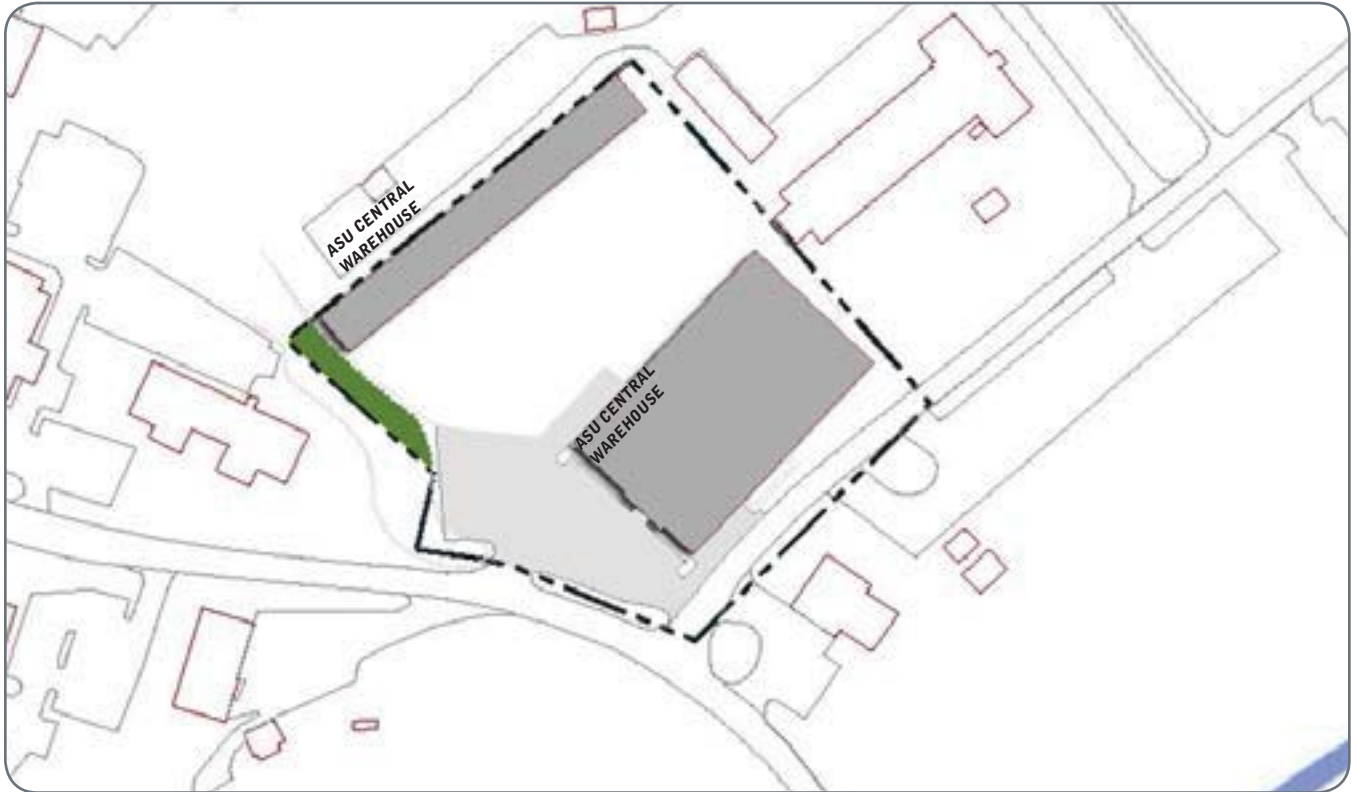
## State Farm Road



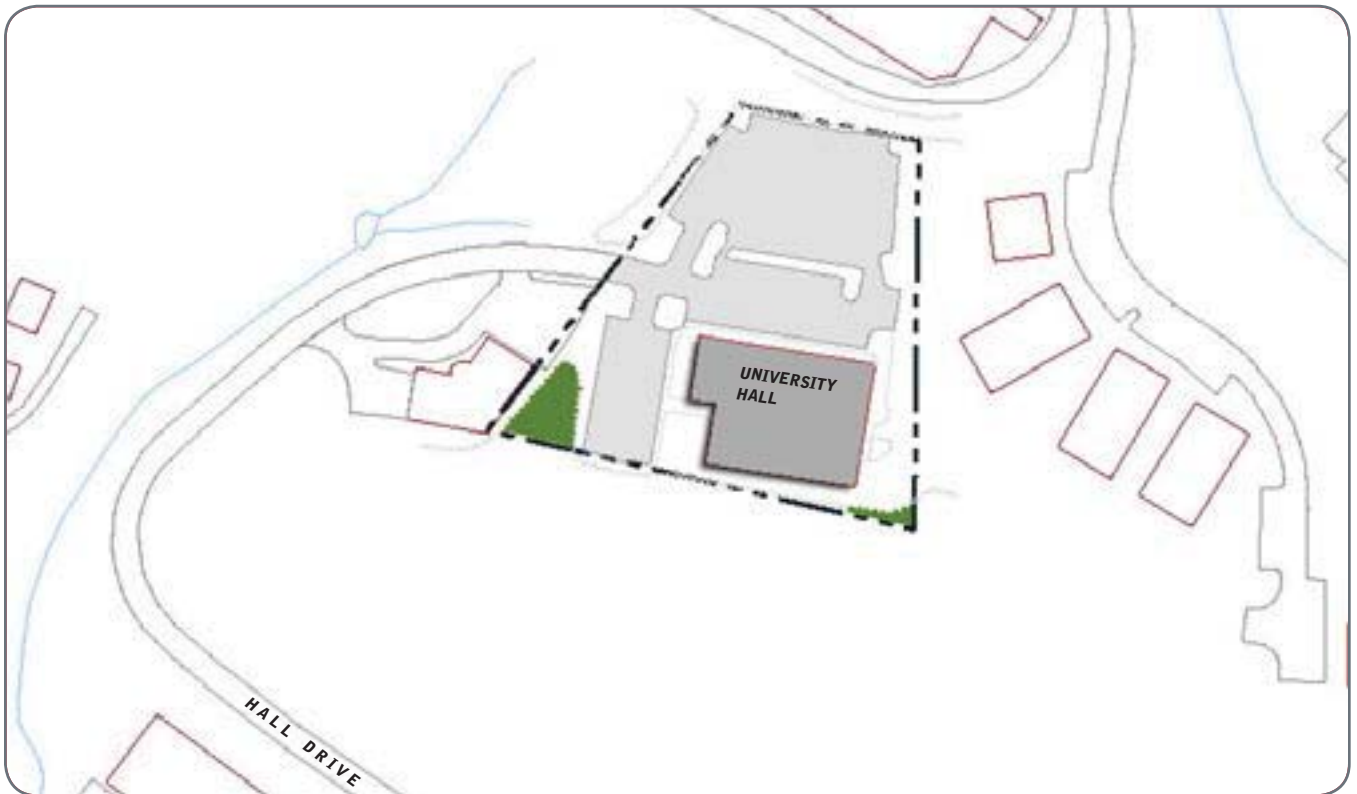
# ASU Physical Plant



## Procurement Center



## University Hall





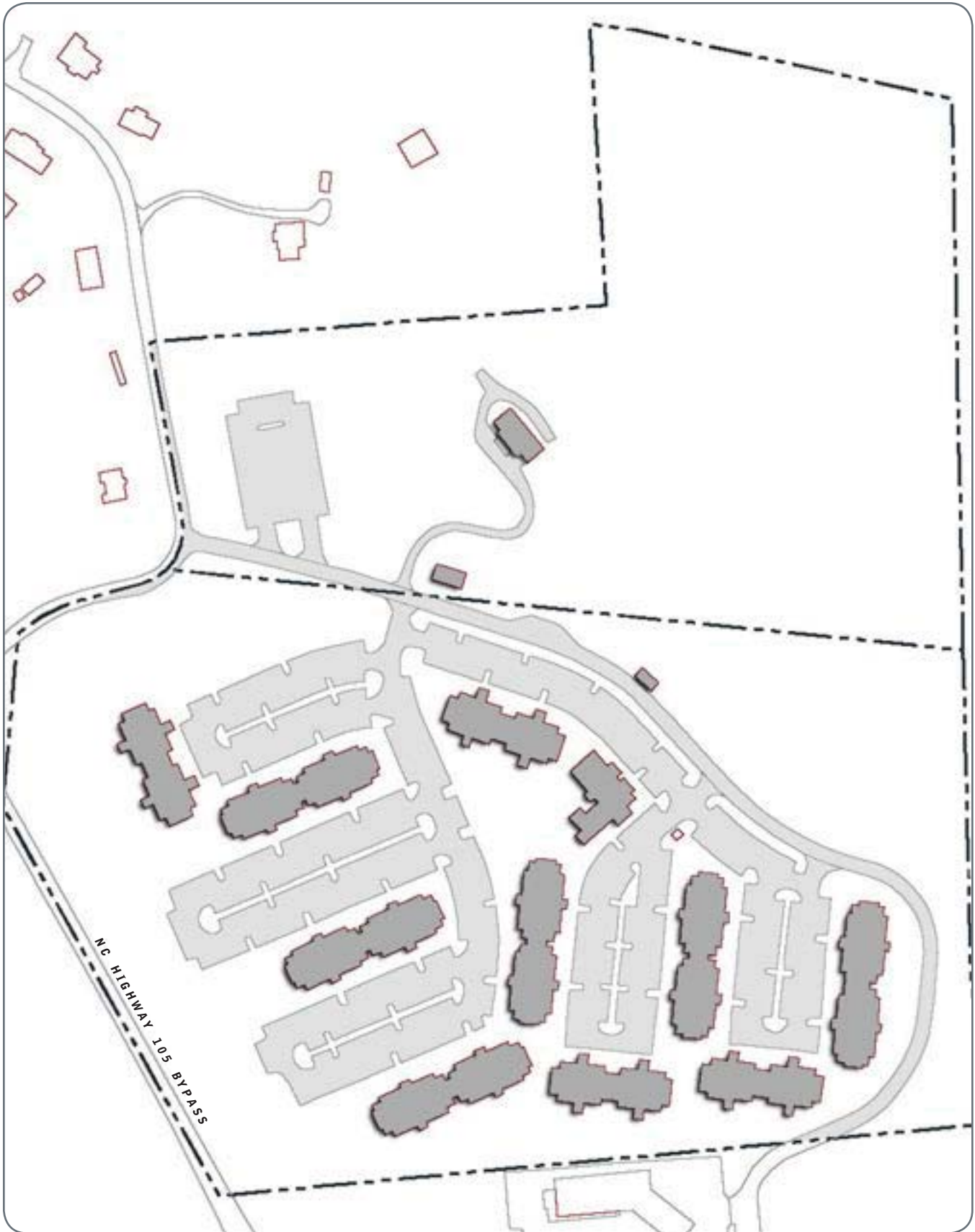
### Appalachian Panhellenic Hall



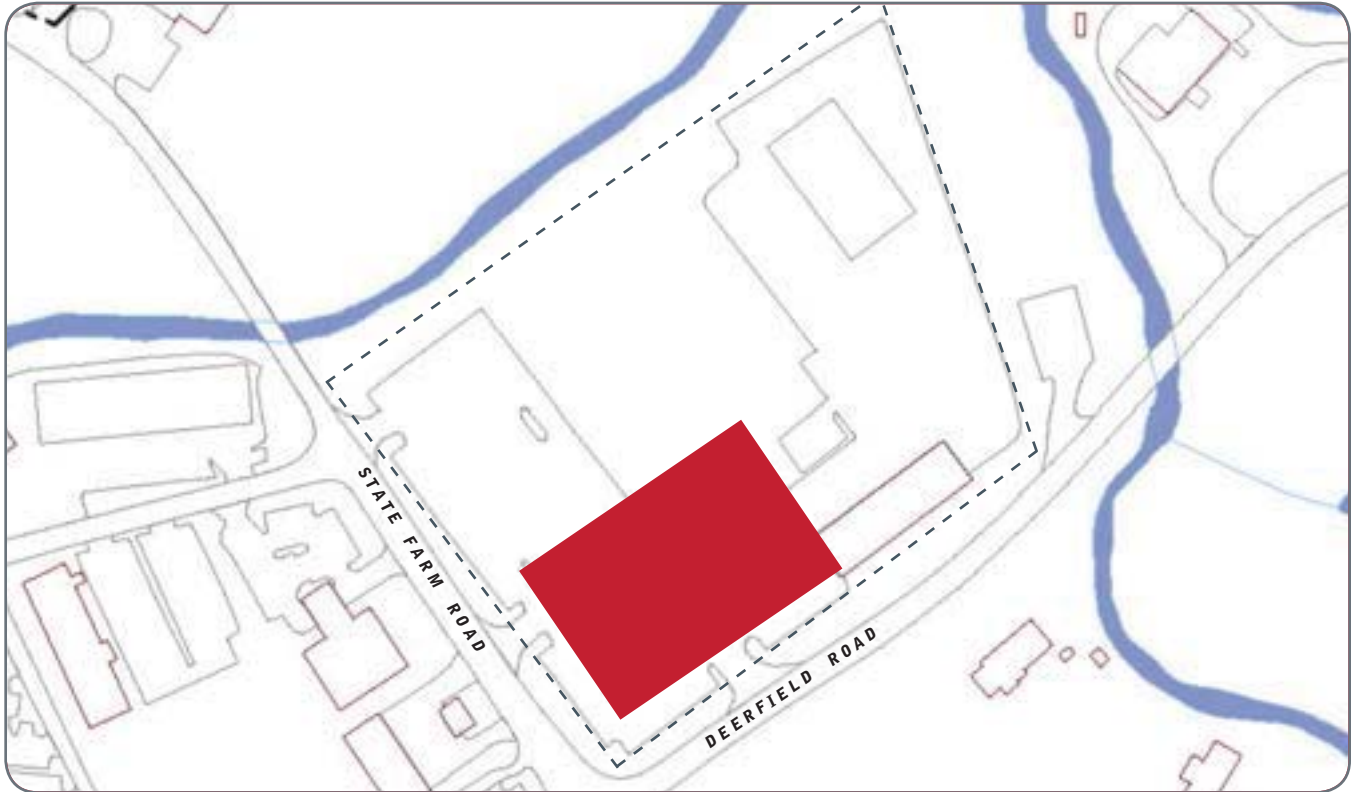
### New River Light & Power



# University Highlands



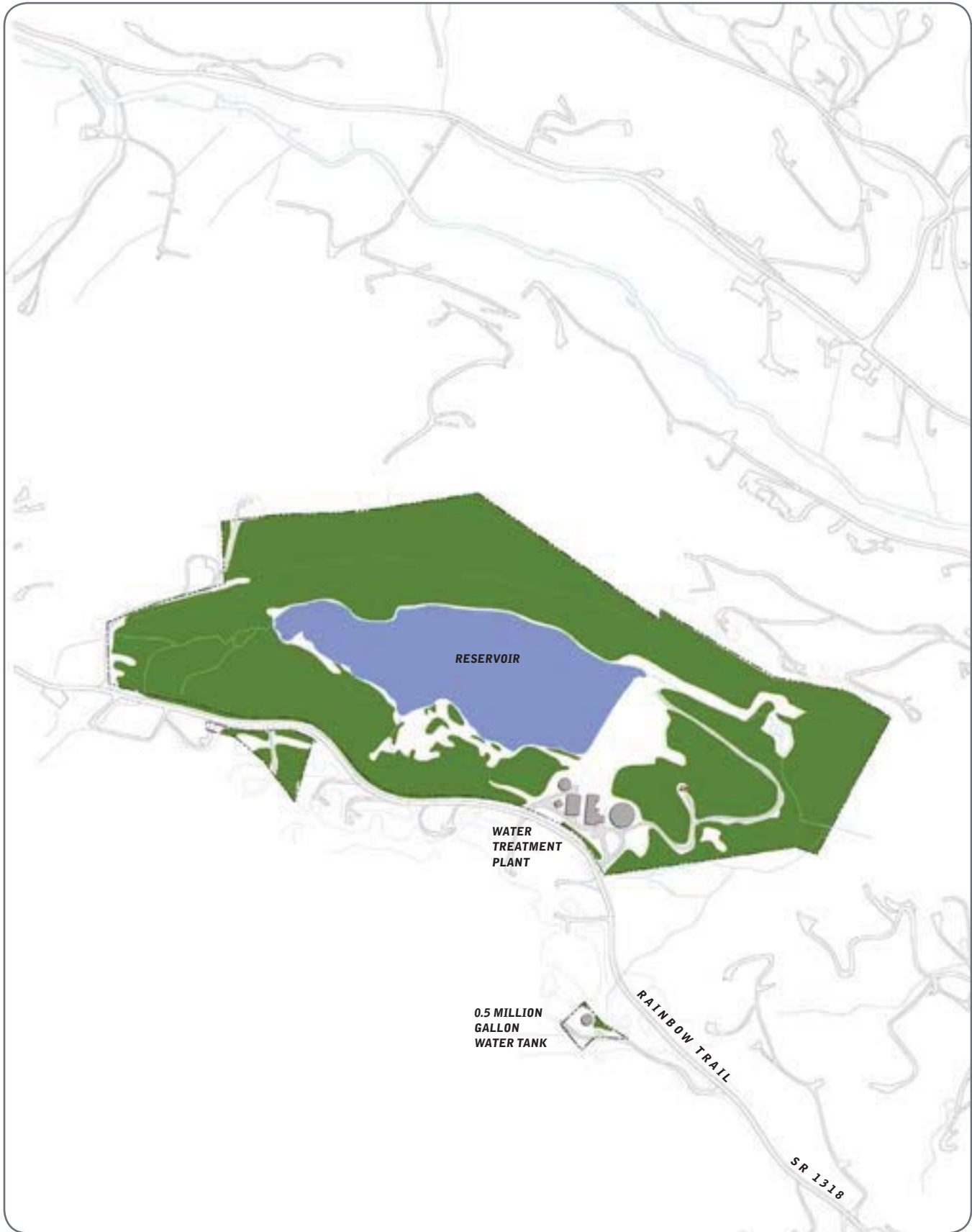
### College of Health Sciences and Allied Professions



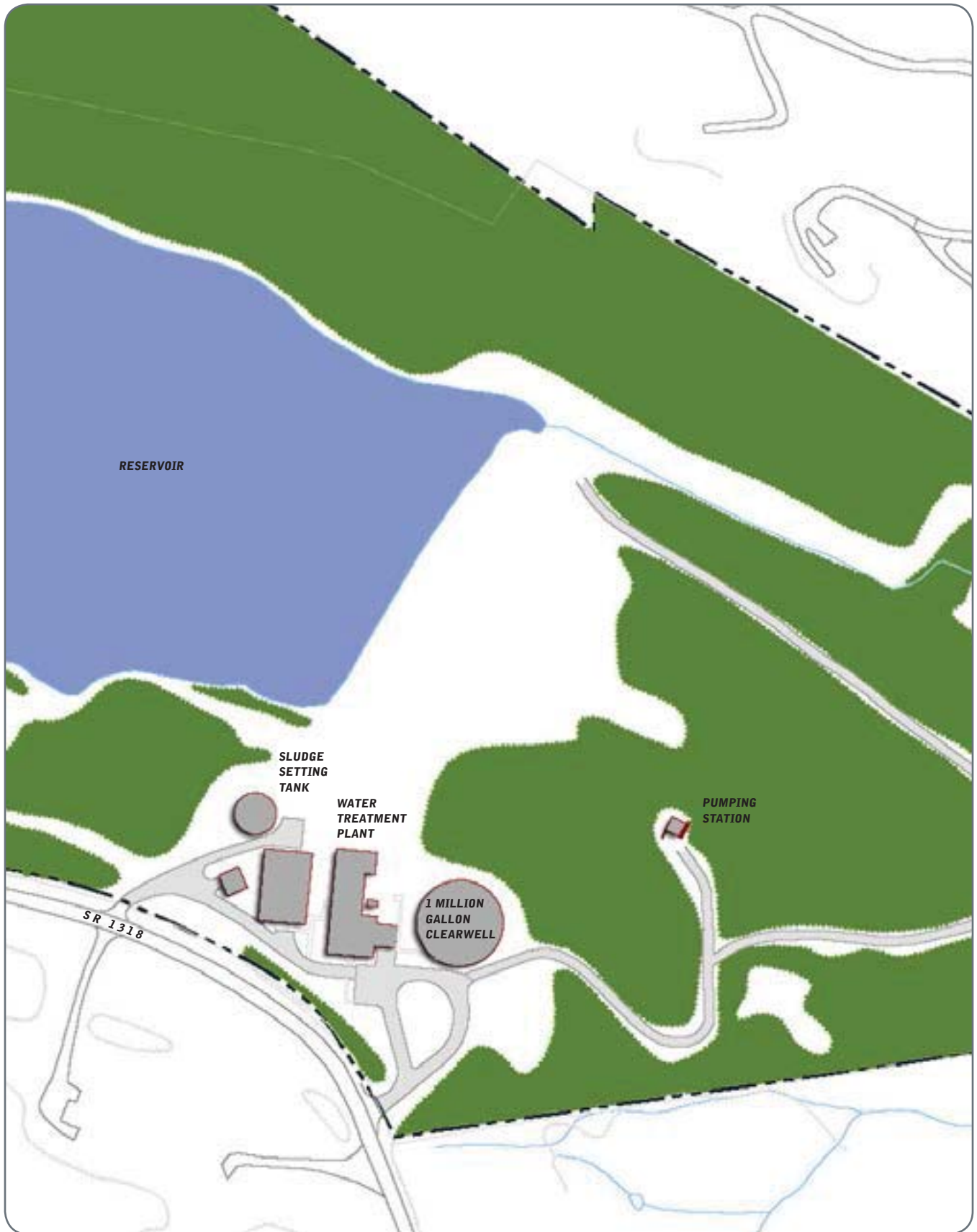
### Hydro Property



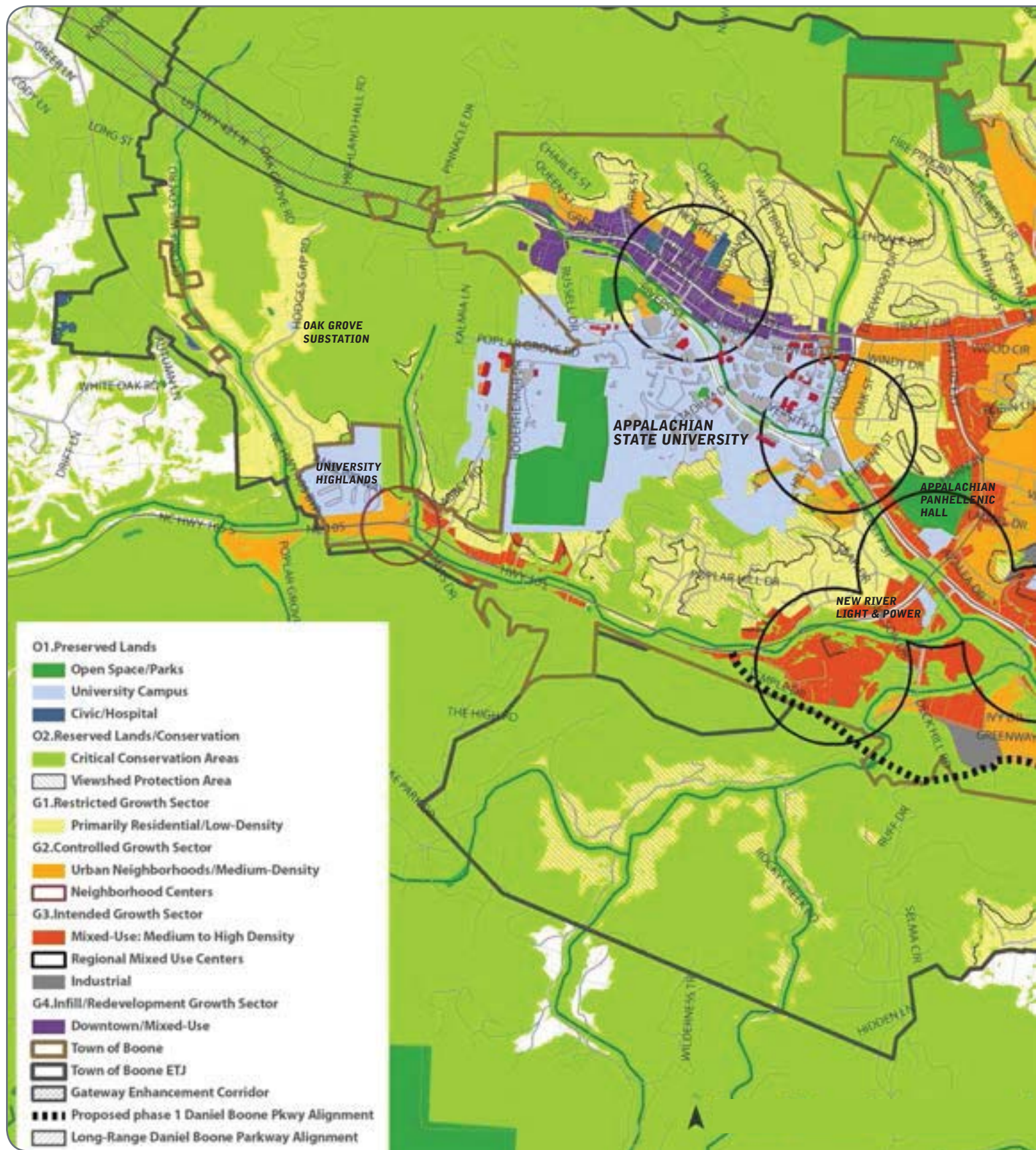
## Water Plant Reservoir

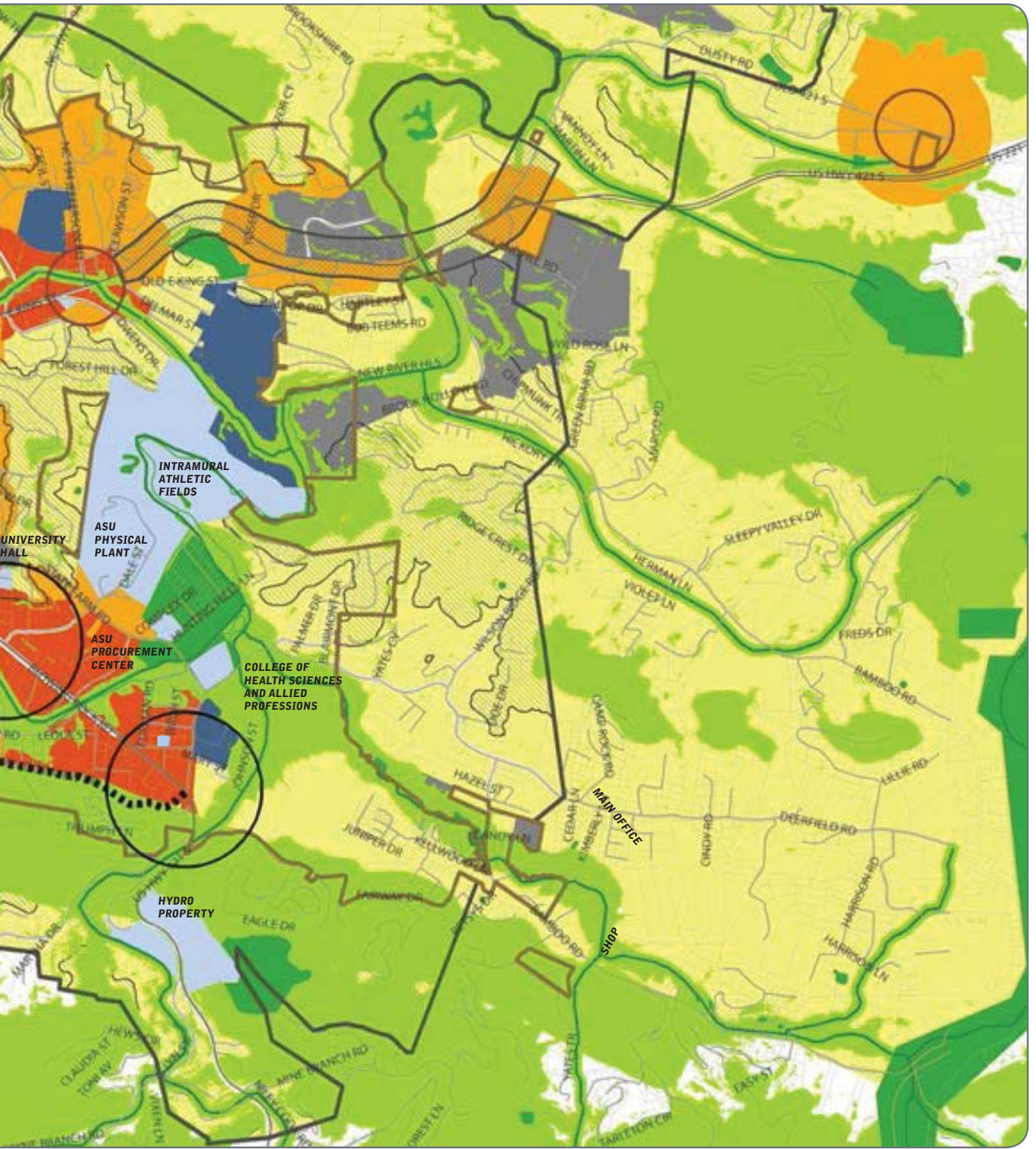


# Water Treatment Plant



# Town of Boone Land-Use Plan





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