



# WICHITA STATE UNIVERSITY | MASTER PLAN

2014

# Prologue

In the fall of 2012, Wichita State University launched a master planning process that engaged the Wichita State community in the task of imagining the future of the main campus. The resulting master plan serves as framework for transformation at Wichita State. It provides a vision for campus development, landscape and circulation with the goal of supporting the stated mission of the University; “to equip both students and the larger community with the educational and cultural tools they need to thrive in a complex world, and to achieve both individual responsibility in their own lives and effective citizenship in the local, national and global community.” The master plan examines the learning environment, the spatial organization and function of the campus built environment, landscape and open space systems, circulation and parking, community connections, and overall conditions of the campus within the context of a comprehensive and integrated plan.





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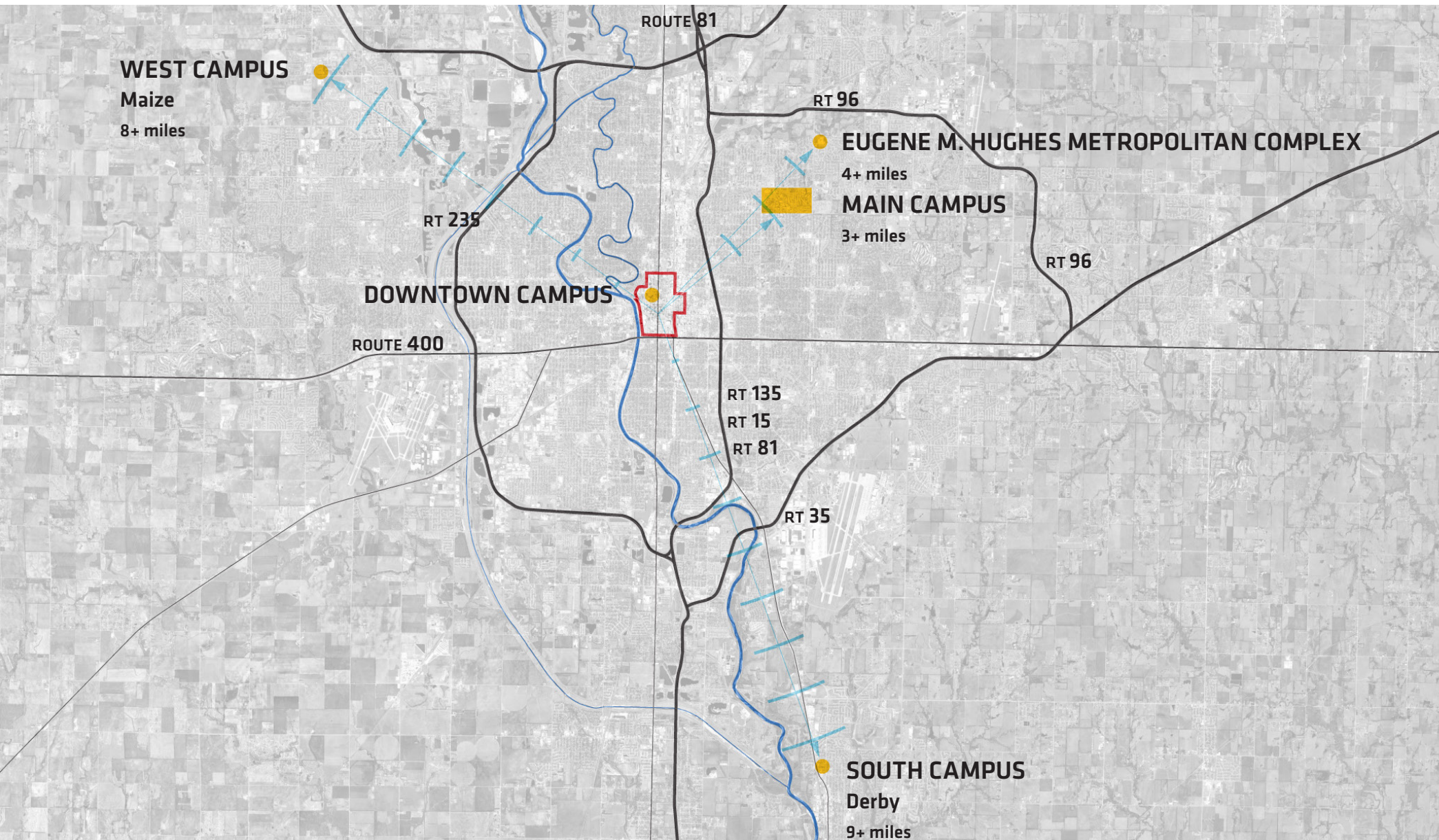


# 01 | INTRODUCTION

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Regional Map of Wichita State Campuses

## Context

The main campus of Wichita State is located approximately one mile from downtown Wichita, a proximity that resonates in the relationship between the university and the surrounding community and as expressed through the university slogan, “We are Wichita”. The university operates four satellite campuses that specialize in technical and research related fields.

### SOUTH CAMPUS

The South campus is located in Derby, Kansas and is home to the Accelerated Nursing Program and a new interactive distance learning facility.

### WEST CAMPUS

Wichita State’s West Campus is centered on both traditional and returning adult students to completing their degrees.

### DOWNTOWN CENTER

The Downtown Center serves the Center for Community Support and research as well as the department of Physical Therapy.

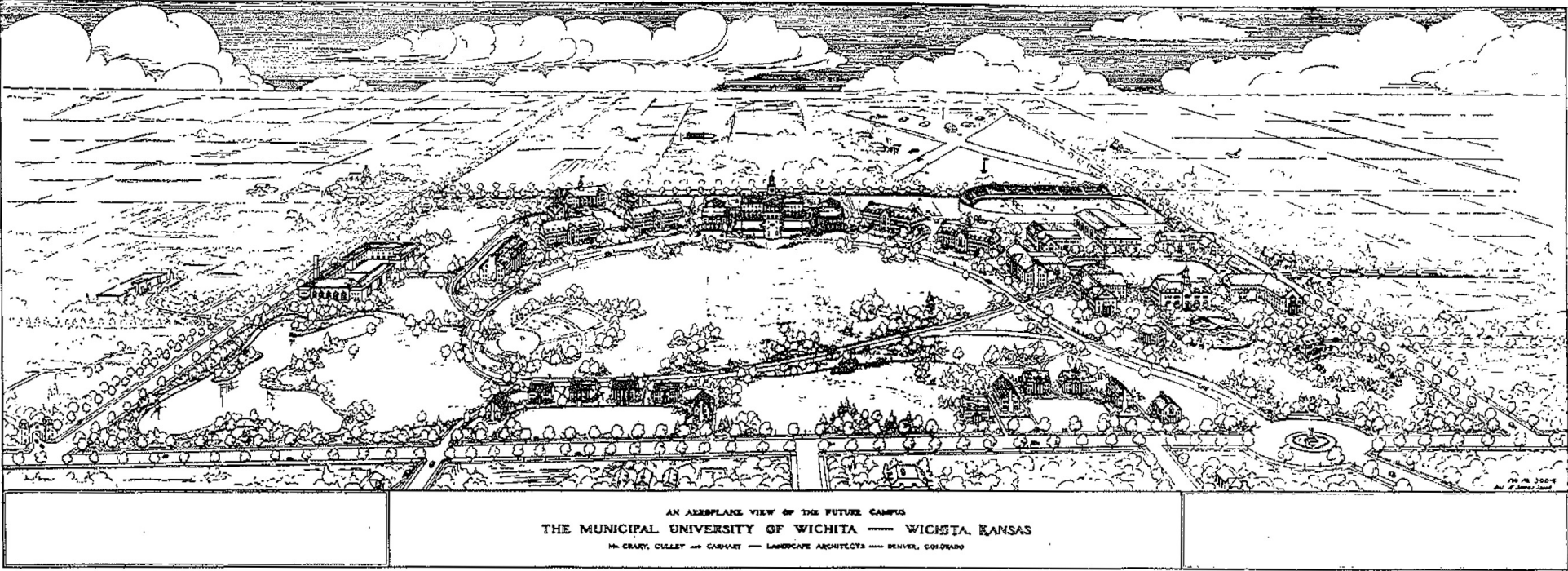
### EUGENE M. HUGHES METROPOLITAN COMPLEX

The Metropolitan Complex houses the Division of Continuing Education, which offers noncredit courses to the community.

Wichita State is the only state institution with a main campus in Wichita proper and the only urban-serving research university within the Kansas Board of Regents’ system. Wichita State is recognized for its strengths as a diverse and unique institution with noteworthy academic and athletic successes, which position the university to further its commitment to the highest ideals of teaching, scholarship and public service, as the university strives to be a comprehensive, metropolitan university of national stature.

The master plan supports the mission by setting out an adaptable and sustainable plan for future growth and change on the campus. While the plan serves as a long term proposal for campus-wide development, it also promotes short-term, feasible goals that adapt to student needs and institutional priorities.





*The Campus as it will appear when fully developed.*  
**PREPARED IN 1926**

*1926 Master Plan of the Municipal University of Wichita*

# History

The development of the Wichita State campus is symbolic of both the relationship of the university to the neighboring community as well as cues that the institution and its leaders took from other campus and urban planning techniques. The campus exhibits three distinct land use patterns that define the present campus: the early development concentrated along North Hillside Street; the mid-to-late century development of the central campus; and the golf course on the east side of campus. The Hillside and central areas of the campus reflect not only patterns of land use consistent with the period of time within which they were developed, they also reflect the corresponding trends in architecture with the Hillside area being more traditional in character and the central area more modernist in character.

The following summarizes the various phases of development on the campus:

## FAIRMOUNT COLLEGE 1895-1926

Fairmount College was founded as a congregational college by reverend Joseph Homer Parker in 1886. The campus was initially organized around a large oval drive with buildings radiating from a central green space. This layout is reminiscent of educational institutions in New England and is said to be the first example of this style west of the Mississippi River. Even the trees were shipped from the New England region to be transplanted in Wichita and lend to the prescribed ambience that the founder wanted to achieve.

In the 1920's, Fairmount College developed significant financial burden, threatening the survival of the college in the years prior to the Great Depression. After two campaigns for a transfer of ownership to the public domain, the institution was renamed the Municipal University of Wichita thereby transforming the institution into one of the first in the emergence of city institutions in the Midwest.

## THE MUNICIPAL UNIVERSITY OF WICHITA 1926-1964

The Fall of 1926 marked the transition of Wichita State from a small New England-style institution into the Municipal University of Wichita. The student population increased substantially from an initial enrollment of 569 students in 1895. In 1964, the population reached approximately 7,000 students enrolled in different capacities.

From the very beginning, the Municipal University of Wichita enabled students with financial setbacks or family obligations to participate and earn degrees. Even with the Great Depression and World War II, the university grew at a stable pace in both student enrollment and physical development. The institution constructed dormitories to support student population growth and to encourage students to live on campus. Several new schools and departments were established during this period, including a push for a research centric environment.



After WWII, the need to expand the campus quickly and inexpensively changed the look of the university significantly. A spate of building ensued which reflected the popular International style of architecture. The sometimes elaborate buildings included the Duerksen Fine Arts Center and the innovative “roundhouse,” Levitt Arena. Capping off these four decades of construction was the Corbin Education Center, a facility for the College of Education designed by Frank Lloyd Wright.

A long and arduous battle that began in 1955 finally culminated in 1963 with legislative approval of a new state university. The citizens of Wichita responded in the form of a 1.5 mill levy to pay the bonded indebtedness and provide a perpetual endowment for the new state institution.

WICHITA STATE 1964-PRESENT

The first few years of the emerging Wichita State were challenging. The university searched nationally for needed new faculty. In 1965 the Shockers

(shortened from Wheatshockers) went to the Final Four in basketball. Cessna Stadium was built after students passed a referendum authorizing half the cost in 1968. Debate students won the national title that year.

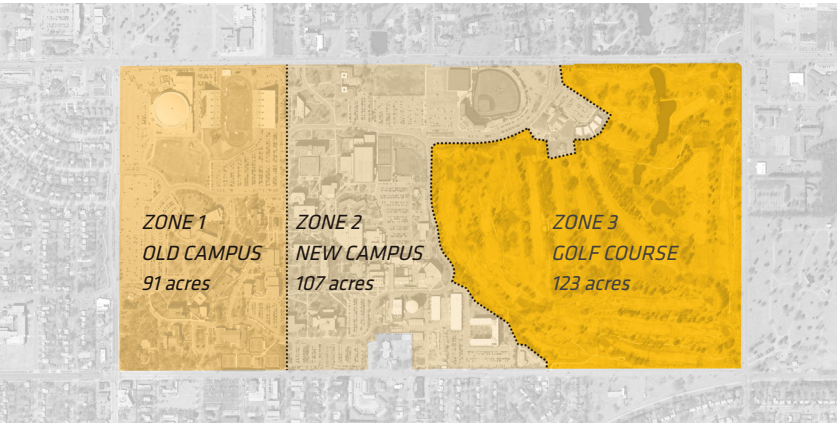
The 1960s were turbulent times for campuses across the country. Wichita State, though, weathered the storm of continued controversy over the assassination of Dr. Martin Luther King, John F. Kennedy and Robert F. Kennedy, increasing racial tensions and the Vietnam War with reasoned dignity. The student movement resulted in cooperation among faculty, students and administration to pass the Joint Statement of Rights and Freedoms of Students. Wichita State was the first campus to offer the document to all campus constituencies, and to have all responded positively.

October 2, 1970 was one of the blackest days in Shocker history. One of two planes carrying players, staff and fans to a football game in Utah State crashed near Silver Plume, Colorado, killing 31. Football was later discontinued in 1986 because of mounting debt.

A new college was formed in the 1970s in health professions and the now famous outdoor sculpture collection was established. Also during this decade, the Edwin A. Ulrich Museum of Art was constructed to house the art collection of the university. Doctoral studies grew substantially as the Wichita State encouraged departmental research, a surge in growth not seen by the university since its former status as a municipal institution.

The demographics of the student body shifted drastically as women garnered a majority presence on campus. Ethnic minorities reached twelve percent of the university population and continued to increase as more programs were introduced and the graduate programs expanded to accommodate a growing population. Currently, the campus has the sixth largest population of international students in a doctoral degree granting institution in the United States.

The Wichita State campus has dramatically changed and developed over the past 20 years. The resulting fabric of the built environment and landscape



Development Over Time of the Present Day Main Campus

has expanded organically and is now in need of a new concept to organize both existing and future development.

1906 Fairmount & Fiske Halls



1926 Core Campus at 17th & Hillside



1929 Fairmount Hall Fire



1953 Main Campus Gate at Harvard Street



1955 Newly Constructed Grace-Wilkie Hall



1972 Yale Street at Clinton Hall







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*Master Planning Committee meeting*

## Process

Throughout the year long master planning process at Wichita State, community engagement was central to the effort and to decision making. The process was guided by an executive committee, the Presidents Executive Team (PET) and the Master Plan Committee. Various methods were utilized to facilitate outreach with the students, staff and faculty, as well as the local population with the goal of achieving a comprehensive understanding of the university and its functions. Stakeholder meetings and interviews, advisory committees, and open houses further informed the process and the foundation for the resulting master plan.

The planning process included the use of newer technologies and social platforms to receive feedback from a larger audience. A project website featuring an interactive graphic survey tool was used to visually map and solicit feedback. The tool gathered basic information from campus users, and asked each participant to describe how they use the campus on a daily basis. The questions queried participants on study locations, campus landmarks, food service venues, gateways and several other aspects of the campus environment. A large population of students, faculty, and staff took the online survey and relayed both their concerns and revelries associated with different aspects of the campus. The findings of the online platform, as well as the feedback from the many participants, helped to shape the planning principles for the master plan.

The master planning process consisted of three phases to enable the consultant team consisting of Sasaki Associates, Inc., GLMV and PEC; to compile a thorough and comprehensive investigation before developing the plan in conjunction with the university. The products of the planning process are documented in detailed digital presentations.

### PHASE ONE: INVENTORY AND ANALYSIS

Phase One focused on interviews with university stakeholders and various knowledgeable faculty and staff members to identify the desired outcomes, goals, and objectives for the 2014 Wichita State Master Plan. Existing conditions, both on campus as well as in the surrounding context were investigated to better understand the relationship of the institution to the community. Utilization studies and space needs assessments were also carried out to ascertain the physical needs of individual academic and administrative units, the student body, and the overall campus.

These findings were then presented to stakeholders and the campus community during a campus work session that incorporated not only presentations, but also meetings and community engagement practices.

### PHASE TWO: CONCEPT ALTERNATIVES

While continuing to receive feedback from the university, Phase Two primarily examined the options for campus development strategies. Options developed by the consultant team based on university input analyzed land use, programmatic needs, open space and landscape, campus life and circulation issues and opportunities. The proposed master plan reflects the input received during this Phase of the planning process.

### PHASE THREE: MASTER PLAN DOCUMENTATION

Phase Three documents the findings of the planning process and provides a vision for the future of the campus, reflecting the vision and goals of the institution. The document is intended to inform future development decisions and the implementation of the plan over the next ten years. The master plan serves as a foundation document for development opportunities as well as a prioritizing tool for future projects.





2012 Aerial Map of Main Campus

## Existing Conditions

Wichita State and its four satellite campuses are located within the metropolitan area of Wichita, the largest city in Kansas. Wichita is a thriving Midwestern city with a population of approximately 385,000, known since the early 1900s as the “air capital of the world” because of its long invested history in aviation research and the growth of the aviation industry central to the local economy.

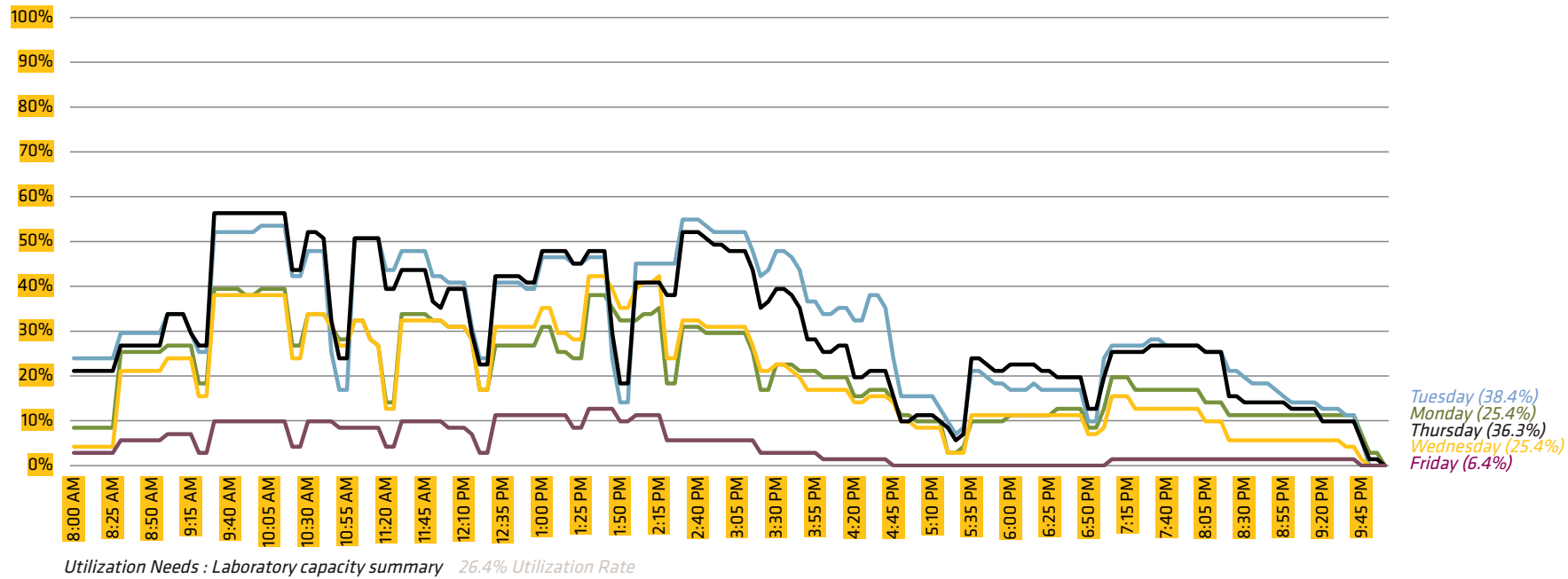
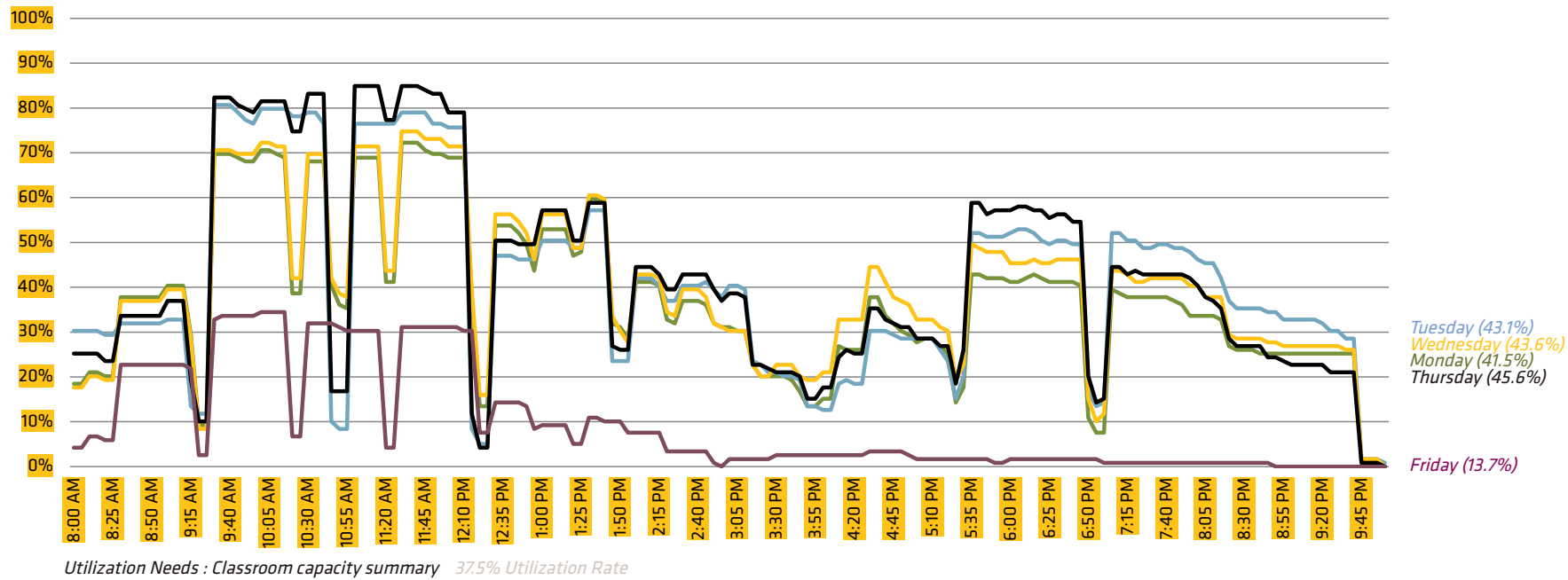
Wichita served as a large entrepreneurial hub after World War I, with the incorporation of many local restaurant chains and industrial businesses into nationally run corporations. This focus on entrepreneurialism in the city encouraged Wichita State to develop one of the first academic centers for the study and development of entrepreneurship. The university and the city of Wichita have a long standing relationship in the development of industry and education that reflects those industries. In the last few years, Wichita has

seen a boom in development, especially in the east portion of the city.

Currently, Wichita State's main campus is a compact area of about 330 acres and boasts close proximity to the city center of Wichita. Full Time Equivalent student enrollment (FTE) for the main campus in 2012 was 9,748 students, with approximately 800 students (8%) living on campus.

About 81 percent of the student body is from Kansas, with 9,466 students from Sedgwick County. As of 2011, 46% of the student population was male and 54% was female.





# Data / Analysis

## ENROLLMENT ASSUMPTIONS

Wichita State currently serves close to 15,000 Headcount (HC) students at all locations. The population on the main campus is 9,748 FTE. The master plan program tests a future enrollment of 22,000 HC students at all locations based upon conversations with university leadership. This translates into 14,394 FTE students on the main campus. This figure excludes online students. It is assumed that hybrid student FTE's spend 50% of their time on campus. The projections maintain current student to faculty, student to staff ratios, and current departmental proportions. The enrollment assumptions were developed in conjunction with the university's Office of Planning and Analysis.

## PROGRAM ANALYSIS

Utilization and space needs assessments were prepared as part of the planning process. The utilization assessment examines how well instructional spaces are used today, while the space needs assessment determines how well the existing supply of space can accommodate the current and future student populations.

## UTILIZATION

A detailed utilization assessment was prepared based upon conversations with the course scheduler and the fall 2012 course schedule. The assessment revealed that classroom utilization peaks between 9:15 am and 12:10 pm, with ample opportunity for improved utilization among classrooms in the afternoon. Classroom use patterns reflect a lack of scheduling grid enforcement, with inconsistent start and end times for courses. The overall average weekly use for classrooms was 37.5 percent during the peak academic hours of 8:00 am to 5:30 pm. Thursday revealed the highest average daily use at 45.6 percent, while Friday had an average daily use of 13.7 percent. An industry guideline of 65 percent is typically regarded as a use target. A right-sizing exercise was also prepared to examine the overall fit between the courses delivered and the rooms available. The right-sizing exercise highlights demand for smaller seminar rooms with between 0 to 20 seats. Conversations with the Registrar similarly identified the need for improved seminar rooms, along with a need for more classrooms that seat between 40 and 50 students in a flat floor configuration. These findings can be used to inform future renovation and new construction strategies.

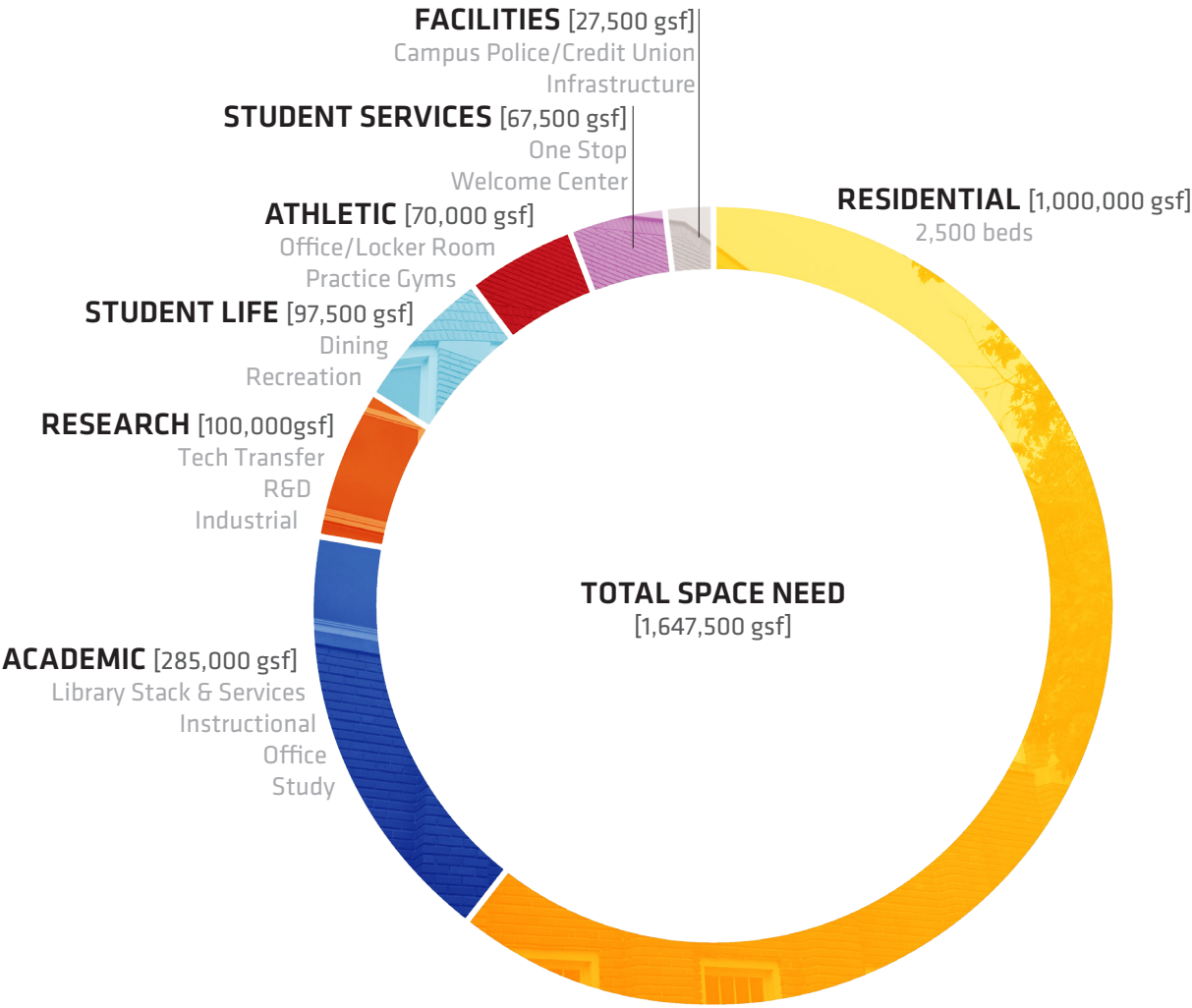
A utilization assessment was also prepared for teaching labs, which overall revealed sufficient levels of use. Utilization targets for labs are often lower, between 25 to 35 percent for wet teaching labs. The weekly average use rate for teaching labs between 8:00 am to 5:30 pm at Wichita State is 26.4 percent, and is within the target range.

Utilization of individual rooms was also prepared as part of the assessment. Four out of 119 scheduled classrooms (3 percent) achieve the target utilization rate of 65 percent. Twenty-seven out of 71 scheduled labs (38 percent) achieve the target utilization rate of 35 percent. Classrooms and labs with low levels of utilization should be investigated to understand the reason for sub-optimal use rates, e.g. faculty preference, technology, furnishing, room configuration, location.

QUANTIFIED SPACE NEEDS

A space model based upon national higher education space guidelines generated the quantitative space needs for Wichita State, which translates into the overall master plan program. The accompanying table identifies the quantitative space needs to support both current and future student populations. The analysis identified a future deficit of approximately 56,000 asf for instructional spaces (classrooms and labs). Other future space deficits

included office space (28,150 asf) and a small campus wide support space need (4,000 asf). The most significant space need to support the future student population relates to study space, in the amount of approximately 101,500 asf. The space needs assessment is provided as a benchmark that the university can address in more detailed facility studies as the master plan is implemented.



Space Needs Diagram



|   | CURRENT | FUTURE |
|---|---------|--------|
| HC (all locations and delivery methods)   | 14,898  | 22,000 |
| FTE (all locations and delivery methods)  | 14,116  | 20,845 |
| Main Campus FTE (all delivery methods)    | 12,855  | 18,982 |
| Main Campus FTE (On-campus delivery only) | 9,748   | 14,394 |

Student Enrollment Assumptions

HC Headcount

FTE Full Time Equivalent

NOTE: 33% of credit hours are hybrid courses and 7% are online only

|                 | CURRENT | FUTURE |
|-----------------|---------|--------|
| Main Campus FTE | 9,748   | 14,394 |
| Parking Supply  | 6,833   | 9,390  |

Future Parking Assumptions

Based on proportional growth of enrollment to parking spaces at 0.7 parking spaces per student with an added 10% occupancy buffer.

|         | CURRENT | FUTURE |
|---------|---------|--------|
| Faculty | 516     | 762    |
| Staff   | 1,305   | 1,927  |
| Total   | 1,821   | 2,689  |

University Employee Assumptions

|                 | CURRENT | FUTURE |
|-----------------|---------|--------|
| Basketball      | 1       | 4      |
| Football/Soccer | 1       | 4      |
| Softball *      | 2       | 4      |
| Tennis          | 6       | 6      |
| Volleyball      | 1       | 4      |

Outdoor Recreation Assumptions

\* Football/Soccer and Softball fields may occupy the same area, with utilization and scheduling as a variable.

Information is an aggregation from NIRSA Space Planning Guidelines for Large Institutions (10,000-19,999 students) and Very Large Institutions (>20,000 students).

# Program

The master plan program consists of four individual components that, when put together, give physical complexion to the master plan. Each of these components are based on data-driven models which offer a target for the growth of the university. The four components are: 1) student and faculty growth targets, 2) future parking demand, 3) future gross square footage demand, and 4) recreation demands. The program works hand-in-hand with the articulated master plan goals (pg. 26).



Grace Memorial Chapel & Morrisson Hall

# Goals

- Five goals were developed in conjunction with the university -
- » Academic excellence through establishing a competitive position for the 21st century
  - » Continuing to engage the university with the community
  - » Improve the student life experience through improved student support
  - » Create a memorable sense of place on-campus
  - » Create a feasible vision for the future

The following highlights the goals and notes how the master plan responds to each.

## 1. ACADEMIC EXCELLENCE—ESTABLISH A COMPETITIVE POSITION FOR THE 21ST CENTURY

### NEW BUSINESS AND ENTREPRENEURSHIP BUILDING

Existing business and entrepreneurship facilities are located at Clinton and Devlin Halls, distant facilities with little cross-pollination between programs. The master plan consolidates the business and entrepreneurship programs into one campus location. New facilities will offer innovative technology, fostering learning and leveraging Wichita State’s unique position as a local and global business leader.

### NEW ENGINEERING BUILDING

With the movement of the Health Professions from Ahlberg Hall to the MetroPlex, the engineering program is well-positioned to move into a repurposed Ahlberg Hall as well as expand into a new engineering building to meet an ever increasing student enrollment.

### SPECIALIZED LAB SPACE

The university plans to expand its research capabilities in biology, psychology, and chemistry, but lacks the existing space to accommodate expansion. The capacity for biology could be expanded in Hubbard Hall, allowing the department to extend research in a close proximity to the current facilities.

### ONE COLLABORATIVE CLASSROOM IN EVERY BUILDING

Wichita State believes that “collaboration is the future”. Through the promotion of interdisciplinary efforts, collaborative classrooms can enhance the academic programs offered and encourage students to engage in studies outside their major.

### FLEXIBLE LEARNING AND MEETING SPACES

In response to the changing nature of libraries and the need for collaboration space, a site is identified for the expansion of the library.

### OFFICE SPACE

As the student enrollment increases, the faculty and staff numbers are expected to increase resulting in the need for additional office space. The Athletics Department, in particular, has a demonstrated need for office space. The master plan addresses Athletic office needs through proposed renovations to the weight room, and consolidation of the athletics facilities to help free up space for coaching and support staff.

## 2. COMMUNITY—“WE ARE WICHITA” INNOVATION CAMPUS

The master plan identifies land for a new Innovation Campus, housing technology transfer and research functions with the goal of engaging university research and business activities with local business and industry. The intent is to enable the university to incorporate technology and business incubators on the campus in close proximity to the proposed business building and existing engineering facilities.

### HEALTH PROFESSIONS AT THE METROPLEX

The Metropolitan Complex, or Metroplex, a 27 acre satellite campus of Wichita State is identified in the master plan as the future health campus. The emerging strategy involves the relocation of the College of Health Professions to the Metroplex to accommodate growth and colocation with other programs. The Metroplex offers convenient access for local health care professionals and other health related institutions.

**ACTIVELY ENGAGE BUSINESS COMMUNITY THROUGH ENGINEERING, HEALTH, AND BUSINESS**

With the proposals for physical campus changes, a business plan is needed to coordinate Wichita State programs and initiatives with the activities of the local business community. The proposed Innovation Campus and the health campus at the Metroplex will support this objective.

**3. STUDENT SUPPORT—IMPROVE THE STUDENT LIFE EXPERIENCE**

**ESTABLISH A ONE-STOP SHOP FOR STUDENT SERVICES**

Providing advising, financial aid, and administrative services in a central location will enable students to receive guidance quickly and efficiently. To that end, a new building along Alumni Walk is identified in the master plan as a freestanding one-stop.

**BUILD 2,000 TO 2,500 BEDS IN FIVE TO EIGHT YEARS**

Providing new and improved housing options on the campus is a key objective of the university. In the next five to eight years, 2,000 to 2,500 beds are planned in response to campus life objectives and anticipated enrollment growth. By merging housing with the need for accessible study spaces, the aim is to create a strong living / learning environment that will enable students not only to have access to places for learning and studying, but also provide places for social activities.

**RENOVATE AND EXPAND ABLAH LIBRARY**

As noted above, land is identified in the master plan for library expansion and to provide space for flexible learning spaces, meeting rooms and informal spaces.

**RENOVATE AND EXPAND HESKETT RECREATION CENTER**

The master plan calls for the expansion and renovation of the Heskett Center to include a dining area and café as well as student life gathering areas. A new outdoor plaza is proposed to connect student life programming with health and wellness activities. Renovation of the Heskett Center is intended to strengthen the marketability of Wichita State, as well as to encourage commuter and resident students to utilize the facility.

**ENHANCE ATHLETIC FACILITIES**

Updates to the athletics facilities on the campus are proposed to improve the recruiting process for student athletes. The ability of the Wichita State to recruit new players relies heavily on the conditions of housing and student life facilities.

**ADD STUDY SPACES ACROSS CAMPUS**

Currently, many students are known to study at local book stores and coffee shops rather than remaining on campus. In order to better serve the

students during their studies as well as encourage a higher level of academic engagement, new study spaces are proposed around campus in the new Rhatigan Student Center, library, as well as in proposed residence halls.

**4. IDENTITY—CREATE A MEMORABLE SENSE OF PLACE ON-CAMPUS**

**ENHANCE CAMPUS OPEN SPACE**

The Wichita State boasts a beautiful campus landscape with green space focused around academic buildings in a park-like setting. The master plan reinforces and enhances the existing landscape structure of the campus with the goal of creating a distinctive campus environment.

**CELEBRATE THE SCULPTURE COLLECTION**

Wichita State has one of the most extensive outdoor sculpture collections of any campus in the United States. The Martin H. Bush outdoor sculpture collection is owned by the Wichita State Foundation and is maintained by the Ulrich Museum of Art. In addition to planning for the collection, space for student art is also needed on the campus. The master plan provides a location for the College of Fine Arts, the museum, and the foundation to display art and sculpture.

**PLAN FOR PARKING**

Recognizing the value of the core campus land for academic and research purposes, the master plan locates future parking on the periphery of the core and in future garages. The goal is to create a green and memorable as well as walkable campus.

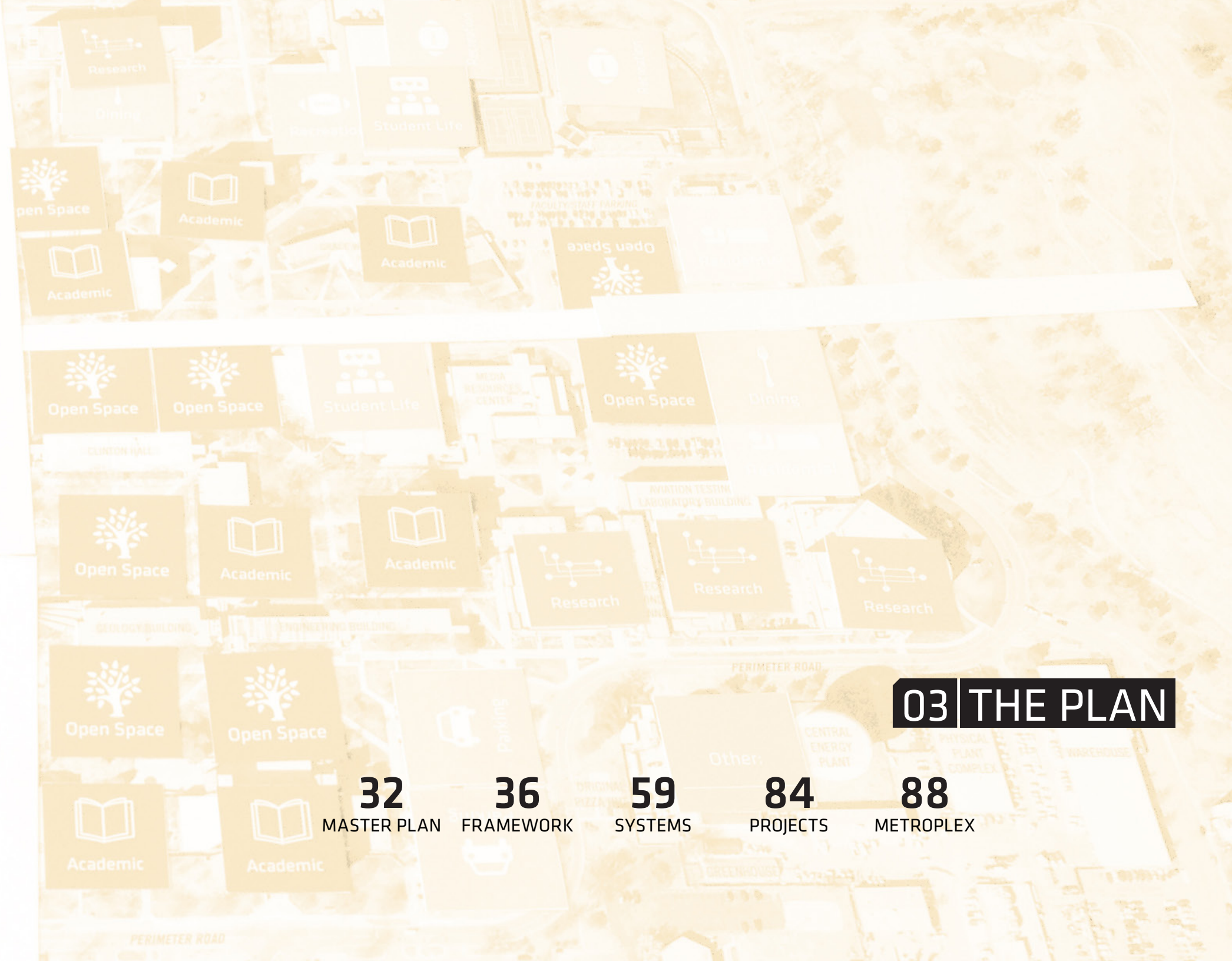
**INCREASE UTILITY CAPACITY**

The 2007 Utilities Master Plan details the distribution systems and plants that are currently at capacity or will be with further development. In order to sustain the existing systems and address additional demands on, enhancements to the current infrastructure are proposed as part of the master plan.

**5. FUTURE—CREATE A FEASIBLE VISION REINFORCE EXISTING INVESTMENT**

The Wichita State campus represents nearly 100 years of development and investment. Wichita State continues to invest in new facilities to aid students in their learning experiences and to provide appropriate housing and academic environments for a unique learning experience. The master plan itself, guided by the above noted goals, focuses on a flexible vision for future investment in campus buildings, landscape, and circulation as well as programs that support economic, academic, and environmental sustainability.

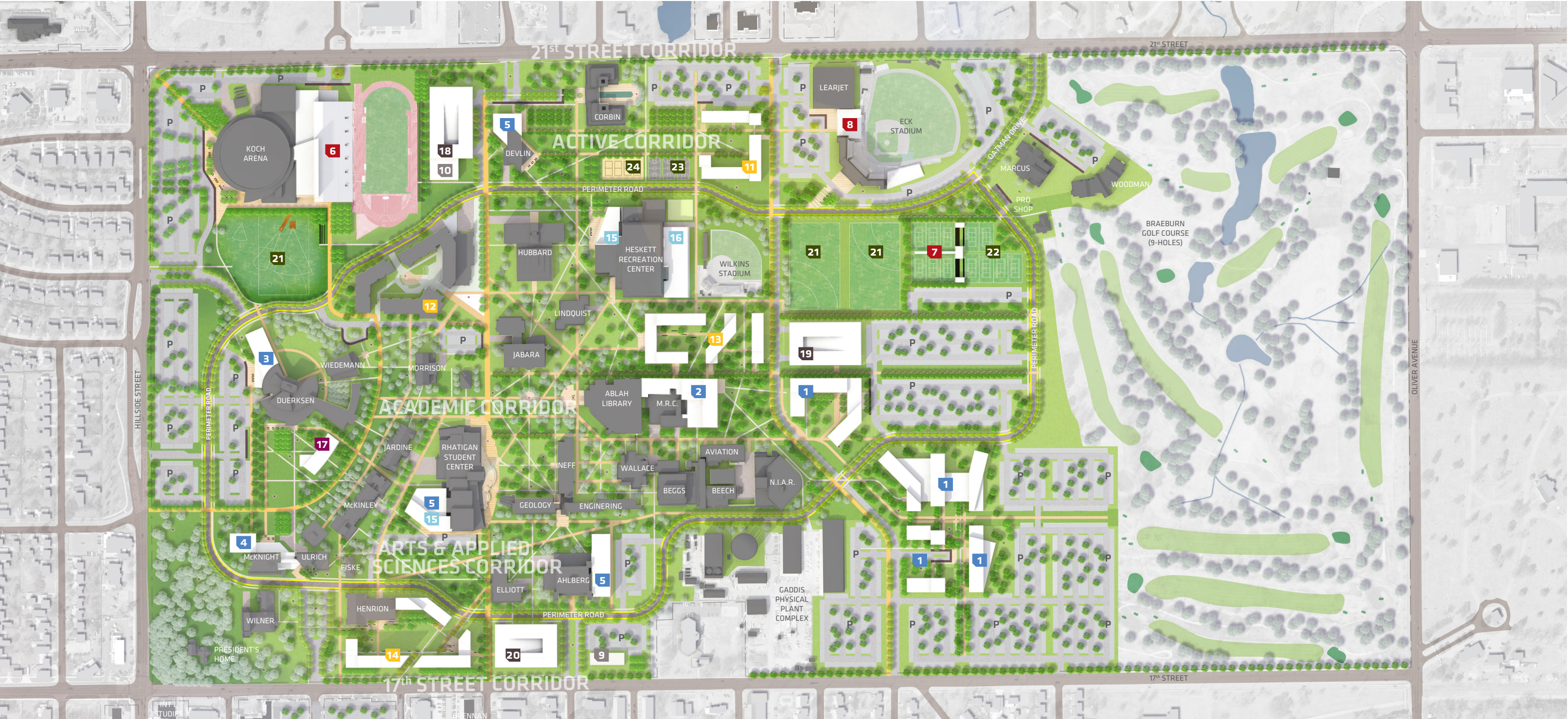




### 03 | THE PLAN

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**84** PROJECTS  
**88** METROPLEX





# Master Plan

**ACADEMIC**

- 1 INNOVATION CAMPUS
- 2 LIBRARY STACKS & SERVICES
- 3 PERFORMING ARTS
- 4 GALLERY & ARTS
- 5 ACADEMIC EXPANSION

**ATHLETIC**

- 6 BASKETBALL/TRACK & FIELD
- 7 TENNIS COMPLEX
- 8 BASEBALL EXPANSION

**FACILITIES**

- 9 CAMPUS POLICE & CREDIT UNION
- 10 INFRASTRUCTURE/UTILITIES

**RESIDENTIAL**

- 11 NORTH RESIDENTIAL
- 12 WEST RESIDENTIAL
- 13 EAST RESIDENTIAL
- 14 SOUTH RESIDENTIAL

**STUDENT LIFE**

- 15 DINING/CAFE
- 16 RECREATION

**STUDENT SERVICES**

- 17 ONE STOP

**PARKING**

- 18 NORTH GARAGE
- 19 EAST GARAGE
- 20 SOUTH GARAGE

**RECREATION**

- 21 MULTI-PURPOSE
- 22 TENNIS
- 23 BASKETBALL
- 24 VOLLEYBALL

PROPOSED

EXISTING

SCALE: 1"=200'

0

100

200

400

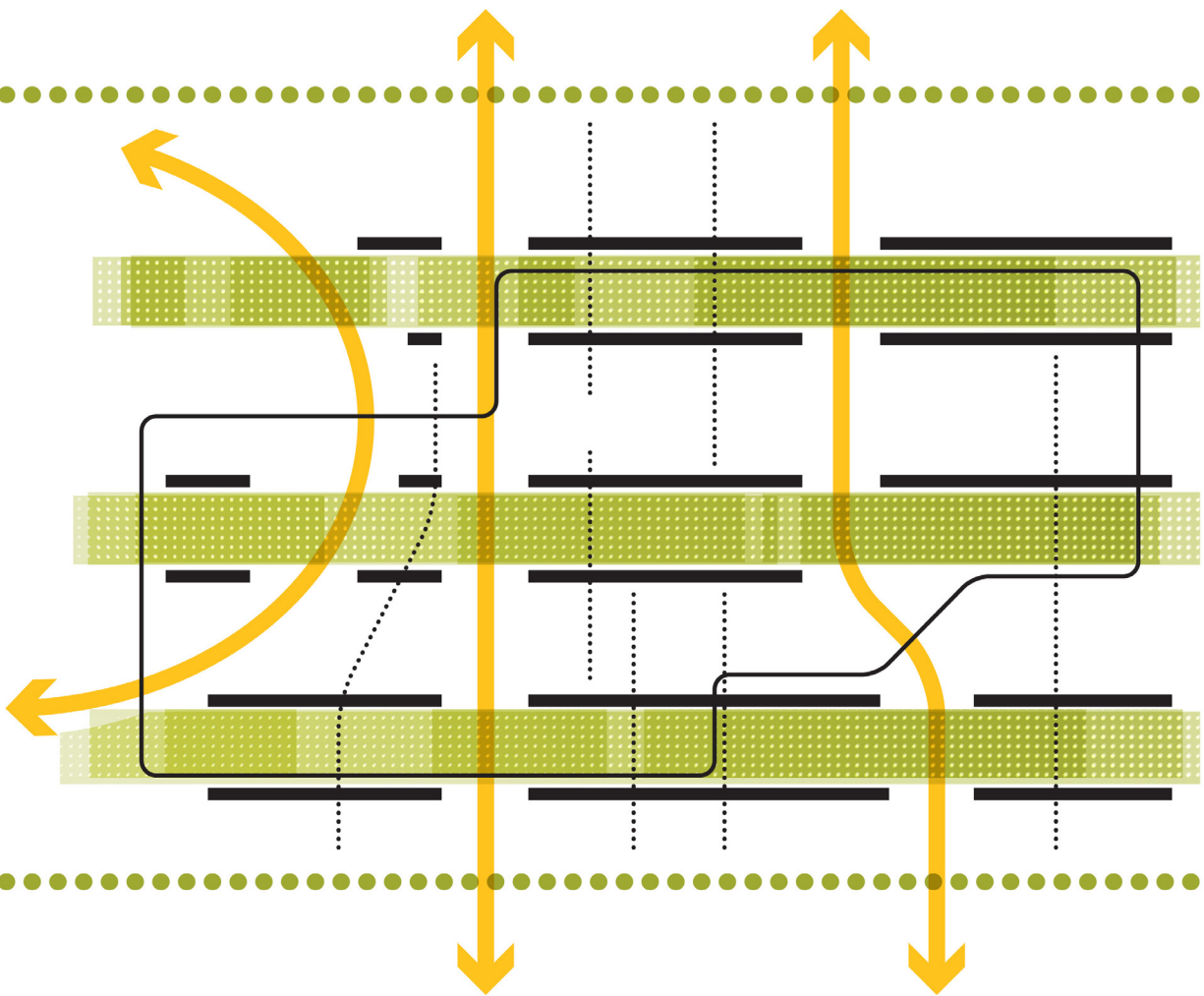






Aerial view of the future development of  
Wichita State looking east from Hillside Street.





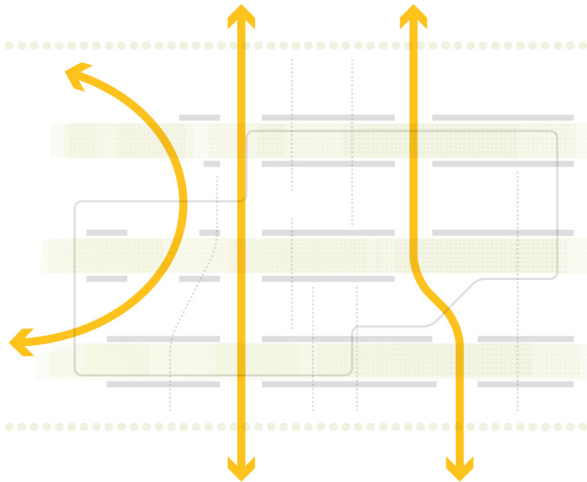
Framework Diagram

# Framework

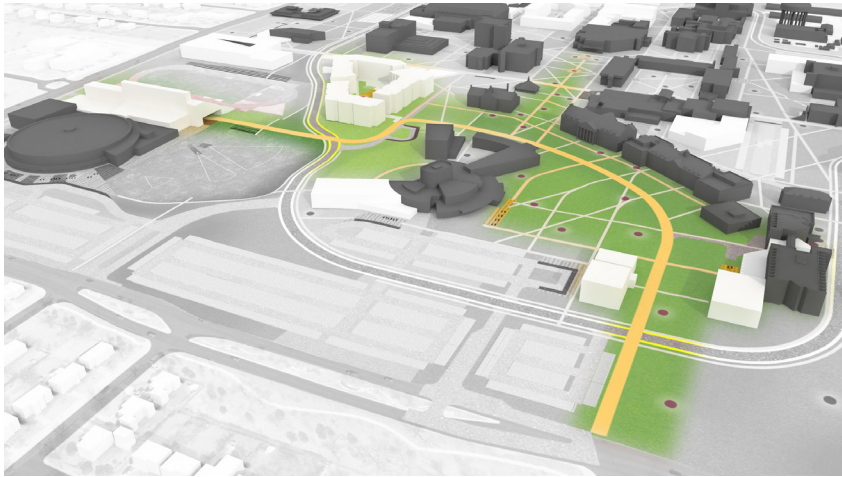
The 2014 Wichita State Master Plan establishes a vision for campus rooted in history, addresses present-day needs, and promotes innovation for a sustainable future.

The planning and design vision for the main campus proper is organized by a framework consisting of 1) Axes, 2) Corridors, 3) Program, and 4) Connectivity. The framework serves as a conceptual overlay with the intent of guiding physical development and programmatic relationships within the main campus. It guides the vision for the placement of future buildings, landscape, circulation and utilities.

AXES

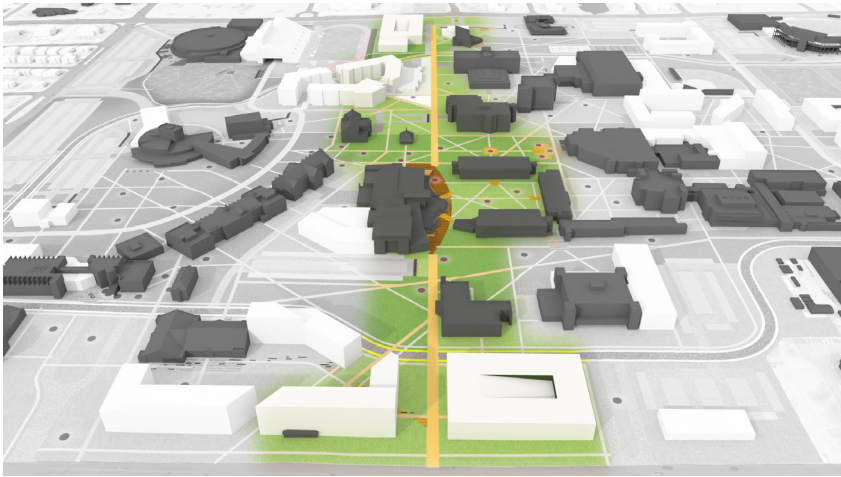


Three major north-south axes are identified in the framework: 1) Alumni Walk, 2) Yale Walk, and 3) Mid-Campus Drive. Each axis can trace its origins to historic desire lines moving across campus, connecting to the surrounding city fabric. While each axis has its own unique design identity based on its location, each is envisioned as a pedestrian promenade with amenities to serve the efficient and comfortable movement of pedestrians and services across campus.



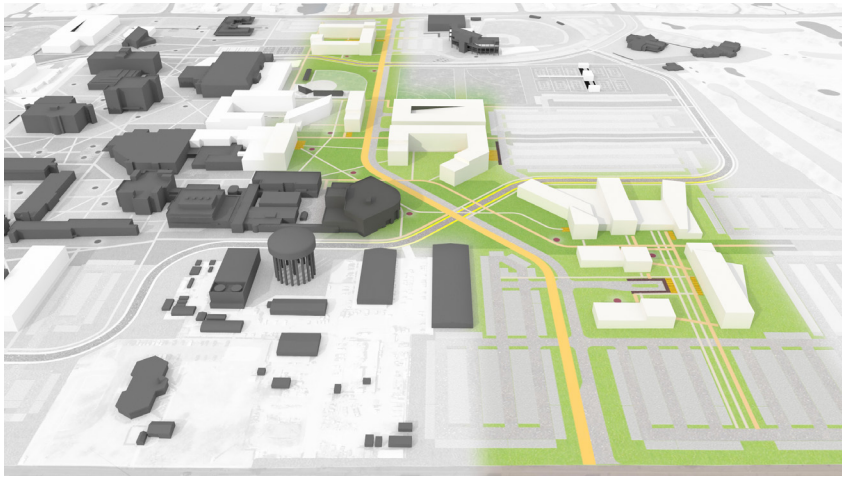
1. ALUMNI WALK

Alumni Walk is the original circulation route on campus as seen in the 1923 Campus Plan. Its arcing form follows the terrain of the hill side on which the campus was originally built. The master plan envisions this axis as a pedestrian-only space connecting the sports facilities in the north to the arts and sciences programs in the south.



2. YALE WALK

The master plan envisions Yale Walk as the spine of campus. Originally built as a street on the edge of campus, this axis has evolved into the major and central pedestrian walkway at Wichita State. It connects outlying program, parking, and landscapes in the north and south to the heart of campus.



3. MID-CAMPUS DRIVE

Mid-Campus Drive is an important pedestrian and vehicular axis. In the master plan, this axis defines the edge of new eastward growth on campus. It connects housing located off-campus in both the north and the south to the heart of campus. It also serves as a conduit for the delivery of major new research and academic initiatives on campus.

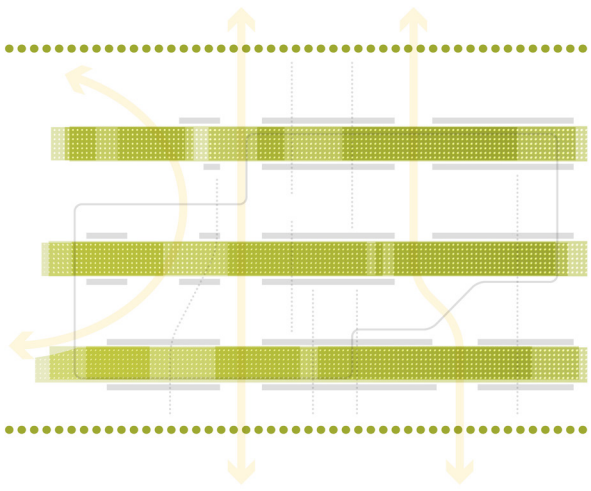




*Vision for Yale Walk, looking north toward Hubbard Hall and new student housing.*



CORRIDORS

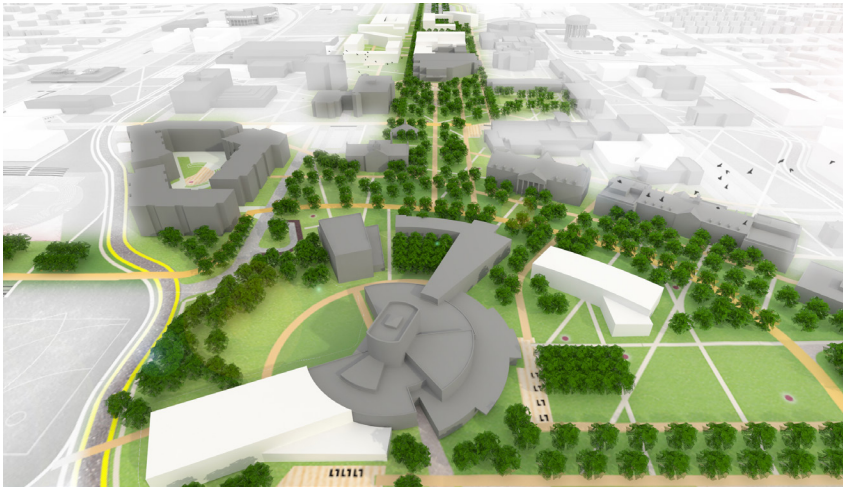


As the north-south axes serve as the primary seams of movement on campus, the east-west corridors serve as the primary open spaces that stitch together the campus. This stitching creates a new and strong fabric of campus. What is more, it offers a clear method of wayfinding on campus, both to those familiar with Wichita State and those who are new to campus. Each corridor has its own identity, rooted in the programs and services it is stitching together. As the primary open spaces on campus, they become the pulse of student activity, offering venues for gatherings and the free-flowing movement of ideas. Each has sustainable and environmental value, as the east-west orientation and the planting of trees in each corridor provide a shaded buffer to the strong Kansas winds coming from the north and south.



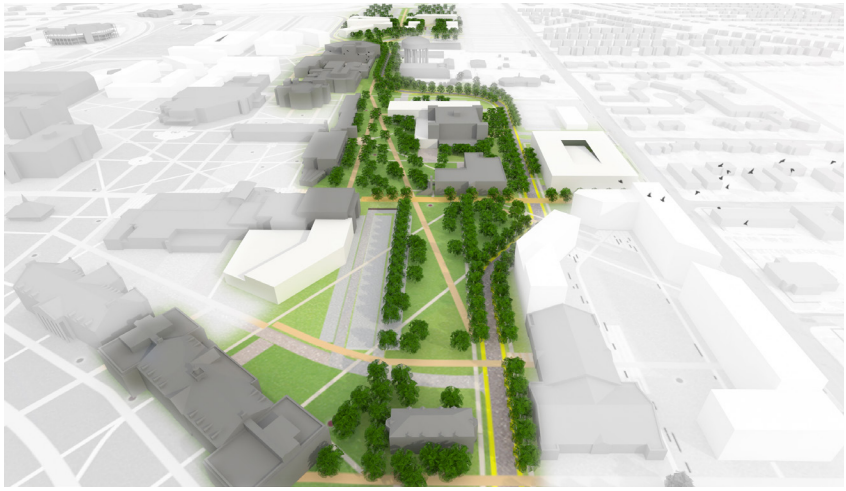
1. ACTIVE CORRIDOR

The Active Corridor, in the north, connects all major sports and recreational programs, both and proposed, on campus. As such, its identity is formed as an open space that is a constant stream of dynamic activity. The master plan envisions all new major recreational amenities associated with health and wellness to be located in the Active Corridor.



2. ACADEMIC CORRIDOR

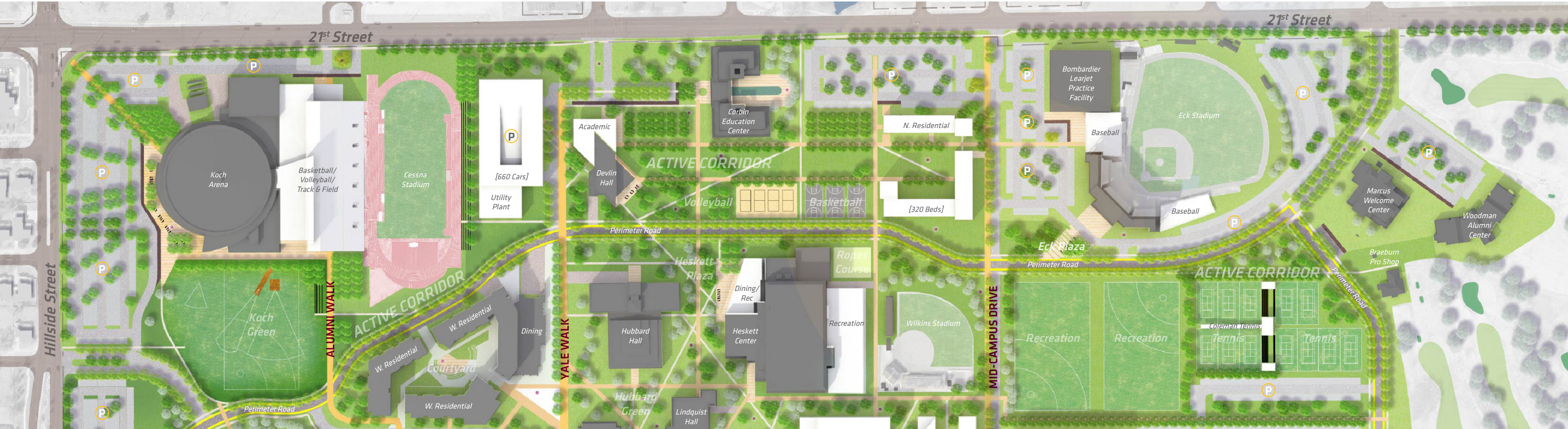
The Academic Corridor serves as the primary and traditional open space on campus. It gains its identity from its location and convergence on the central academic building on campus; Ablah Library. As a passive open space, this corridor is envisioned as a comfortable place of respite and study. Amenities catering to this identity are placed throughout.



3. ARTS AND SCIENCES CORRIDOR

The Arts and Sciences Corridor, in the south, connects major arts, sciences, engineering, and proposed research-based programs on campus. Also envisioned as a passive open space, this corridor provides a conduit for the movement of ideas between programs with a new focus of strategic partnerships. To augment the edge definition of campus, 21st Street and 17th Street are defined as secondary corridors. These corridors offer a noticeable and aesthetically-pleasing edge to campus through the planting of new street trees and the connection of pedestrian walkways along their length.

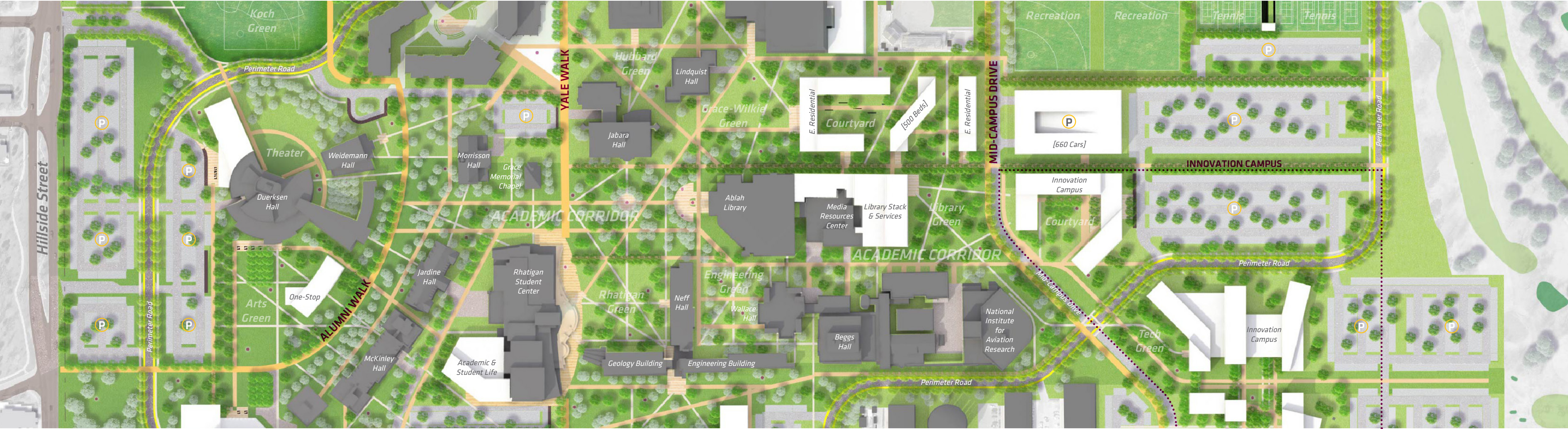




Active Corridor





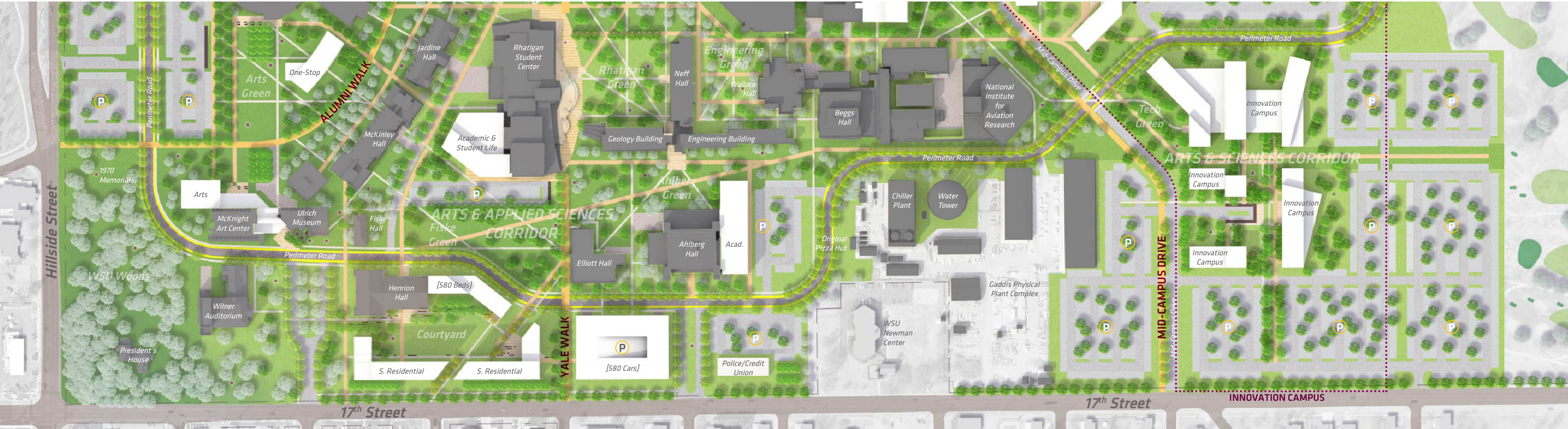


Academic Corridor

PROPOSED  
EXISTING







Arts & Applied Sciences Corridor

PROPOSED 

EXISTING 



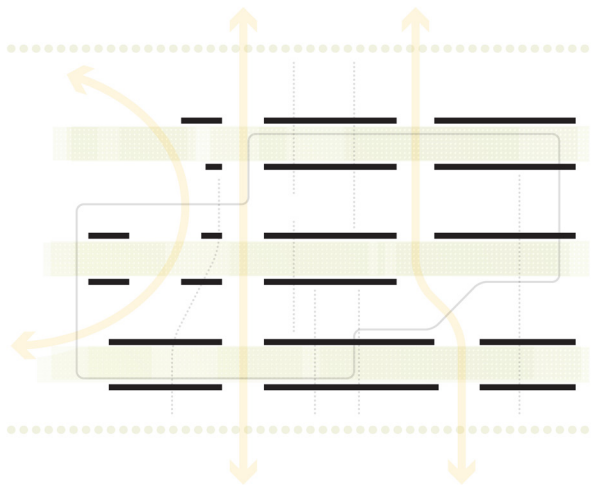




*Vision for Rhatigan Green, with Clinton Hall removal and landscape improvements.*

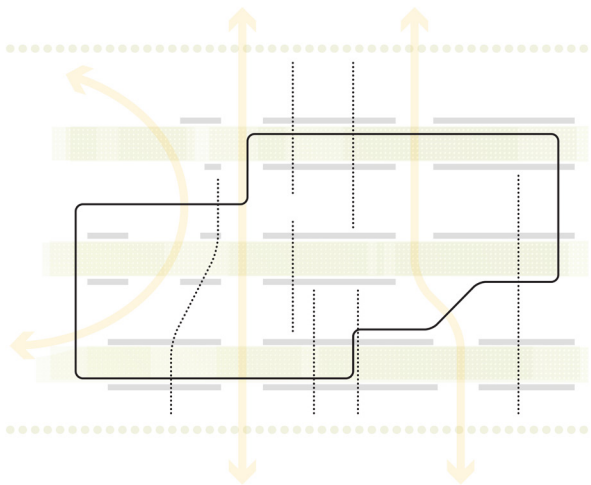


PROGRAM



All proposed buildings and programs on campus, as envisioned in the master plan, have an address on a corridor. This works to the advantage of both entities; building and program activate each corridor while each corridor provides an active and attractive address for each new building and program. The result is a concise and legible wayfinding strategy based on hierarchy and identity.

CONNECTIVITY



The master plan envisions connectivity on campus as a balance of pedestrian and vehicular patterns. Each is important in its own right and each must work together to create a well-connected campus with efficient movement patterns. The framework identifies two major connectivity solutions that further stitch together the fabric of Wichita State: 1) Pedestrian Connections; and 2) Perimeter Road Extension.

1. PEDESTRIAN CONNECTIONS

The pedestrian connections are a secondary means of pedestrian movement whose design and function is less than the axes, but whose role is the same: to unite the campus on the pedestrian level. These connections are both existing walkways as well as proposed. They are strategically placed between buildings to link the corridors and axes.

2. PERIMETER ROAD EXTENSION

The master plan envisions Perimeter Road as a viable and major circulation system on campus. Inside Perimeter Road lies the majority of academic life on campus. Outside Perimeter Road lies many major services, such as parking and utilities. By extending Perimeter Road to the east, a new campus boundary is formed, further defining the edge of growth as seen in the master plan.



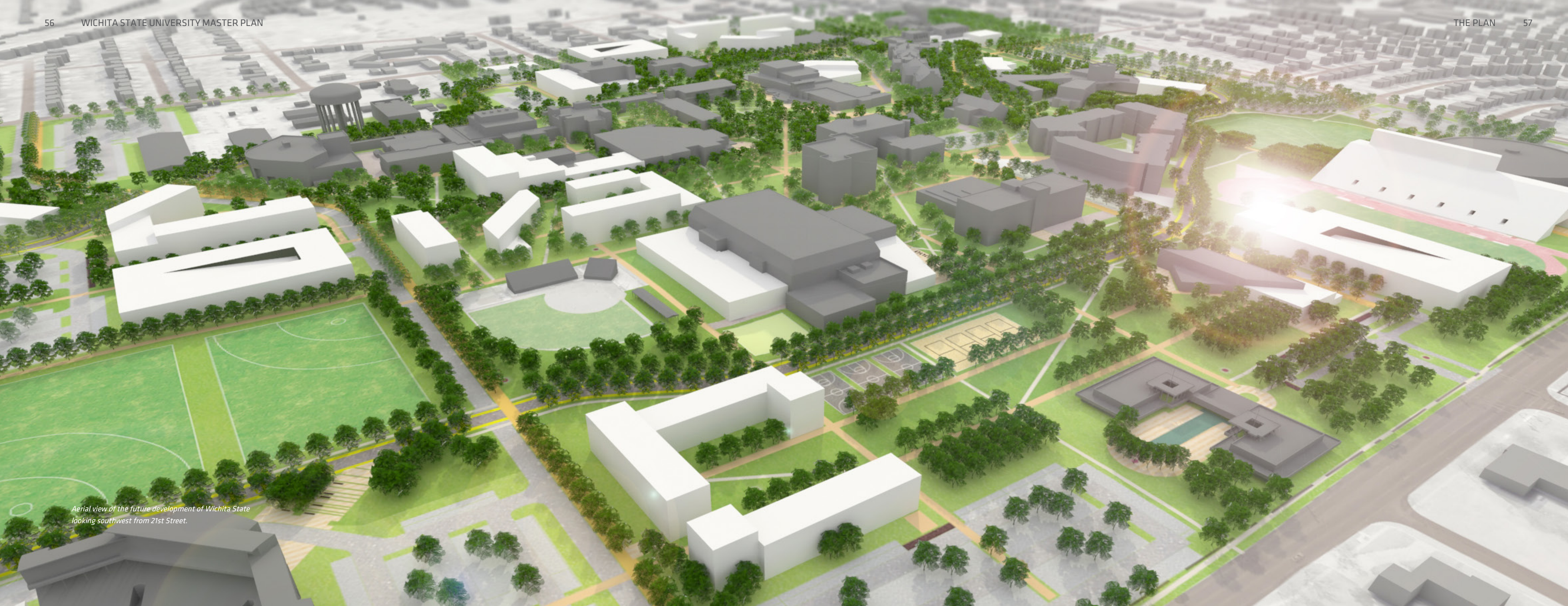


*Vision for Perimeter Road improvements at the Active Corridor.*



*Vision for Henrion Hall improvements and dining terrace. Henrion Hall is repurposed in the master plan for dining and social space serving the proposed adjacent residential district.*





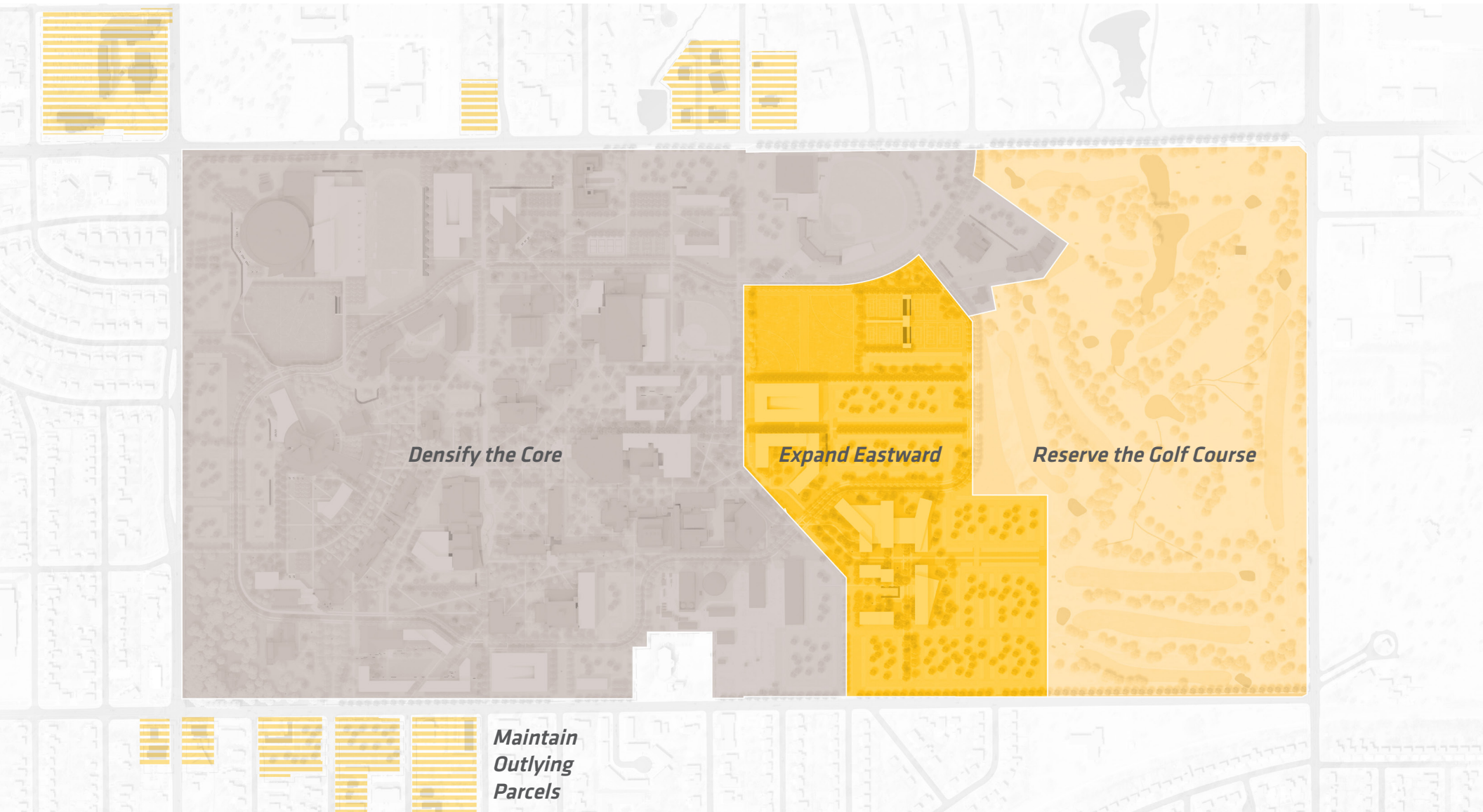
Aerial view of the future development of Wichita State looking southwest from 21st Street.



# Systems

At the campus scale are multiple systems, each unique in their focus. These kits of parts are a means of describing the functional intentions of the master plan. Each system will be discussed here as a stand-alone entity, then will be seen as a whole in the master plan.





Land Use Concept

LAND USE

A strategic land use strategy for the main campus is set forth in the master plan, seeking to: 1) densify the core of campus; 2) expand eastward; 3) reserve the golf course; and 4) maintain outlying parcels.

DENSIFY THE CORE

The existing core of campus is well defined; 21st Street, Hillside Street, 17th Street, and the eastern portion of Perimeter Road. Within this core lies the vast majority of academic, athletic, student life, and student services activity. In the master plan, this function remains and is augmented by the development of new building and landscape projects. These projects build on the successes of the array of programs at Wichita State and look to find parcels of land on which to grow those programs according to their specific needs.

EXPAND EASTWARD

The master plan promotes the infill of strategic parcels within the core as well as encourages the future growth of the footprint of campus. Based on patterns of development and the university’s ownership of the existing 18-hole golf course, the master plan envisions expansion eastward onto nine holes of the golf course. This land is reserved for academic, research, athletic, recreational, and campus services growth.

RESERVE THE GOLF COURSE

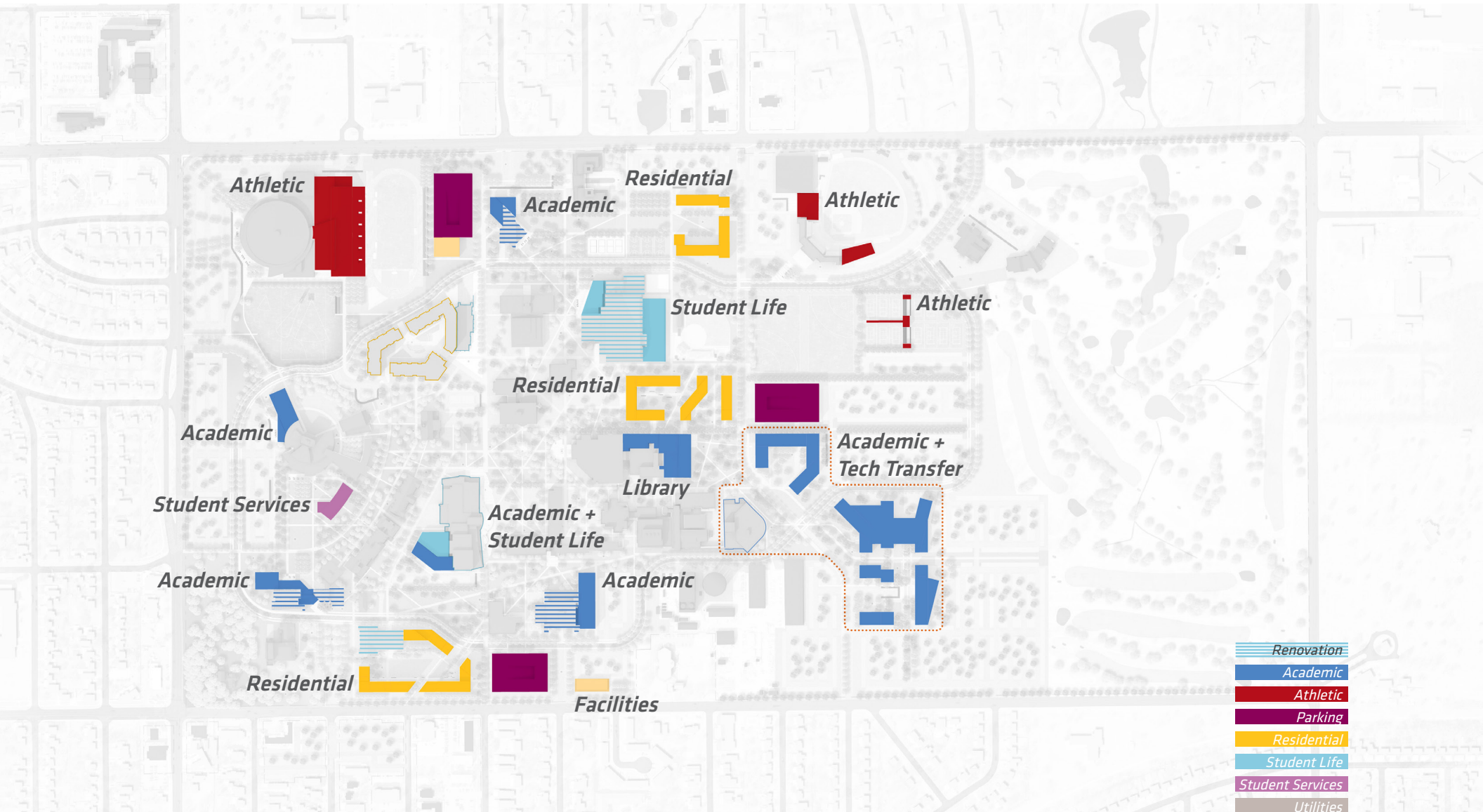
The Braeburn Golf Course is an asset to Wichita State both fiscally and programmatically. Yet as the campus continues to grow based on university plans and strategic guidance, the development of future properties is eminent. The master plan seeks to reserve the golf course in the near-term as a functioning nine-hole executive golf course, owned by the university and operated by a third party (as is existing). In the long-term future of campus, however, this land has prime development potential for both buildings and parking, as it is seamlessly connected to the core of academics, athletics, and services of the main campus.

MAINTAIN OUTLYING PARCELS

The university owns multiple landholdings along the perimeter of the main campus. It is the goal of the master plan to maintain these existing outlying parcels as functioning entities. As the plan develops and the strategic plan is implemented, further study of these sites may be needed in order to understand their incorporation into the larger university physical and programmatic fabric.

Improving the overall environment and amenities on campus are of utmost importance to enhancing the learning environment. Identifying areas for improvement that will not only make the campus more attractive to prospective students, but also encourage a strong academic setting for current students is the goal for the learning environment section.





Proposed Building Program

PROGRAM

RESIDENTIAL

Wichita State has approximately 1,000,000 square feet of residential space, or the equivalent of 2,500 beds currently on its main campus. These residences are core to the university's residential life component as they are often the most active participants on campus. Students living on campus have access to many of the schools amenities including access to the recreation fields and courts, dining services, and many study spaces for late nights. Promoting an engaging on-campus experience and safe living spaces that are in close proximity to classrooms and other services will increase the number of students choosing to live on campus.

In the next five to eight years 2,000 to 2,500 beds will need to be added to the campus inventory in order to meet the projected student population growth. Housing significantly impacts recruitment, both for regular students and for student-athletes which could benefit from stronger ties between living and learning housing complexes as well as strategic placement of recreation sites, plazas, and other amenities closer to on campus housing. The university should develop a strategic plan that offers phasing strategies to achieve the bed goal within the next decade.

ACADEMIC

The current campus has an established physical layout for the academic and service facilities on campus which promote a collegiate environment. The main campus has approximately 285,000 square feet of space devoted to academics (library services, classrooms, study rooms). The university has invested efforts in the maintenance and development of facilities for all of its academic schools and has focused efforts on expanding development for facilities with growing student populations. The satellite campuses are beneficial in centralizing technical or focused schools, and enable the main campus to focus on undergraduate studies.

Improving the overall environment and amenities on campus are of utmost importance to enhancing the learning environment. Identifying areas for improvement that will not only make the campus more attractive to prospective students, but also encourage a strong academic setting for current students is the goal.

RESEARCH

The integration of basic and applied research in the campus learning environment and technology transfer initiatives proposed will enable the institution to develop a strong presence not only in the academic realm, but also as an outreach to the local business community. The Innovation Campus will be a beneficial addition to the main campus as an incubator for research and business, while the creation and investment into the Metropolitan



Complex as a health campus will enable the specialized school to have central learning campus and easy access to the local community. Upgrades to aging facilities on the main campus including the library and the development of new facilities for learning and studying will encourage a high academic quality of life and great atmosphere for learning in the future.

STUDENT LIFE

The campus life framework identifies and highlights different amenities and communities that contribute to the quality of life on Wichita State’s campus. This includes not only open spaces, but also buildings and recreation fields that enable strong interaction amongst students. The current status of campus life does contribute to quality of life, but the existing investment into campus facilities and the new Rhatigan Student Center will encourage students, especially commuters, to stay on campus to study, dine, and socialize which is already conveying positive reinforcement in promoting a safe and active environment.

The master plan supports campus life development through the creation of community-like settings focused on major gather nodes and near areas of heavy campus use. The campus life component is addressed not only through the development of the axis, district, corridor framework, but also in the application of living learning centers in student housing complexes and the strategic placement of plazas and recreation sites around student life facilities and campus housing.

ATHLETICS

The master plan builds on the success of all Shocker sports teams. In creating a new athletic district along the Active Corridor, the university will see a clear and efficient use of space and resources for all student athletes, coaches, and administrators. The building program for athletics is based on clearly articulated current needs as well as a vision for the future success of all men’s and women’s teams.

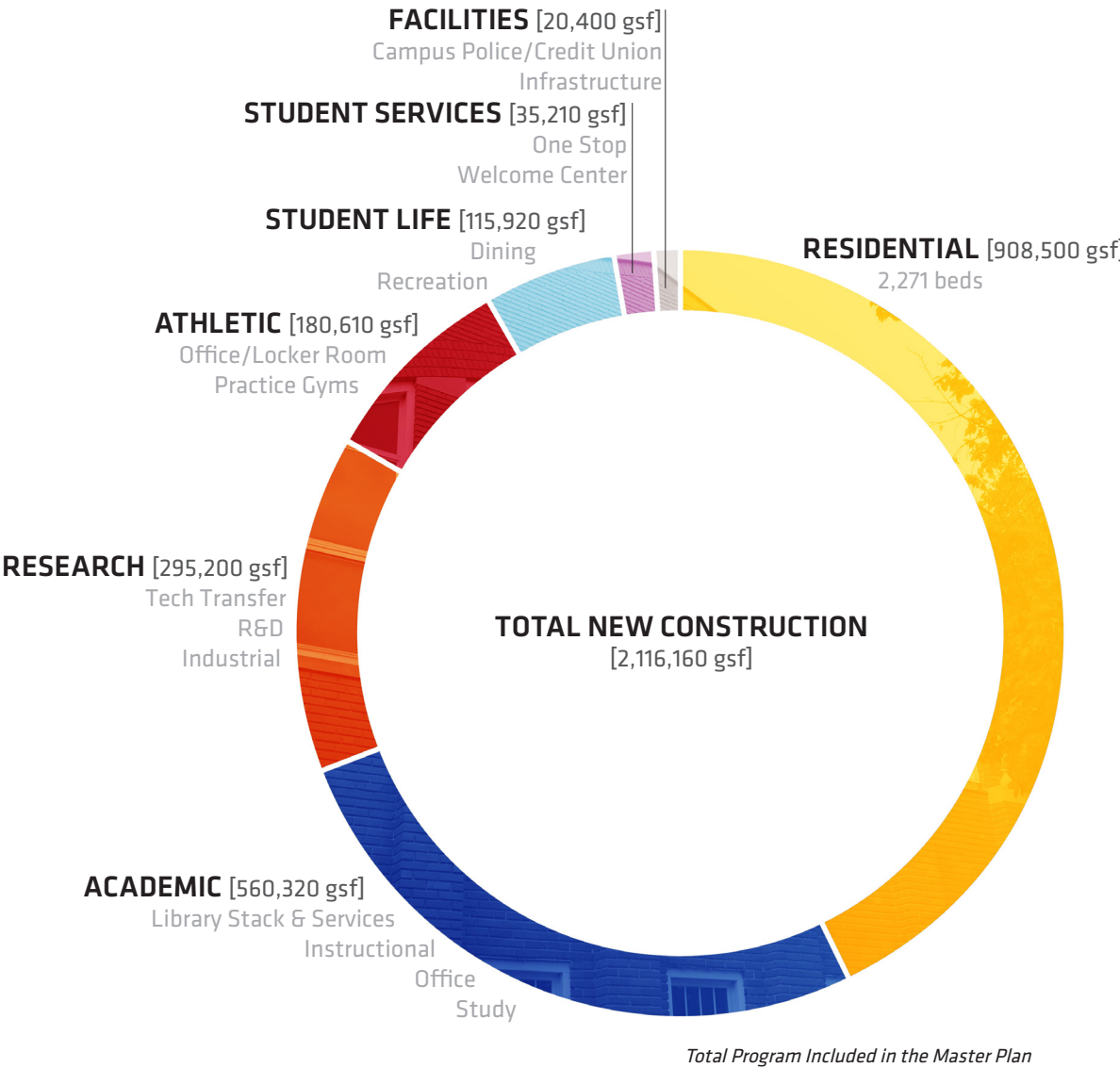
An addition to the east side of Koch Arena offers the space needed for offices, team rooms and lounges, storage, and new practice gyms and weight and fitness facilities. This takes the pressure off the existing space shortage in Koch while giving room for future growth potential. In conjunction with this project is the renovation of Cessna Stadium West and the track and field press box. This renovation is envisioned as the reconditioning of the stands/ seating elements and the enclosure of the amenities concourses as part of the Koch Arena expansion. While maintaining its status as the track and field venue for the university as well as KSHAA state track meets and other programming opportunities, Cessna Stadium sees a renaissance in the master plan. At Cessna West, capacity is provided for 18,000 spectators, enough for state track meets and conference events, while Cessna East is replaced by a new parking garage, serving both university and athletic needs. Track-side terraced seating in the landscape is provided in a few levels, offering passive seating opportunities. All field events stay in their current location on the open field just south of Koch Arena.

At Eck Stadium, stadium capacity growth is envisioned. Stands can be built on either side of the current layout, giving capacity to the amount desired. To the north of the existing stands, a new entry to the stadium is conceived, as new stands may be built to the southern edge of the new Bombardier Learjet Practice Facility. Improvements to Wilkins Stadium are conceived as incremental as necessary.

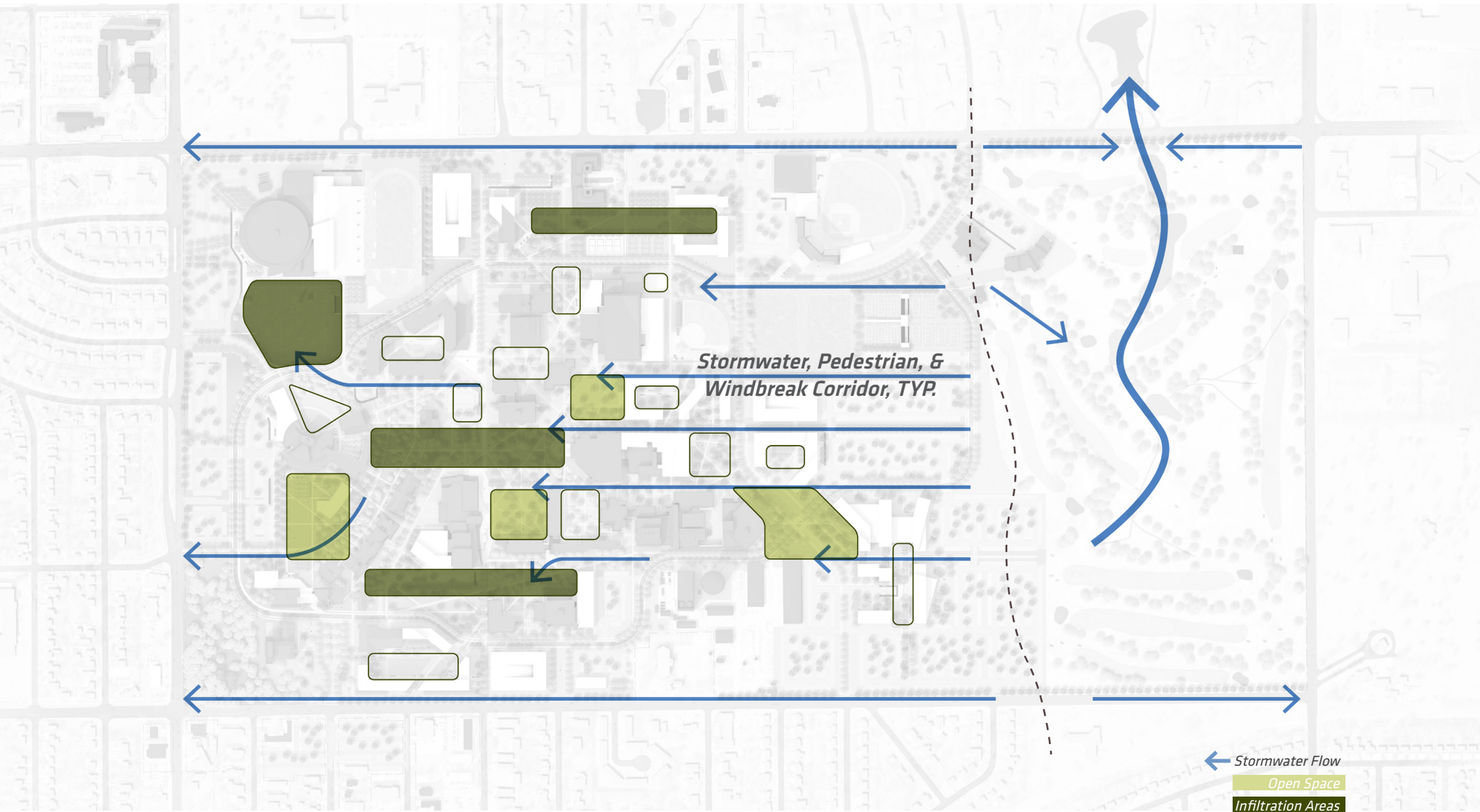
In the master plan, the Coleman Tennis Complex is moved from its existing location on 17th Street to a space occupied by the existing golf course. This move is calculated and while it would require the new construction of tennis courts, locker rooms, and other facilities, it adds to the overall athletics experience at Wichita State in having an address, along with all other athletic programs, on the Active Corridor.

DEMOLITION

Careful deliberation with the Master Plan Committee regarding the future physical development of Wichita State yielded a list of existing campus buildings slated for demolition. They are: CAC Theater, Clinton Hall, Coleman Tennis Complex, Grace-Wilke Hall, HR Building, Printing Services, Track & Field Auxilliary Building, Wheatshocker Hall, and the WSU Campus Police.







Proposed Hydrology

LANDSCAPE & ENVIRONMENT

STUDENT SERVICES

While comprising a small percentage of the overall program, a new student services strategy will provide a more efficient mode of delivering academic, financial, and general services offered to students. This new strategy is based on the articulated initiative of a One Stop for student services. The One Stop takes pressure off the multiple existing buildings hosting student services while locating the new building at a key position on campus. This new position caters to the pedestrian, as it is along the historic Alumni Walk on the Academic Corridor, as well as the commuter with parking provided nearby. Built amongst the existing historic landscape, the One Stop provides enclosure along Alumni Walk while further activating the western portion of campus.

FACILITIES

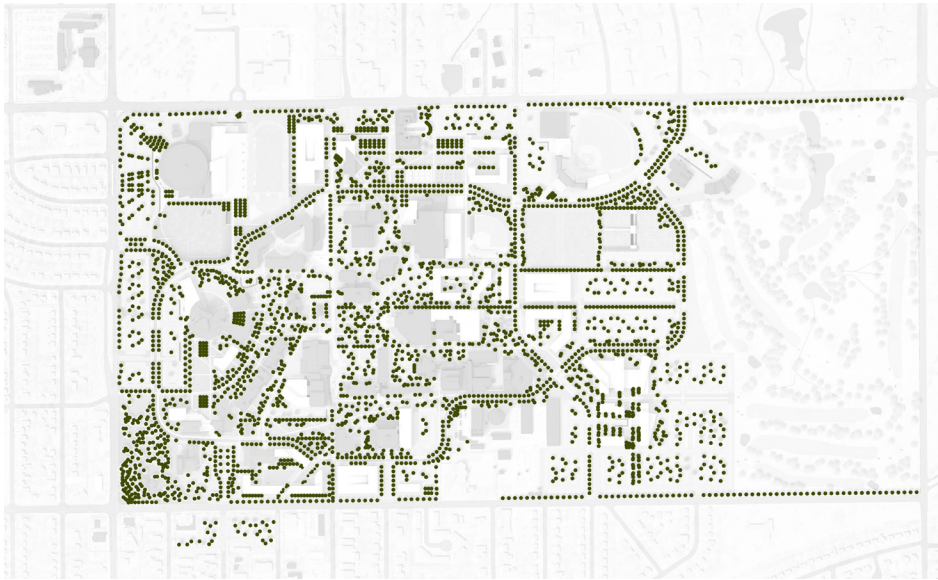
The master plan seeks to promote landscape and environmental values at Wichita State. Building off the existing cultural values of function in the landscape, the plan provides additional function in the landscape in the form of environmental principles (i.e. hydrology, vegetation, and microclimate). The plan also adds a layer of aesthetic and cultural value by providing a hierarchy of spaces on campus in which various levels of programming can take place, and by providing spaces on campus for the world-renown sculpture collection to thrive and grow.

HYDROLOGY

The majority of water conveyance on the existing campus can be seen through engineered solutions. Water is collected by means of catch basins and drain inlets and piped into the city's stormwater system. The master plan promotes this method of conveyance where necessary, but also seeks to provide a sustainable alternative.

In strategic locations based on the campus' topography and along new east-west pedestrian walks, stormwater may be captured, either by minimally-designed swale or by pipe, and directed to infiltration basins within the landscape. These infiltration basins hold three general functions; 1) they reduce the quantity of stormwater directed into the existing system while also reducing the velocity of flow of stormwater, 2) they improve the quality of stormwater heading into the system through the vegetated removal of harmful particulates in the water, and 3) through their specific designs, they can promote specimen tree growth in the landscape. This last point provides the rationale for planting trees along the east-west corridors of campus, providing much needed shade as well as providing a method of wind mitigation on campus.





*Proposed Tree Cover*

**VEGETATION**

Wichita State is an oasis of planting in the city of Wichita. On campus, there is a heritage of planting native species, most notably the planting of multiple Burr Oaks (*Quercus macrocarpa*) along the historic Alumni Walk axis. Special priority should be given to trees such as these on campus, which have a historic, cultural, and aesthetic value. These trees also set a good precedent for future tree planting on campus.

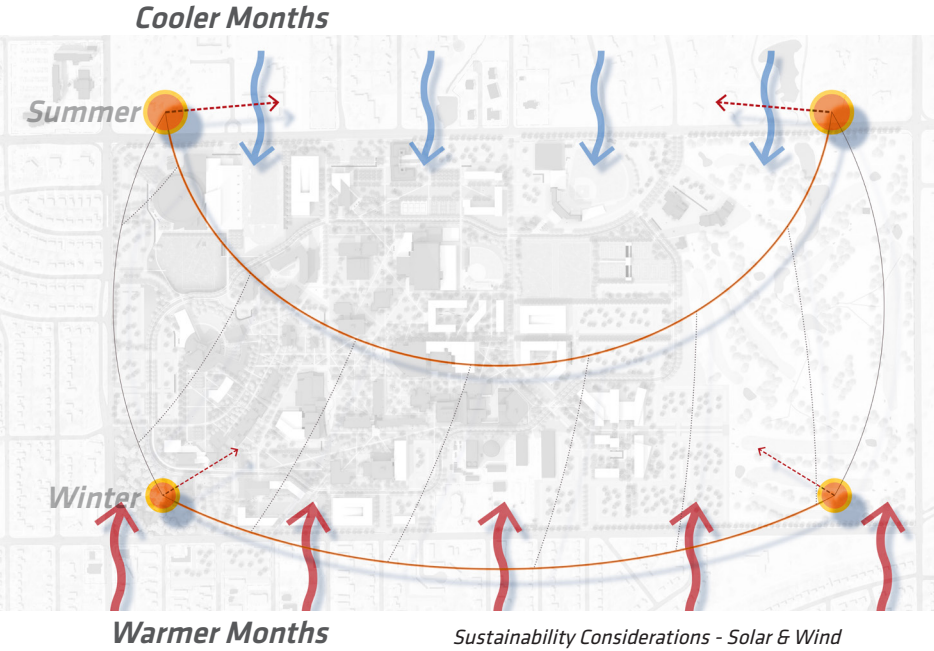
The master plan builds off this precedent by planting trees in locations that will achieve a dynamic value. This occurs in rows along east-west and north-south pedestrian walks, along the edges of campus and especially along streets, around campus as to shape open spaces and provide shade, and in parking lots to provide much needed shade and spatial definition. In all, the master plan increases the number of trees on campus by 83% (1,750 existing – 3,200 proposed). This not only provides much needed shade by bolstering canopy cover to over 13 acres, but in so doing, creates an even stronger sense of oasis and destination on campus.

**MICROCLIMATE**

In Wichita, winds generally blow from the north in cool months and the south in warm months.

Through the direction of stormwater to tree rows along the campus’ new east-west pedestrian corridors, a desirable outcome occurs in the way of wind mitigation. These pedestrian corridors effectively act as wind breaks. These wind breaks also provide much needed shade to pedestrians in the landscape.

The master plan maintains the existing iconic open spaces of the Wichita State campus while incorporating them into the new connective fabric of the organizational framework. The end result is a system of pleasant and memorable open spaces, acting as a clear method of wayfinding on campus. Implementation of the conceptual framework ties together each of the historical phases of development, creates a strong pedestrian experience on campus. To augment the pedestrian experience, and to serve the campus community, two additional landscape components are considered in the master plan: recreation and sculpture.







*Proposed Recreation & Open Space*

- Corridors
- Quads
- Courtyards
- Recreation
- Athletics

**RECREATION & OPEN SPACE**

The introduction of 2,271 new student beds on campus presents the need for new outdoor recreational spaces. According to standards set in place by the National Intramural-Recreational Sports Association (NIRSA), a campus of 14,400 students has need for the following program components (existing number of each at the time of the master plan is in parentheses):

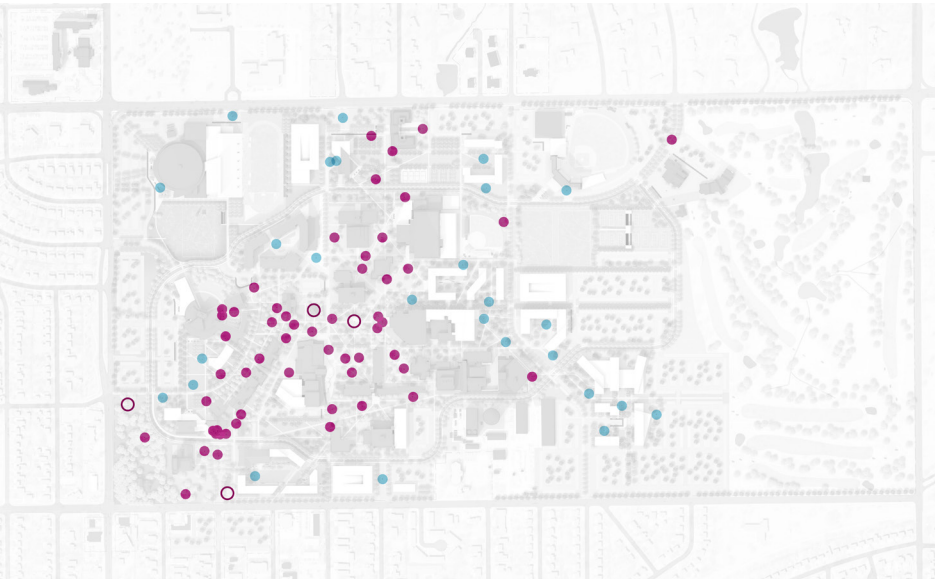
- » Four basketball courts (1)
- » Four multi-use – i.e. football, soccer, lacrosse, softball – fields (3)
- » Six tennis courts (6)
- » Four volleyball courts/sand pits (1)

The master plan facilitates this new need by reserving sites, both existing and proposed, along the Active Corridor for the various outdoor recreational programs mentioned. With an address along the Active Corridor, each of the new programs has an important role in delivering the health and wellness component vital to this corridor. Also, with the Heskett Center, Koch Arena, and all other athletic facilities located along the Active Corridor, the programming and staffing of the various recreational sites can be closely and centrally monitored, providing an efficient and dynamic model of recreation venues.

**SCULPTURE**

In association with the Ulrich Museum of Art, and housed on the Wichita State campus, the Martin H. Bush Outdoor Sculpture Collection is globally-recognized as one of the finest and most diverse collections on any college campus. With over 75 pieces in the collection, and sculptures by the likes of Botero, Goldsworthy, Indiana, Miro, Moore, and Rodin, the presence and power of art on campus is palpable. The master plan incorporates each existing piece into the plan while also providing ample room for the growth of the collection.

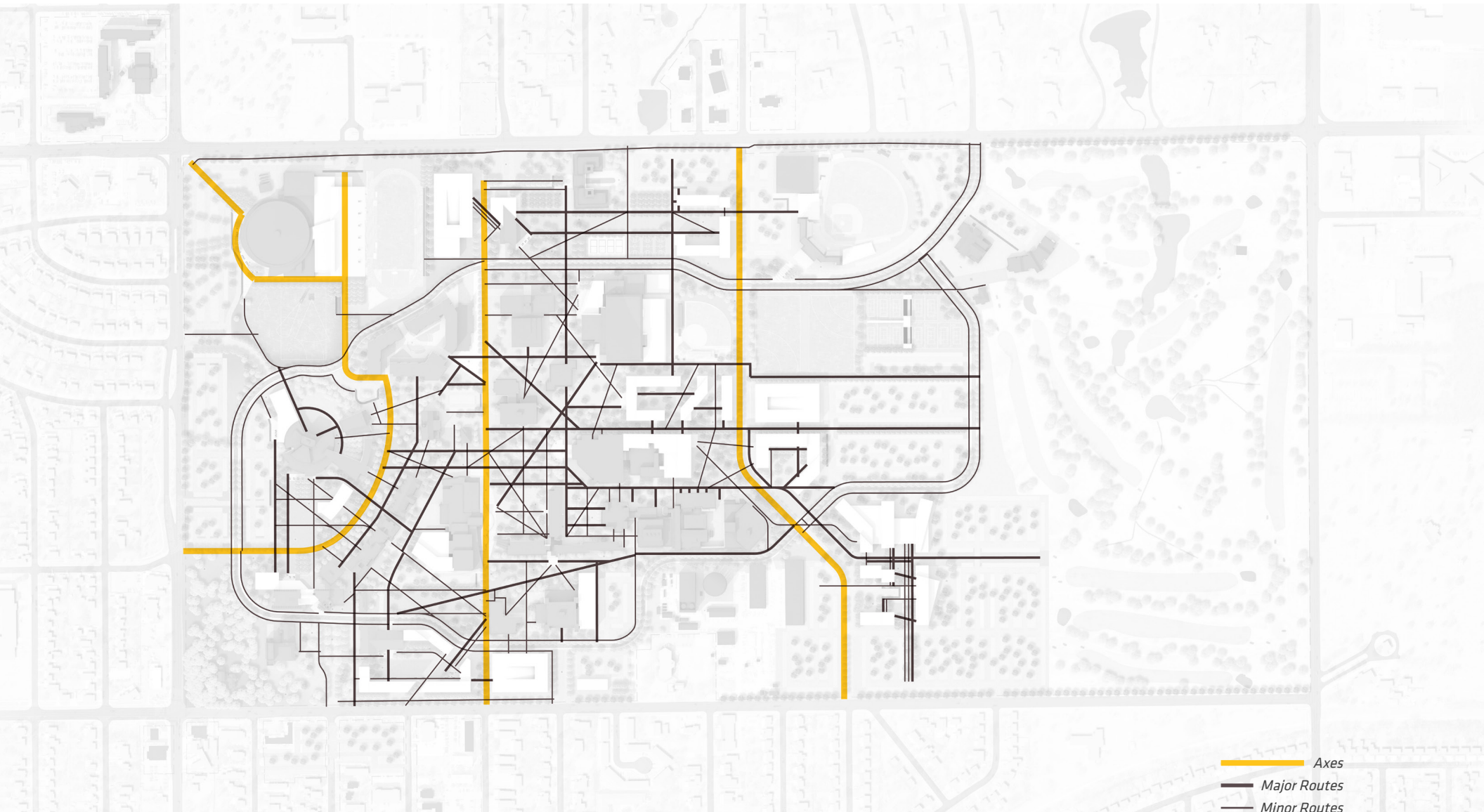
At the campus scale, the sculpture acts as the primary means of wayfinding throughout the university. Each sculpture becomes an intuitive landmark to the pedestrian, guiding one from place to place. As such, sculpture acts as yet another layer to the fabric of campus – one that stitches the campus together. At the site scale, the outdoor spaces on campus housing a piece sculpture elevate the quality and habitability of that space. Sculpture adds comfort and interest to Wichita State's various landscapes. It is recommended that each new building project on campus consider the inclusion of a sculpture component, with the addition of various stakeholders to help guide the process. This will ensure the presence of world-class art on campus for years to come.



*Existing & Proposed Sculpture Locations*

- Existing Sculpture
- Existing Iconic Places
- Proposed/Moved Sculpture





Proposed Pedestrian Network

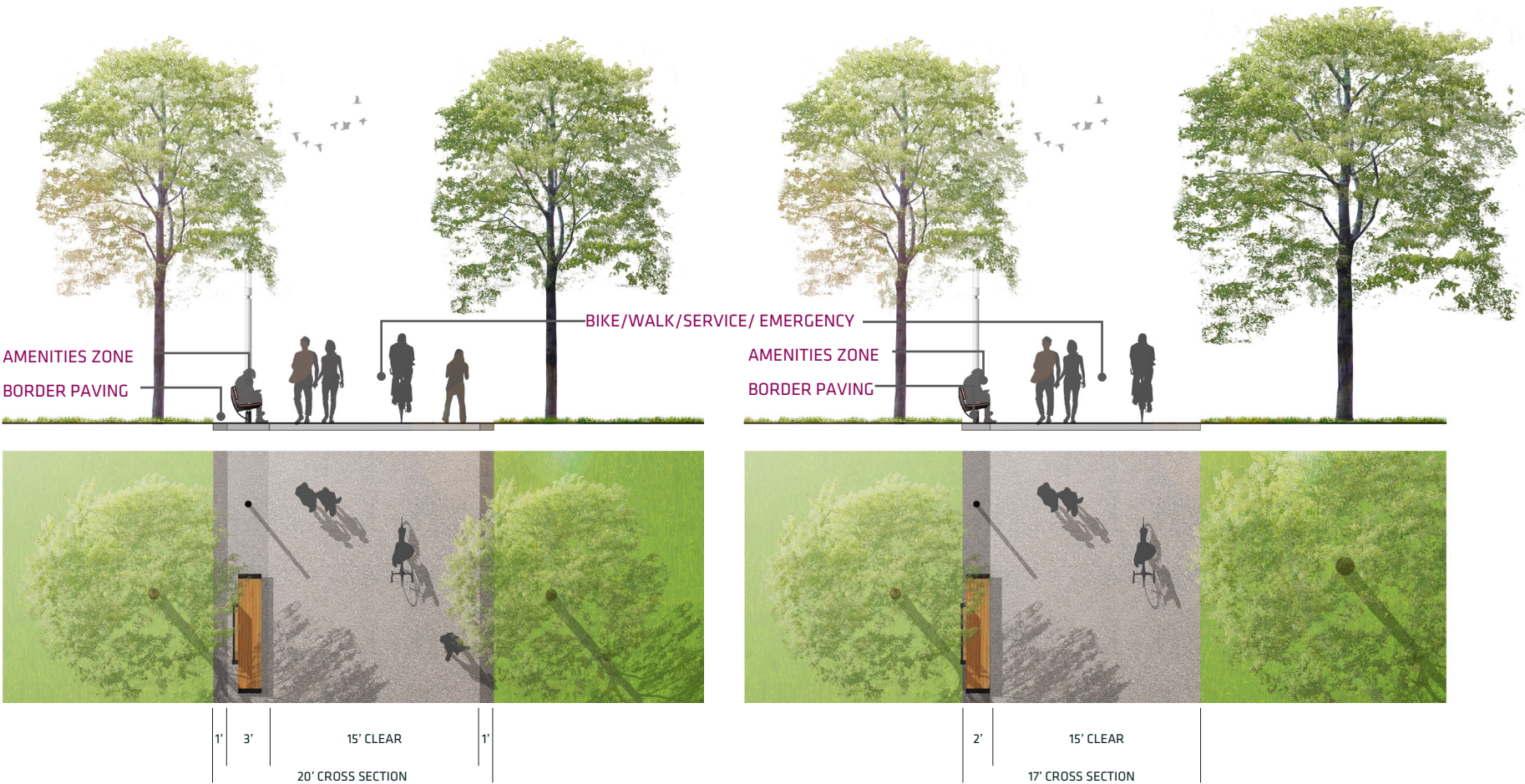
MOBILITY

Historically, the culture of mobility at Wichita State has been centered on the car. This can be traced to a number of factors, most notable of which are a consistently high commuter student population and a low student resident population. Through strategic planning and strong leadership, the balance of these two student populations is occurring, creating the need for a balance between auto mobility and pedestrian mobility. The master plan takes this into consideration and sets forth a strategy to reconnect the campus through a simple redesign of the campus streets, by strengthening of pedestrian connections, and introducing a campus-wide bicycle network. Together this new mobility network offers a safe a connected circulatory system throughout campus.

BICYCLES, SERVICE, & PEDESTRIANS

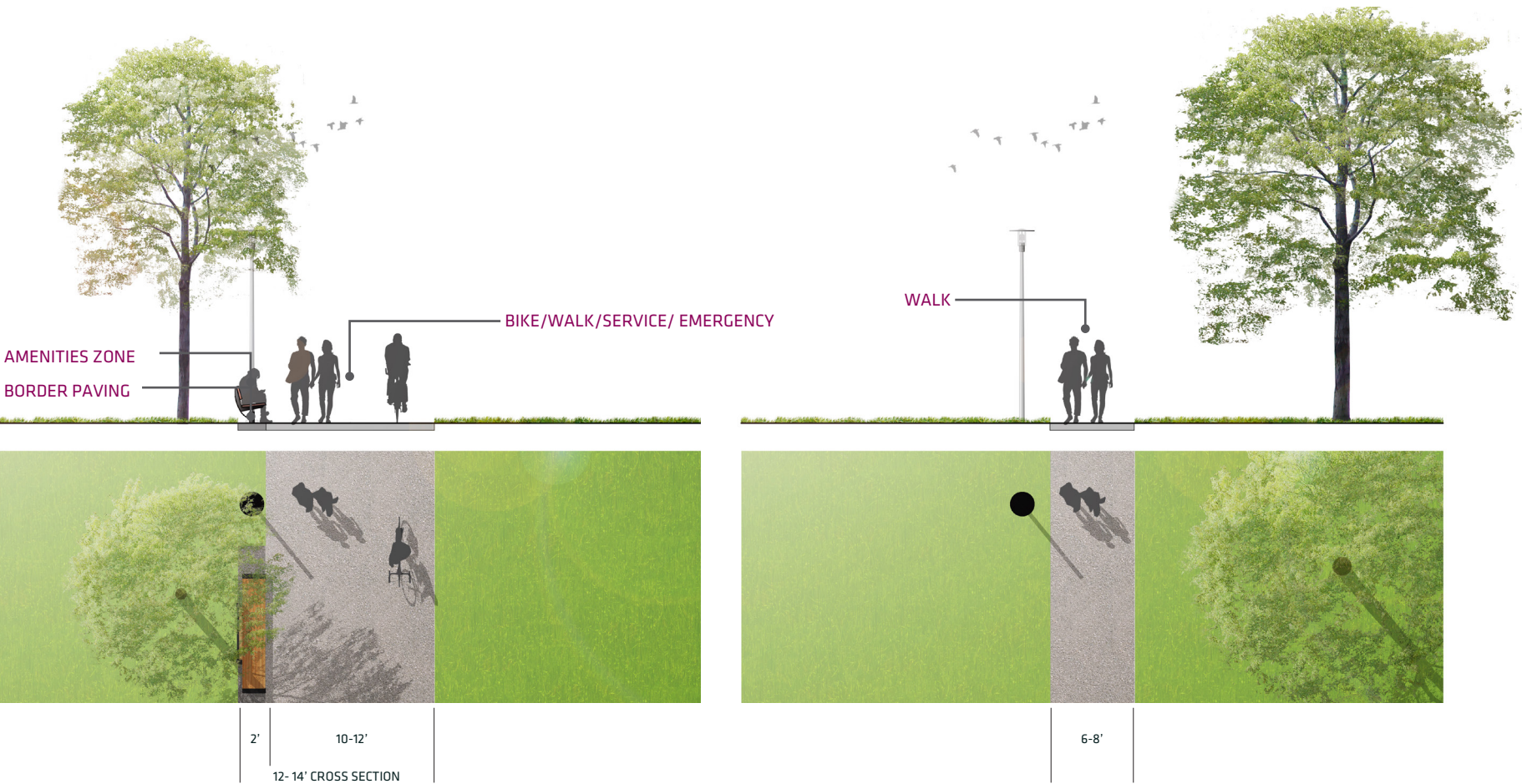
The master plan proposes the accommodation of a bicycle network, connecting student residents at the various housing sites on- and off-campus to academic, athletic, and parking venues. Bicycle lanes are provided along Perimeter Road through the simple restriping of the street. With an existing cross section of 34 feet, Perimeter Road can be easily and inexpensively restriped to contain the standard five foot bicycle lanes on either side of the street, as seen on many American college campuses and cities. This leaves 12 foot travel lanes for automobiles, which is an acceptable standard lane width. The proposed extension of Perimeter Road is an extension of this street width. Along Mid-Campus Drive, a shared road condition between automobiles and bicycles is proposed. This acts as a traffic calming device along a new well-proportioned street (two way traffic; 12 foot travel lanes in either direction). Bicycles and small service vehicles are also permitted throughout campus, but only along major walkways where the width of the walk is wide enough to accommodate bicycles/service vehicles and pedestrians (12 foot and wider walkways). From these paths, service is maintained to existing and proposed buildings and loading docks.





Yale Walk Section

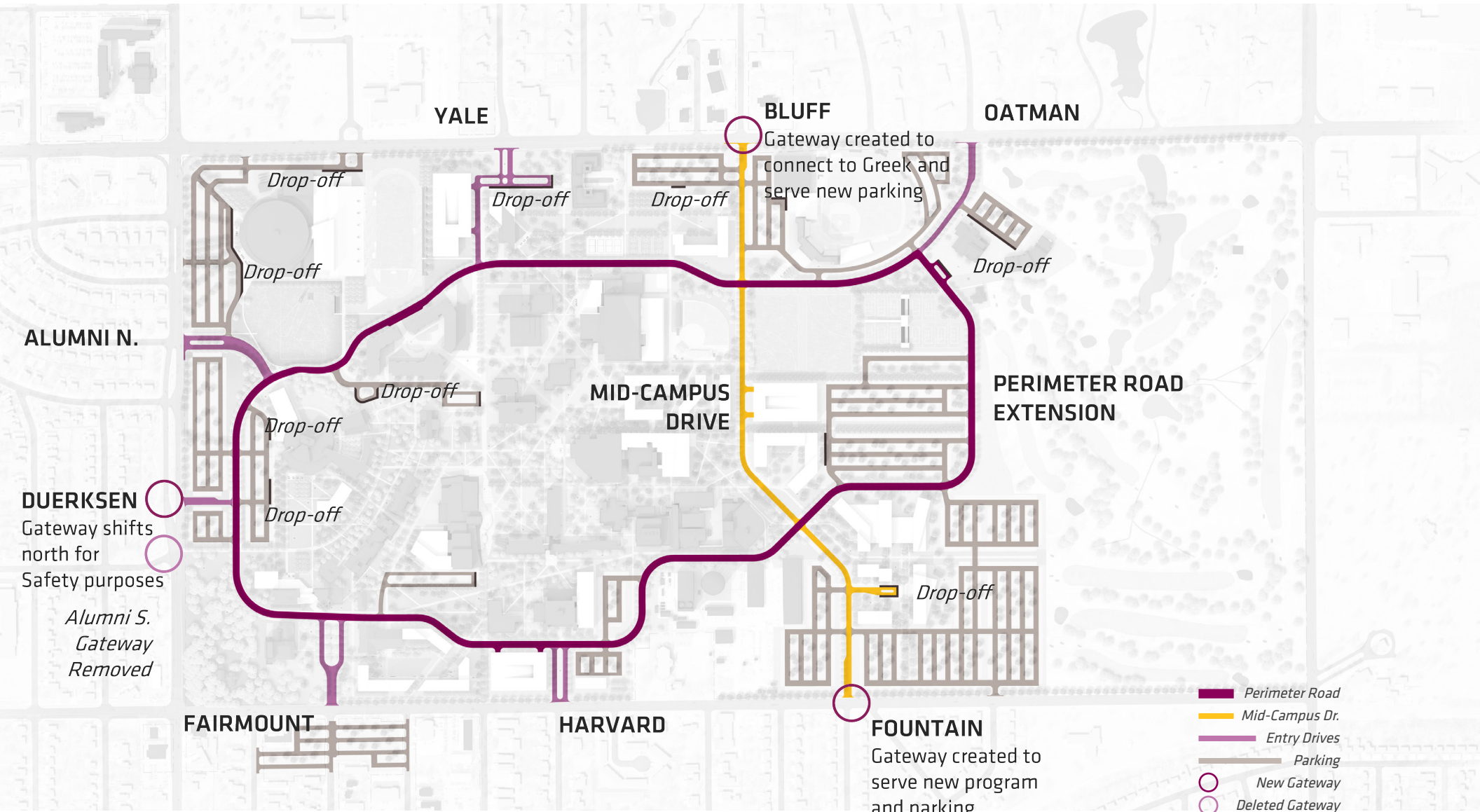
Alumni Walk Section



Major Circulation Path Section

Minor Circulation Path Section





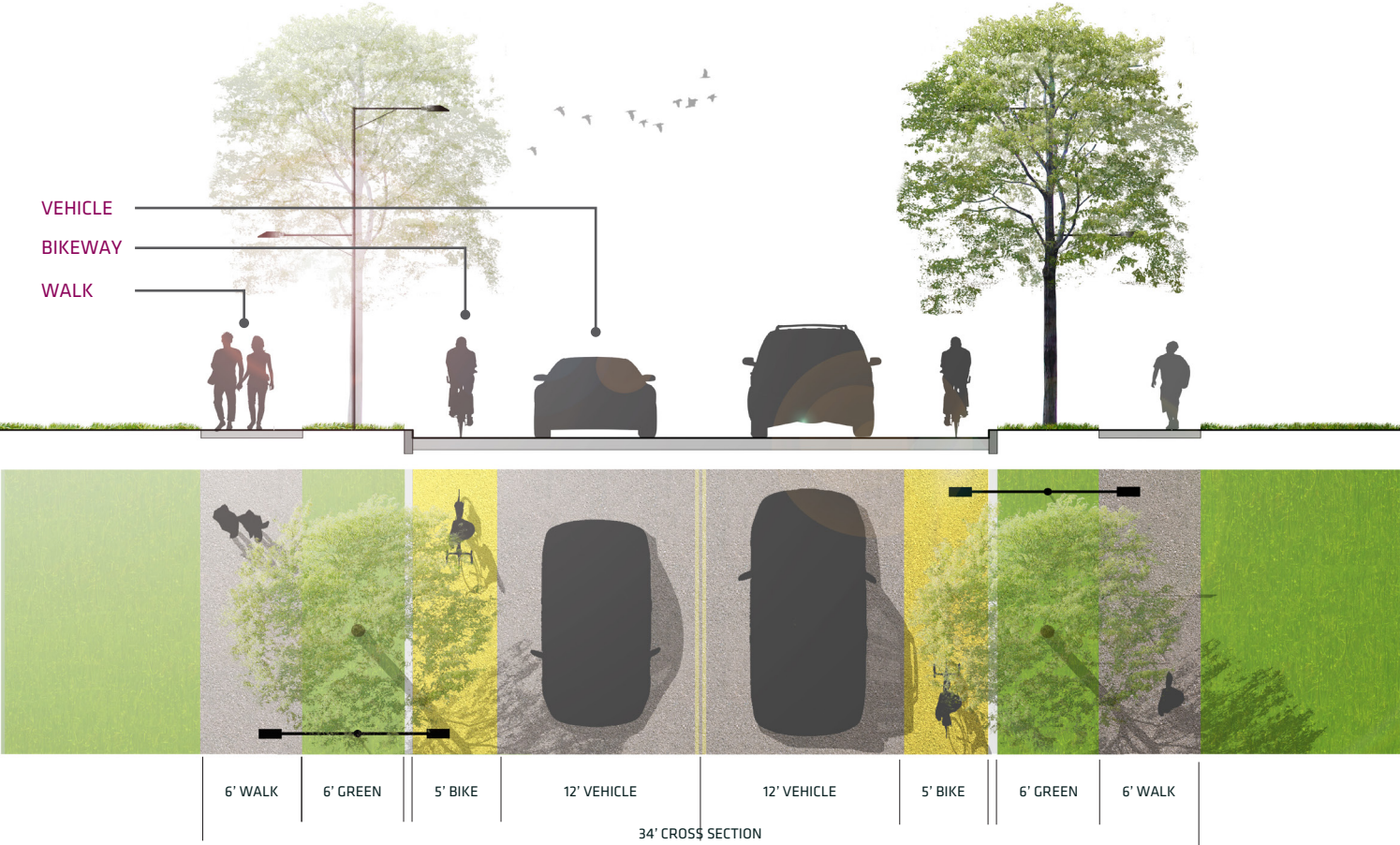
Proposed Vehicular Circulation

AUTO

Auto mobility starts at the campus gateways. Existing gateways into Wichita State are maintained with four important modifications. First, along Hillside Street, the master plan shifts the existing Alumni Drive gateway northward to a mid-block intersection. By moving the existing gateway, intersection blind-spots for vehicles and pedestrians at the existing crest of Hillside Street are mitigated, and a direct entrance to Duerksen Hall, drop-off area, and parking are achieved. Second, at 21st and Yale, the street on campus property is reconfigured to accommodate a new drop-off area for Devlin Hall and Corbin, as well as create a proper new entrance for the proposed parking garage at Cessna East. Third, a gateway at 21st and Bluff is proposed at the north end of the new Mid-Campus Drive, a secondary street offering a new direct connection into campus for the collection of Greek houses directly north of 21st Street, and reconnects the city street grid through campus. Fourth, at the southern end of the Mid-Campus Axis, a new connection is made at 17th and Fountain. As with the 21st and Bluff gateway, this gateway creates a new connection to proposed parking and programming at the core of campus, and reconnects the city grid.

Once in campus, drivers will find that Perimeter Road has been retained as a major street around campus, and has been extended eastward. This extension serves new program and parking and, acting as a new eastern edge to campus, contains the academic core within its bounds. Various short-term drop-off spaces around campus are placed around campus at strategic points as to connect to pedestrian walkways leading to the core of campus.



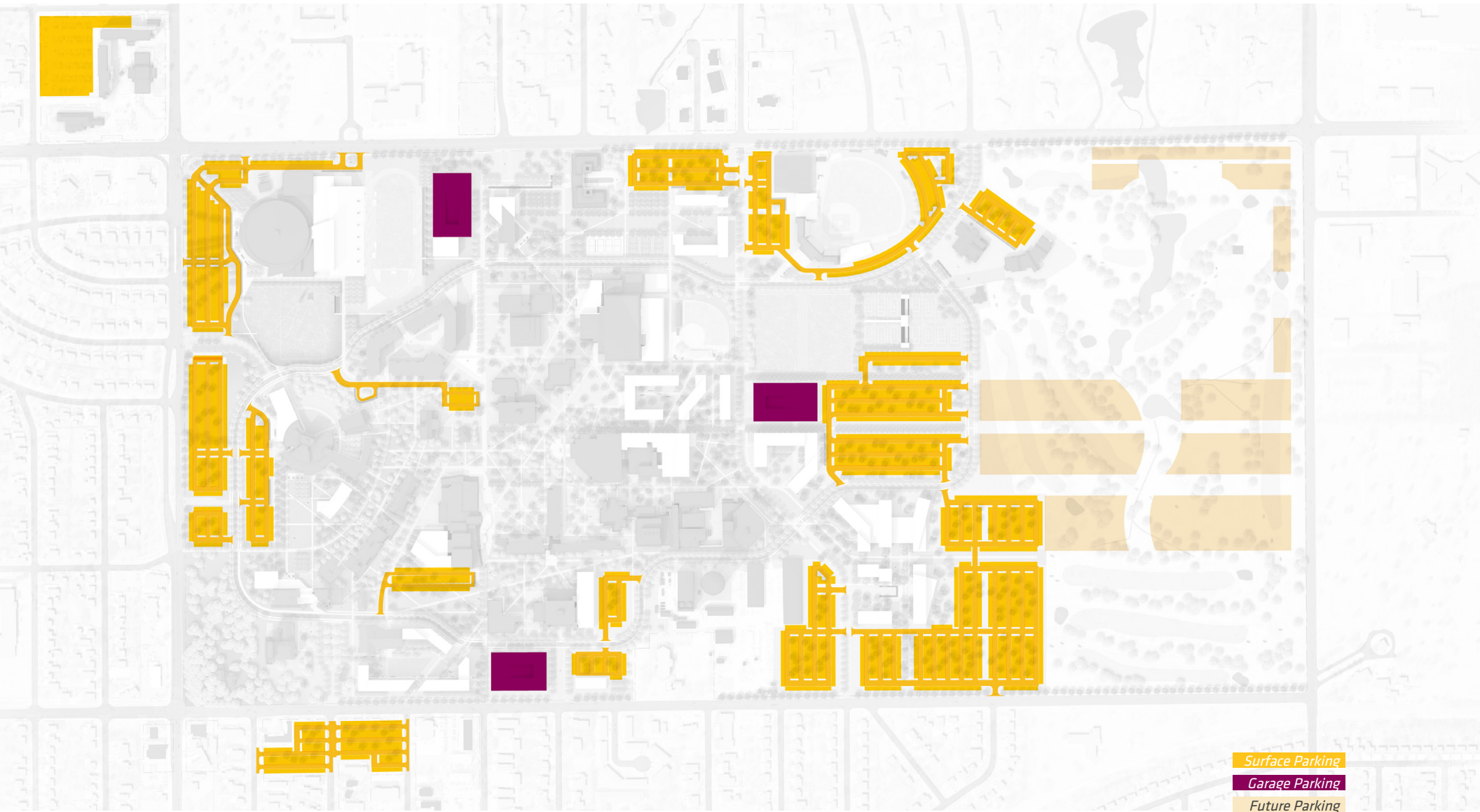


Perimeter Road Section



Mid Campus Drive / Entry Drive Section





Proposed Parking

PARKING

Parking at Wichita State is abundant as to provide ample space for the vast number of students, faculty, and staff who commute to and from campus each day. Over time, this created a value system devoted to the automobile and, specifically, the ability to park directly next to one’s destination. Through the help of Wichita State Campus Police, the master plan analyzes the existing parking lots, campus-wide, in terms of number of spaces, users, and occupancy over a common week on campus.

A summary of the findings shows that the existing number of parking spaces on campus is 6,833. The current peak hour for parking on campus is at 11am, at which time the occupancy rate campus-wide is 84%, or 5,770 occupied spaces (1,063 empty spaces). Adding a 10% buffer to the peak occupancy number, representing additional cars on campus as well as events parking at various venues, generates an effective existing demand of 6,347 spaces (474 empty spaces). As HC enrollment increases from 15,000 to 22,000, the parking demand will grow at the same rate. The result is a need for 9,400 parking spaces campus-wide. Note that this number does not assume any change in parking usage due to Transportation Demand Management, nor does it take into account changes in the percentage of students who are to become residents, living on campus.

The master plan meets this projected need and values parking as an essential campus resource. Looking to the future, toward an ideal development of the

campus, the master plan locates parking at the most essential places on campus – locations which are mostly outside Perimeter Road, for ease of access in and out of campus, locations that have direct pedestrian connections into the heart of campus, and places that are adjacent to buildings where ample amounts of parking are necessary.

GARAGE

The master plan proposes three parking garages: the North Garage, East Garage, and South Garage. Each garage is strategically placed on campus, serving populations coming to campus for daily academic functions as well as major and minor events at nearby campus venues. Each garage is conceived as four stories and three complete bays wide (180’). Altogether, the parking garages will house 20% of the campus’ future parking demand (1,900 spaces).

The North Garage is a 660-car garage located at the renovated Yale Street gateway. The garage serves athletic and other major events needs in the northern portion of campus. Yale Walk provides a direct pedestrian connection into the heart of campus, making this garage a well-connected campus entity. The realization of the North Garage is contingent on the demolition of the East Cessna Stadium grandstands and concourse. This demolition offers an opportunity for the lower level of the garage to be buried into the slope, currently occupied by the original grandstands.

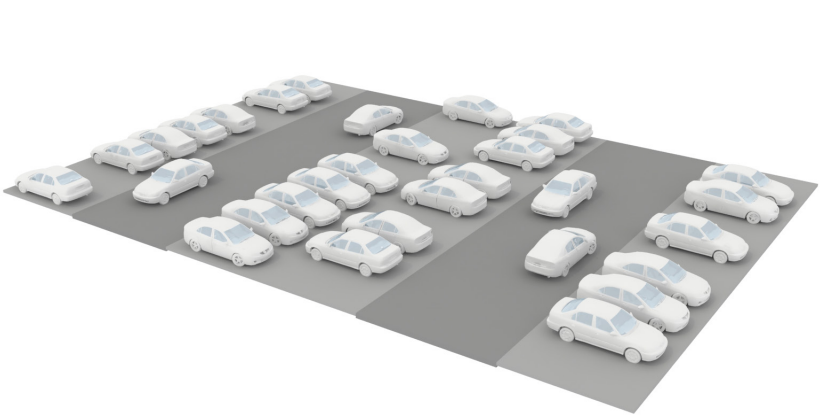


The East Garage is a 600-car garage near the core of campus as well as proposed residential neighborhood, recreation fields, business school, and library. Located on Mid-Campus Drive, the garage is easily connected to both 21st Street and 17th Street, making this an ideal centralized place for parking. The garage is also connected to the core of campus via major east-west pedestrian walkways. This garage is built on a portion of the existing golf course.

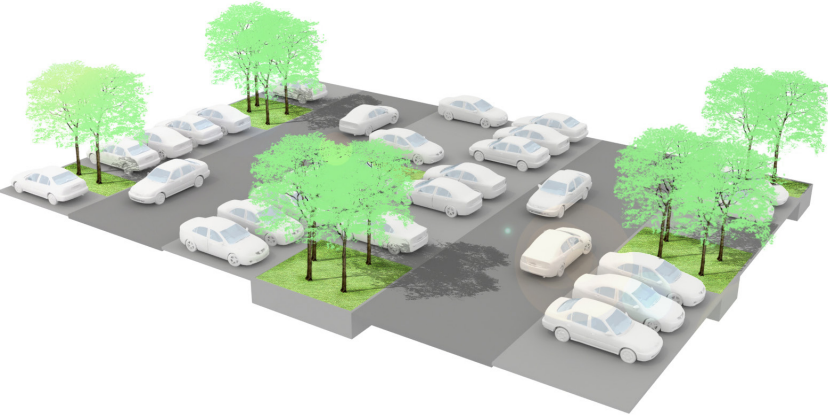
The South Parking Garage is a 580-car garage located along 17th Street at Harvard Street. Like the North Garage, this parking structure has a direct connection into the heart of campus via Yale Walk. Near to existing and proposed academic and student life functions, the South Garage will mainly serve commuter students, faculty, and staff.

**SURFACE**

The remainder of the parking on campus will be at-grade, paved parking lots, throughout campus. A number of existing parking lots are retained in the master plan while other parking lots have given way to building sites, serving the development opportunities identified by the master plan team. While it is necessary, for various reasons, to provide parking near Morrison Hall, Rhatigan Student Center, Ahlberg Hall, and Duerksen Hall, surface parking has been removed from inside Perimeter Road. This allows for sites to be fully developed and for better pedestrian connections throughout campus. Parking lots are conceived of as simple standard materials with striping demarcating each stall. Each parking lot will have spaces removed, here and there, for the planting of trees. This strategy has three major outcomes: it offers much needed shade to parking stalls, adding a level of comfort to the overall parking experience; it offers a pleasant, green aesthetic to campus, breaking down the sea of paving by way of planted spaces; it offers catchment areas for stormwater, further adding to the health and well-being of the trees planted.

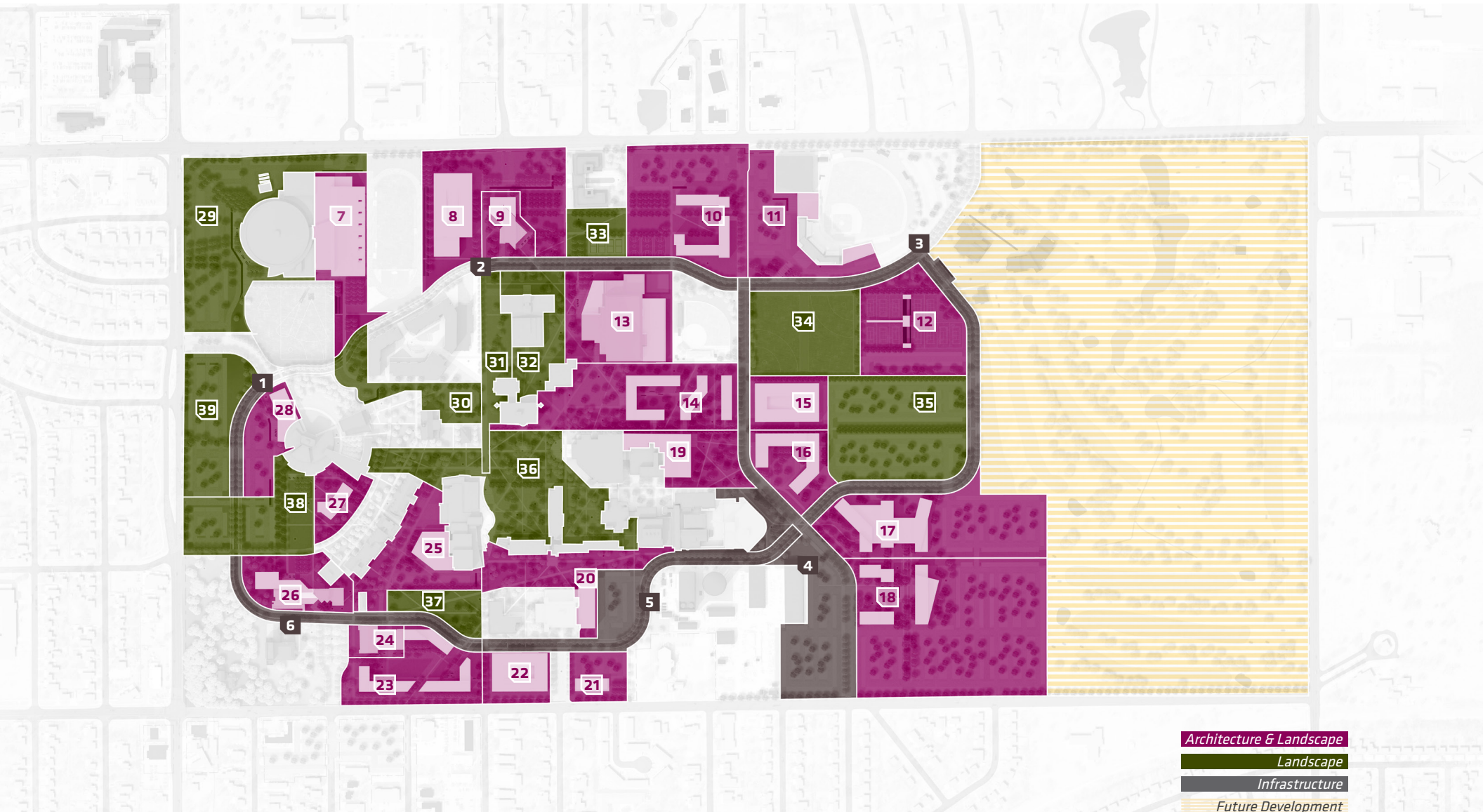


*Existing Parking Lots*



*Proposed Parking Lots Incorporate Tree Plantings for Shade and Stormwater Manageemnt*





*Proposed Projects*

# Projects

The 2014 Wichita State Master Plan provides a framework of the circulation, open space, and program and site development opportunities that guide the phased expansion of the campus over the next twenty years and more. The framework in the plan is not concrete; it can be transformed to fit the changing needs of the campus.

In addition to the proposed plan phasing, the master plan embarks on a new development pattern which reflects its rich history as three separate but united institutions over time. The plan will encourage not only a strong physical fabric within the university’s main campus and satellite institutions but also enable the school to further its relationships and engage the surrounding public and urban environment with which it is so directly linked.





Aerial view of the future development of Wichita State looking northeast from the Ulrich Museum.





2012 Aerial of MetroPlex

## MetroPlex

Wichita State owns the 27.9 acre Eugene M. Hughes Metropolitan Complex (MetroPlex) at 29th and Oliver, abutting local neighborhoods on all sides. This campus includes a 75,000 sf modern building for use as a conference center with offices, meeting rooms, kitchen, and other amenities, as well as a new dental services facility. The site also includes recreation fields, parking, and neighborhood stormwater facilities.

With the growth of the university's health professions programs, more space is needed than what is allocated at Ahlberg Hall. The master plan proposes these programs move to the MetroPlex, to form a unified health professions campus.

The new MetroPlex campus, as designed, will hold 153,000 gsf of new building space, built over two phases, to house new labs, research facilities, offices, small and large classrooms, and support facilities. Shaded parking spaces for 1,250 cars are also provided to serve the new campus.





MetroPlex Framework

The MetroPlex is designed with a conceptual framework, incorporating and utilizing existing site amenities, features, and buildings. The framework has four major components: 1) Program Loop, 2) Vehicle Loop, 3) Pedestrian Loop, and 4) Open Space.

**PROGRAM LOOP**

The Program Loop incorporates the existing dental services building and conference facility into the plan and proposes that new buildings form a loop, utilizing the existing building geometry. This loop forms an important public edge on Oliver Ave.

**VEHICLE LOOP**

The Vehicle Loop utilizes the existing points of entry into the campus, but creates a defined road in the heart of the campus. Parking is located directly off of this interior road.

**PEDESTRIAN LOOP**

The Pedestrian Loop is a 3/4 mile walking/jogging trail circumventing the campus. This campus and public amenity promotes healthy living and takes into consideration the mission and vision of the health professions.

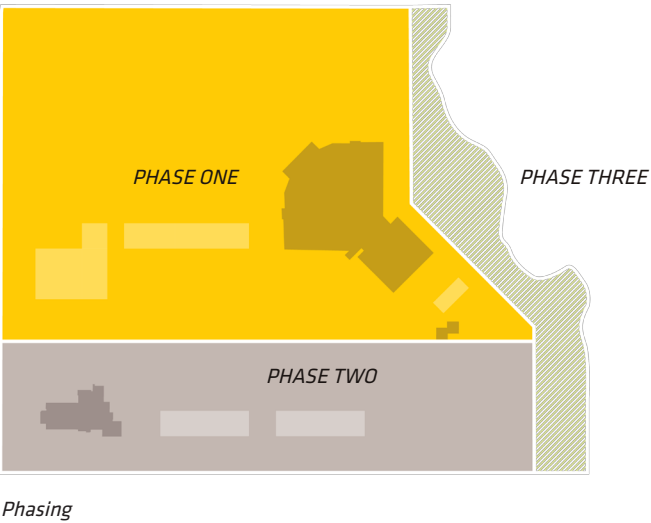
**OPEN SPACE**

Open Spaces at the MetroPlex serve the campus by offering a core central quad within the Program Loop, a waterfront/neighborhood-front green space associated with the Pedestrian Loop at the east end of the campus, and stormwater management corridors that collect all water from on-site for treatment before outflowing into the city system.





Metroplex - Health Professions Master Plan



The new MetroPlex campus may be built in three phases. Phase One accommodates the immediate square footage needs of moving the existing program from the Main Campus. Phase Two allocates space for the future growth of the program, while Phase Three is a full realization of a complete campus landscape experience.

Incorporating the existing buildings on site creates a cohesive building and landscape experience, unifying the campus fabric. Ample parking is provided for all services on campus and is connected to all buildings and open spaces via tree-lined walkways and corridors, creating a vehicle and pedestrian friendly campus. An active, health-driven landscape includes a jogging circuit with the opportunity to create a community amenity. Open spaces on campus serve the campus community by providing space for study, exercise, respite, and stormwater solutions.





*Metroplex - Health Professions Master Plan*



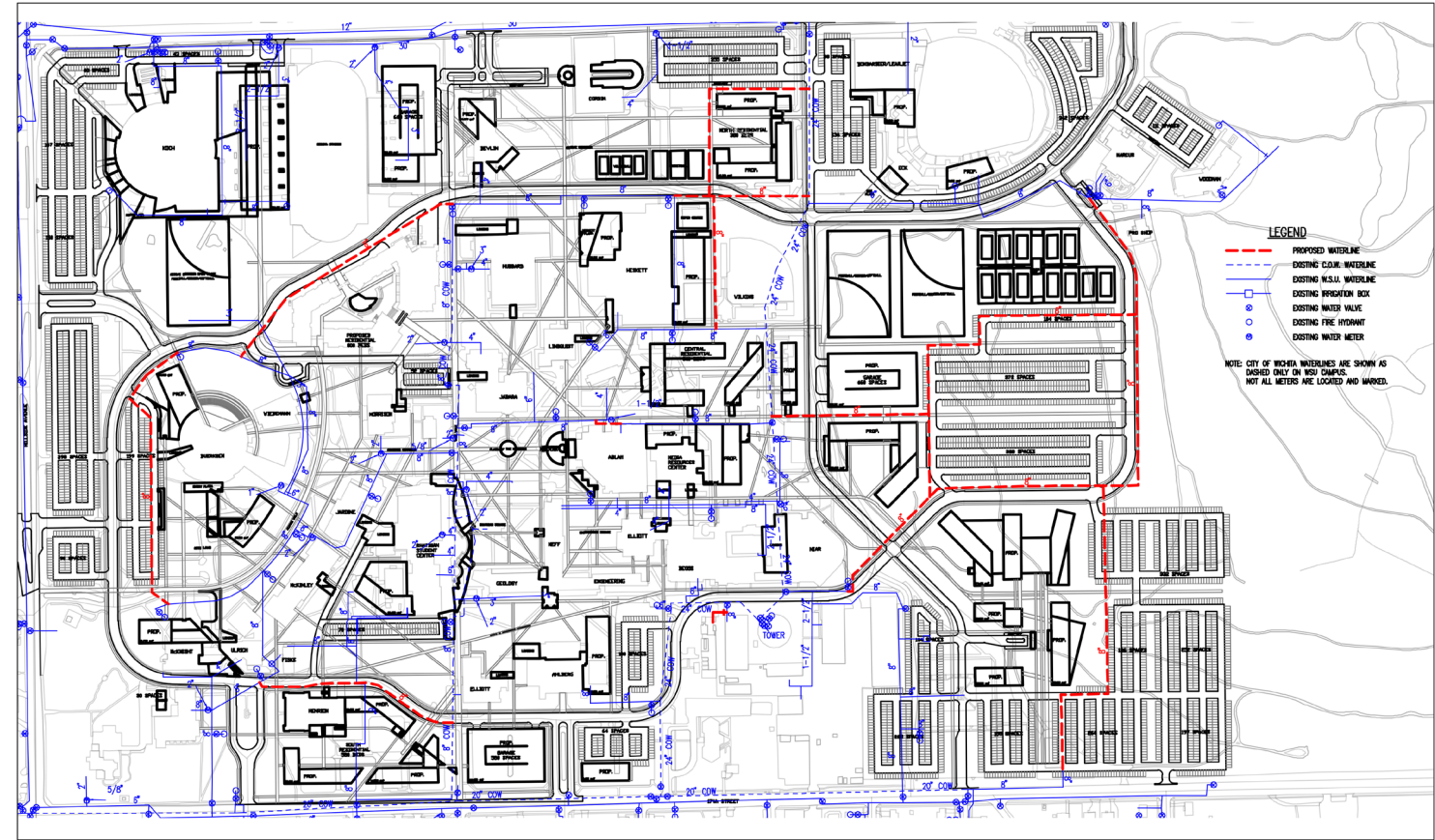




## 04 APPENDIX

**98**  
UTILITIES &  
INFRASTRUCTURE





Current and Future Waterline Infrastructure

# UTILITIES & INFRASTRUCTURE

Professional Engineering Consultants, P.A. has prepared this utility assessment memo for Wichita State to support the 2014 Wichita State Master Plan. The purpose of the assessment is to determine the infrastructure upgrade requirements for the University's potential long-term development and growth. The Civil infrastructure components studied include the underground domestic water and fire water distribution, the sanitary sewer system, as well as impacts of the City of Wichita Stormwater Management regulations. The boundaries of the main campus evaluation consist of Hillside Avenue on the west, 21st Street North on the north, the University golf course on the east, and 16th Street North on the south.

Information regarding the existing as-built conditions of the systems analyzed was obtained from the 2007 Utility Master Plan, record drawing data, discussions with Wichita State and City of Wichita staff with field verification of observable items, where appropriate.

Below are improvements recommended or required to the various facilities as future development continues. The appropriate phasing and sequencing of these improvements is dependent upon the order of any new building construction. It is highly important that the appropriate items and costs be considered during the planning, phasing, and budgeting process for proposed facilities on Campus.



WATER INFRASTRUCTURE

The University’s water distribution system primarily consists of 8 inch and smaller water lines. A 24 inch City water main extends through the eastern half of the campus from 21st Street North to 17th Street North. This City main is used as the primary supply for the lateral water lines owned by Wichita State. An existing 8 inch water main located east of the Rhatigan Student Center, extending south to 17th Street, is also owned by the City of Wichita.

The City of Wichita has a 2,000,000 gallon (2.0 MG) water tower located on South Perimeter Road. The tower’s primary use is for fire and emergency storage for this specific City of Wichita service area. The City supplies water to the Wichita State Campus by the use of variable frequency drive pumps. These pumps maintain a specific pressure range or hydraulic grade elevation range for the Wichita State Campus and the surrounding City service area.

The Campus water system was analyzed for fire hydrant coverage, system pressures, and available fire flows. An assessment of the current system conditions are summarized below.

FIRE HYDRANT COVERAGE

The 2007 Utility Master Plan study indicates that the majority of the Wichita State Campus appears to be well protected for fire hydrant coverage. However, the following were identified as areas with deficient fire hydrant coverage:

- » Northwest side of Duerksen Fine Arts Center
- » Southwest side of Cessna Stadium
- » East side of Woodman Alumni Center

Based on discussions with University staff, the 2007 Utility Master Plan recommended improvements for fire hydrant coverage, north of 17th Street, have been completed. Thus, fire hydrant coverage of the University as currently developed is adequate.

Additional fire hydrants will be required for future building coverage and to serve fire department connections for any future proposed developments. Exact locations shall be determined/coordinated with the State Fire Marshall’s office and the City of Wichita on a project by project basis.

WATER SYSTEM PRESSURES

The residual water pressures for the Wichita State Campus range from 59 to 39 psi. The majority of the site has a residual pressure of approximately 45 psi. Low pressure areas are mainly in the vicinity of the golf course clubhouse and are primarily due to high ground elevations rather than insufficient pipe sizes or materials. The system maintains it’s supplied pressures from the City of Wichita’s 24 inch main located in the eastern portion of campus. Water line improvements, such as pipe upsizing or replacement, to increase water system pressures are not recommended. Updated fire hydrant flow testing throughout campus is recommended as a real-time evaluation of the campus water system.

AVAILABLE FIRE FLOWS

Improvements identified in the 2007 Utility Master Plan provide for available fire flows greater than 2000 gpm for the entire Wichita State campus. The recommended improvements were as follows:

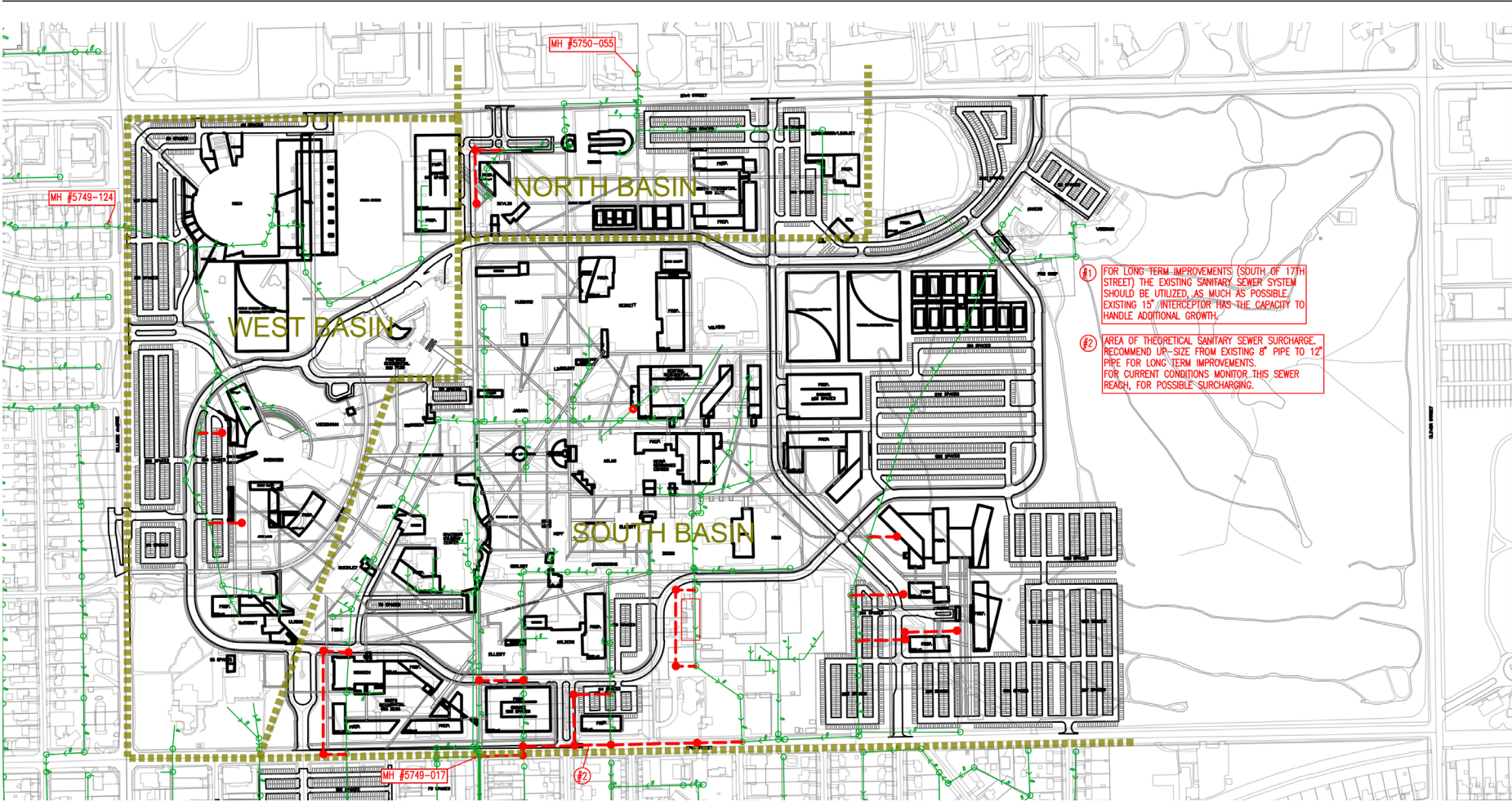
- » Construct a looped water system near Eck Stadium by installing an 8 inch line from the existing 6 inch line at Eck Stadium to the 8 inch line which serves the Marcus Welcome Center.

- » Construct a looped water system by closing the gap located at the area northwest of Hubbard Hall and southwest of Devlin Hall. Install new 8 inch line extension.
- » Replace existing 2-1/2 inch line with new 8 inch line north of Gaddis Physical Plant Complex and warehouse. This will provide an 8 inch looped system.
- » Find and open suspected closed valve or install 8 inch by-pass piping for the 8 inch main located immediately north of Ablah Library.

In discussions with Wichita State Facilities Staff, it appears that these recommendations have been completed. Thus, fire flows available for the campus, as currently developed, are adequate.

Additional improvements required on campus are based on the location of proposed developments and the proximity to available water system infrastructure, including any improvements necessary for water/fire service and fire hydrant coverage to support a new facility. Water systems are not currently available in the undeveloped eastern section of campus. Proposed developments east of the existing Perimeter Road will require water system extensions to provide water service and fire hydrant coverage for this area. Water line system improvements associated with the Campus Master Plan include looping water lines and connecting dead-end mains to provide for dual feed service connections and improved fire flow. Refer to the conceptual water distribution plan for proposed Master Plan water line installation locations and extents.





Existing and Proposed Sewerline Improvements

SANITARY SEWER INFRASTRUCTURE

The University’s sanitary sewer system consists primarily of 8 inch mains, aside from a 12 inch sewer main that is located east of the Rhatigan Center that extends to the south and connects to the City main located in 21st Street North. The campus sanitary sewer system is divided into north, west, and south sewer basins. The south sewer basin handles the majority of the sanitary sewer loading from the campus and discharges into the City of Wichita’s 15 inch interceptor sewer south of 17th street. The west basin consists of 8 inch mains that discharge to an 8 inch City main located in Hillside, south of Koch Arena. The north basin is the smallest basin and connects to an 8 inch main located in 21st street north, directly east of Corbin Education Center.

The sanitary sewer system was evaluated to determine the impacts of potential development and growth on Wichita State’s campus. For this evaluation, flow testing was performed by the City of Wichita at each of the campus basin connection points to the City mains. The instantaneous depth of flow, velocity and flow rate were recorded every 15 minutes over an extended period of time. A peak flow at each of the monitoring locations was determined from the raw data collected. Table I describes the time and location of the flow monitoring. Refer to the Conceptual Sanitary Sewer System Plan for graphic location.

| BASIN | MANHOLE NO. | LOCATION                | PIPE SIZE | DATE RECORDED      |
|-------|-------------|-------------------------|-----------|--------------------|
| North | 5750-055    | 2200 N. Roosevelt       | 8-inch    | 12/12/12 to 8/2/13 |
| West  | 5749-124    | 3121 E. Shadybrook Lane | 8-inch    | 2/5/13 to 7/29/13  |
| South | 5749-017    | 1728 S. Yale            | 15-inch   | 11/30/12 to 1/9/13 |

Table I: Flow Monitoring Information

| NORTH BASIN       | WEST BASIN         | SOUTH BASIN       |
|-------------------|--------------------|-------------------|
| Average: 27.3 gpm | Average: 10.79 gpm | Average: 152 gpm  |
| Peak: 159.9 gpm   | Peak: 167.3 gpm    | Peak: 626.3 gpm   |
| Peak Factor: 5.86 | Peak Factor: 15.50 | Peak Factor: 4.12 |

Table II: Existing Flow Summary

| BASIN | PEAK HOUR DEMAND (gpm) |
|-------|------------------------|
| North | 94.8 gpm               |
| West  | 99.8 gpm               |
| South | 446.9 gpm              |

Table III: Proposed Improvements' Sewer Demand



Table II provides a summation of the average and peak flows recorded at each of the monitoring locations. A peak factor, which represents the peak flow divided by the average flow, is also included.

Wichita State’s Master Plan consists of adding new buildings on campus in various phases over the next 20 years. Fixture counts are not available for the proposed buildings. As a result, a value of 0.0005 gallons per hour per square foot of building area was assumed to calculate future sewer demands. Table III illustrates the Master Plan’s proposed improvement peak hour demands in each basin for the sanitary sewer evaluation.

The Kansas Department of Health and Environment (KDHE) has established the “Minimum Standards of Design for Water Pollution Control Facilities” which includes the minimum acceptable design standards for sanitary sewers. In areas which are substantially developed, the design capacity is to be based on existing measured flows, an allowance for non-excessive infiltration / inflow, and capacity for reasonable future development. The vertical gradient (slope) shall be such that a velocity of at least 2.0 feet per second for pipes flowing ½ full will be maintained, based on Manning’s formula using n= 0.013.

Table IV indicates the flow and capacities of various pipe sizes. The design pipe flow capacities were utilized to determine if existing downstream pipes have enough capacity to accommodate the projected flows for the Master Plan’s ultimate build-out in each basin.

**In comparing the Full Pipe Capacities with the Future Design Flows in Table IV, peak hourly rates indicate the onsite North and West sanitary sewer basins will have sufficient capacity to accommodate the addition of the new buildings.**

The calculated peak hourly rates for the South Basin indicate the capacity of the 15-inch interceptor will be sufficient for the proposed future developments. However, the South basin is supported by multiple campus mains that discharge to a City of Wichita 8 inch main along 17th Street North before discharging into the 15 inch interceptor. It is recommended a portion of this 8 inch main along 17th Street North from Yale to Gentry be upsized to a 12 inch pipe to accommodate the proposed flows from any new buildings utilizing this 8 inch main. Upsizing the 8 inch main with the larger pipe will reduce the potential of surcharging as Wichita State expands their campus.

When feasible, connection to the existing campus 12 inch main in former Yale Ave right-of-way, north of 17th Street North, is recommended as it is directly connected to the 15 inch interceptor main.

As is the case with the Campus water system infrastructure, the sanitary sewer system availability east of the Perimeter Road is limited. Development in this area of campus will require sanitary sewer system extensions to provide sewer service. Additionally, aforementioned upgrades to the system located in 17th Street North would be required with the development of the eastern section of Campus.

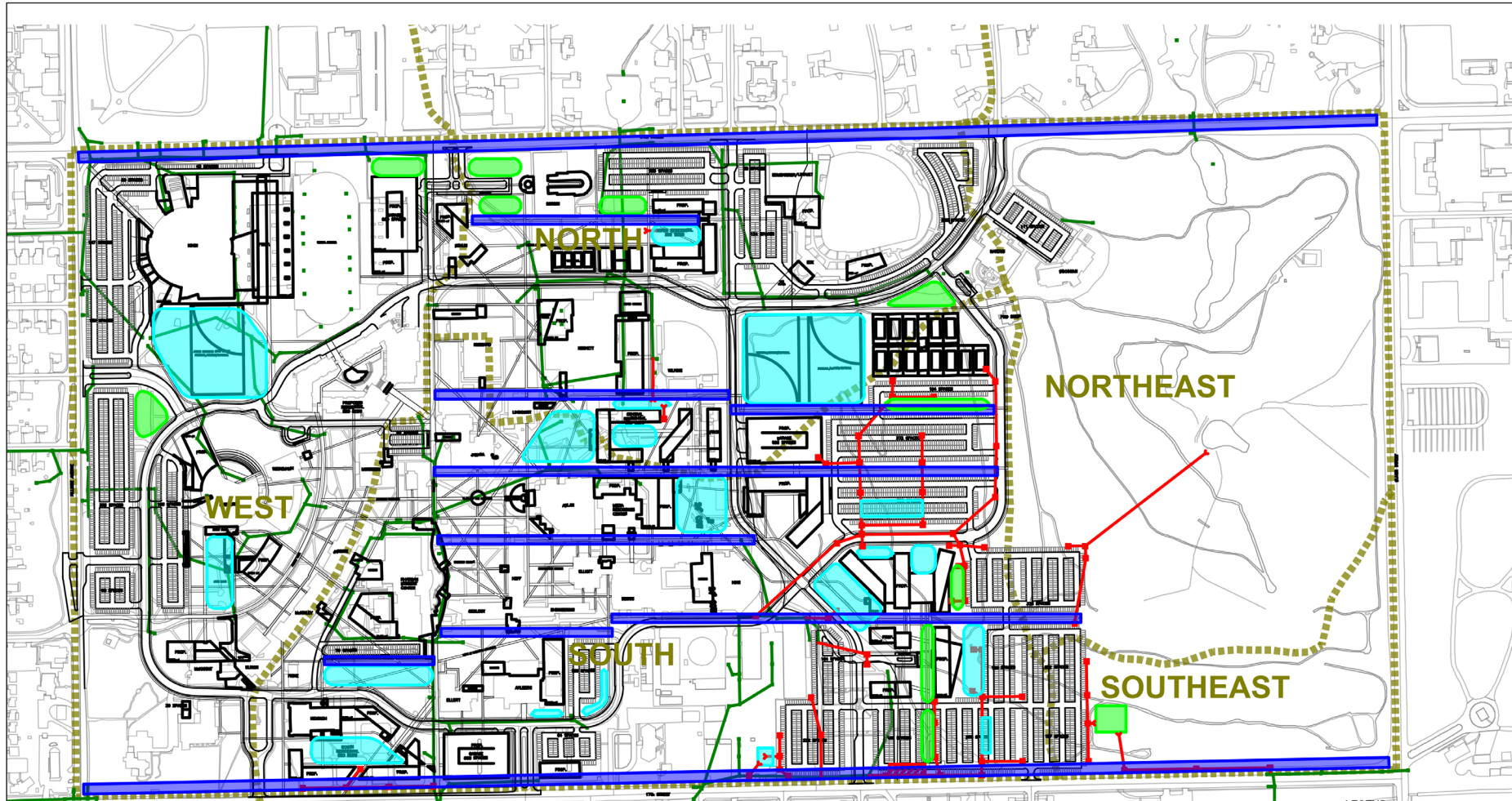
Ultimately, impacts to the systems will vary based on building type, building use, occupancy, and anticipated flow rates. It is highly recommended that site specific sanitary sewer evaluations be conducted with each proposed development at the time of project site programming and design.

A meeting was held with City of Wichita staff to review the above referenced flow test results and anticipated development impacts on downstream City infrastructure. City of Wichita staff indicated that there are no known issues with the proposed development flow contributions, but requested that as each project is developed, a meeting be held with the City of Wichita to review these impacts on a project to project basis.

| PIPE SIZE (in) | ROUGHNESS (n) | SLOPE (ft/100ft) | AREA OF PIPE (sf) | HYDRAULIC RADIUS | Q (cfs) | Q (gpm) | Q (cfs) | Q (gpm) |
|----------------|---------------|------------------|-------------------|------------------|---------|---------|---------|---------|
| 8              | 0.013         | 0.004            | 0.349             | 0.017            | 0.766   | 344     | 0.598   | 268     |
| 10             | 0.013         | 0.0025           | 0.545             | 0.21             | 1.098   | 493     | 0.857   | 385     |
| 12             | 0.013         | 0.00194          | 0.785             | 0.25             | 1.573   | 706     | 1.228   | 551     |
| 15             | 0.013         | 0.0032           | 1.227             | 0.31             | 3.662   | 1644    | 2.860   | 1284    |

Table IV: Sanitary Sewer Flows & Capacities





Existing and Proposed Stormwater Management Areas

**STORM WATER**

Topographical characteristics of the Campus were analyzed using Light Detection and Ranging (LiDAR) information obtained from available online databases. A study of this Campus topography revealed five identifiable major drainage basins: West, North, Northeast, Southeast, and South; as shown on the Conceptual Storm Water Management Plan.

Storm water runoff generated by the Wichita State Campus is currently managed by a network of multiple underground storm sewer pipe systems, with isolated locations providing storm water quantity and/or quality control.

Existing Storm Water Quantity/Quality Management Facilities for each of the basins are as follows:

**WEST**

- » Above ground regional detention facility south of Koch Arena. Facility is also utilized as athletic field for Track and Field Events as well as recreational area for students.
- » Underground detention facility located beneath parking lot adjacent to Hillside.

**NORTH**

- » Above ground regional retention pond located north of 21st Street, northeast of Corbin Education Center.

**NORTHEAST**

- » Above ground regional ponds incorporated into the landscape aspects of the University golf course.

**SOUTHEAST**

- » No known facility. Undeveloped overland flow discharge to City of Wichita storm sewer system.

**SOUTH**

- » No known facility. Direct discharge to City of Wichita storm sewer network.

Limited portions of the basins outlined above are managed through the associated management facilities identified for each basin. Many areas of these basins are directly discharged to the City of Wichita storm water pipe network without quantity and/or quality management by these facilities. There are no known issues associated with the existing campus storm water management facilities.



The City of Wichita has adopted a regional storm water management policy with the intent to provide a comprehensive approach to storm water management. This policy integrates both drainage design and the control of storm water quantity and quality. In accordance with this policy, the storm water management requirements imposed onto development shall be based on the existing impervious condition of the subject tract, as well as the amount of impervious surface proposed by the new development. Simply stated, redevelopment of previously developed land may be eligible for less stringent storm water management requirements depending on the proposed improvements.

A summary of the City's storm water management requirements is as follows:

**DEVELOPMENT OF UNDEVELOPED LAND**

- » Pre vs Post Development Detention: waived if adding <0.5 AC of additional impervious area. If more than 0.5 AC additional impervious area then the development must detain 2, 5, 10, and 100 year peak outflow rates to less than existing conditions.
- » Water Quality: required if disturbing more than 1.0 acre. Development must treat site runoff to 80% TSS removal via City approved storm water Best Management Practices (BMP's).

**REDEVELOPMENT OF DEVELOPED LAND**

- » Pre vs. Post Development Detention: waived if adding <0.5 AC of additional impervious. If more than 0.5 AC additional impervious area then the development must detain 2, 5, 10, and 100 year peak outflow rates to less than existing conditions.
- » Water Quality: waived if the development will reduce the overall site impervious area by 20%. If not, 30% of the redeveloped area and 100% of the new development area must be treated to 80% TSS removal via City approved storm water BMP's.

**CHANNEL BANK PROTECTION**

- » Channel bank protection is required on all sites disturbing more than 5 AC.

Based on the information outlined above, it is reasonable to conclude that proposed developments located in the North, West and South drainage basins may be eligible for the less stringent redevelopment storm water credits; whereas development of the Eastern, Northeastern, and Southeastern drainage basins of the campus would be subject to compliance with the requirements of development of undeveloped land.

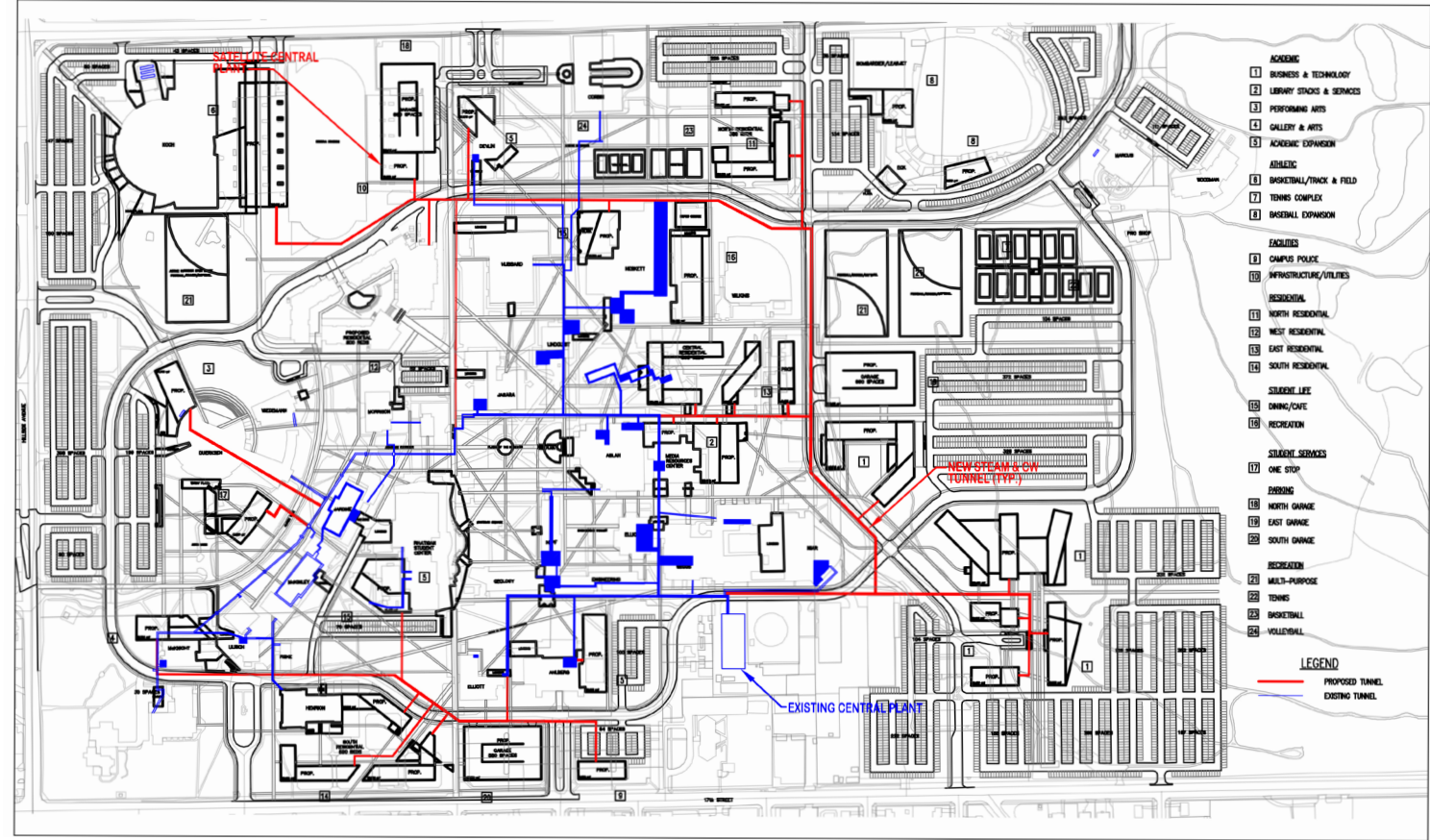
Impacts to the City of Wichita storm water infrastructure, campus infrastructure, as well as techniques for compliance with the City of Wichita drainage ordinance and storm water management policy should be carefully considered during the design development stage of projects identified in the Master Plan. A combination of regional and isolated storm water management techniques should be considered, allowing for a coordinated and congruent development of the Wichita State campus that works with the overall concepts of the master plan, landscape, sustainability, and educational research and study components of campus.

Opportunities for implementation of storm water management include, but are not limited to:

- » Rainwater and greywater reuse in new buildings.
- » Surface landscape features (i.e. rain gardens, bioswales, etc.).
- » Underground storage tanks/basins.
- » Expansion of existing ponds
- » Greenroofs.
- » Detention/Retention Basins planted with a mixture of plant species to aid in storm water quality requirements
- » Proprietary Water quality units accepted by the City of Wichita for water quality treatment.

The Conceptual Storm Water Management Plan has been developed to highlight locations and opportunities for the implementation of the storm water management features listed above. It is highly recommended that a combination of these techniques be designed and incorporated each individual project when possible.





Concept Tunnel and Buried Piping Plan [OPTION A]

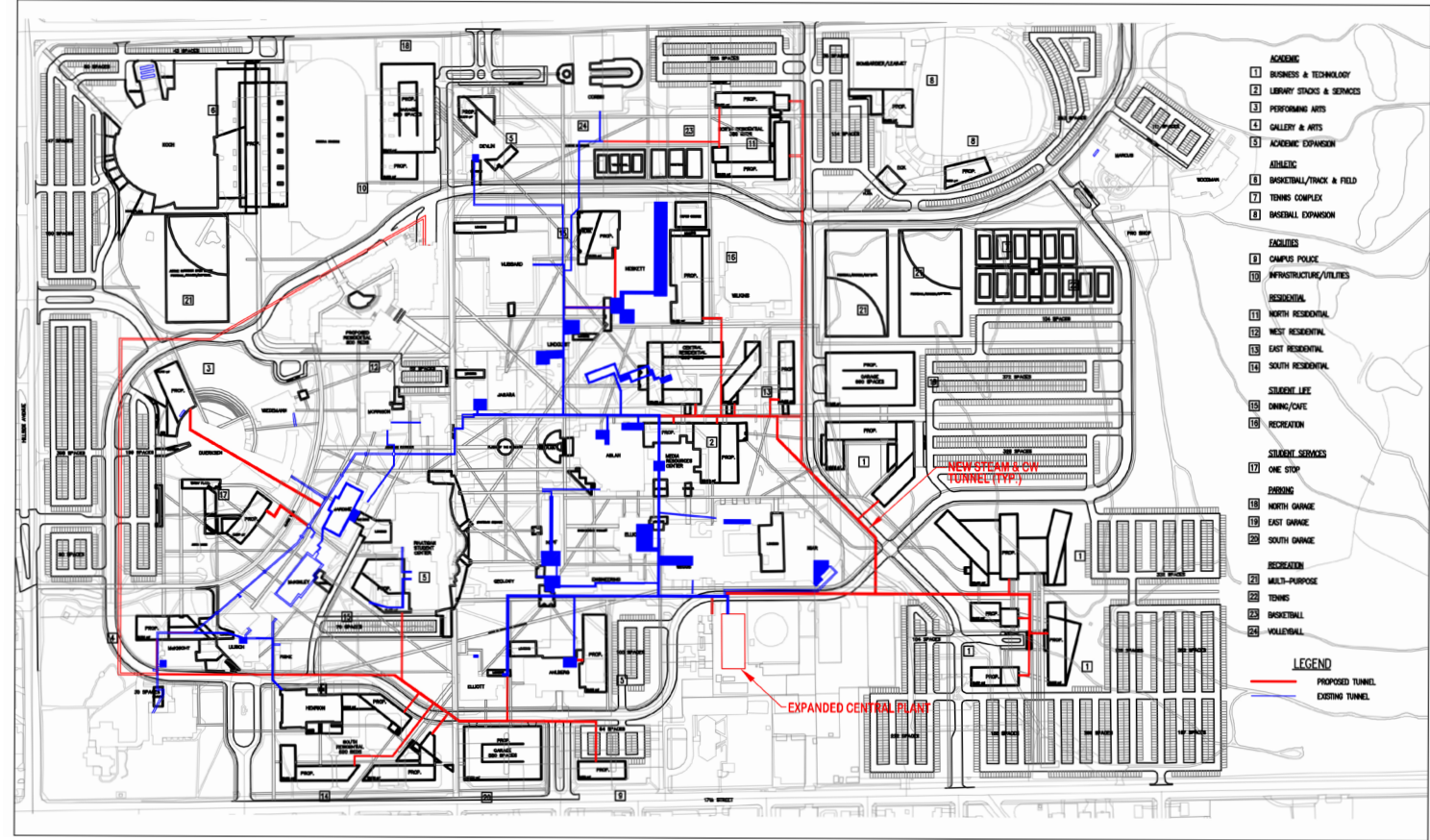
MECHANICAL INFRASTRUCTURE

The Central Energy Plant, chilled water cooling distribution and steam heating distribution have served the campus growth well over the years, with system improvements and extensions allowing it to keep pace as the campus grew. This existing system currently provides the primary heating and cooling to the vast majority of the buildings on the main campus and must reliably meet the cooling and heating loads for a diverse mix of buildings and needs during varying weather and occupancy conditions. The use of a centralized heating and cooling plant concept provides multiple advantages to the University. The centralized location of the main equipment reduces maintenance staffing needs, allows leveraging of the diversity available in the multiple systems served (allowing a much smaller total installed capacity than stand-alone plants at each building), provides system redundancy for increased system reliability and improves energy utilization. In addition, it allows the unsightly (to some) and noise-generating heat rejection and heat generation equipment to be located strategically away from the individual buildings and pedestrian-oriented portions of camps. It allows flexibility in energy source (gas/electric/heating oil) in response to varying energy source pricing and availability.

Overall, the existing equipment and distribution shows that it has been “right-sized” for today’s loads, meaning there is no additional capacity to spare at this time (particularly on the cooling side). Expansions to the campus which result in additional Central Plant loads will require extensions and upgrades of the existing plant and distribution system to address these additional demands on the system.

It is recommended that the concept of moving away from local heating and cooling plants that was begun in the 1970’s or early, and is now almost fully implemented be carried forward. The advantages of this approach are numerous, as enumerated above. To accomplish this, pre-planning, foresight and budgeting (project schedules and costs) are required. Two primary recommendations for the expansion of the Central Plant and associated distribution system have been identified. These are to create a new, second plant in a satellite location (Option A) or to expand the existing plant in the current location (Option B). Both options require the construction of new square footage to accommodate the new mechanical equipment, and the extension and upgrade of the existing tunnel and distribution systems.





Concept Tunnel and Buried Piping Plan [OPTION B]

OPTION A

Option A involves creating a second central plant remote from the existing one, currently shown attached to the proposed North Parking Garage. New tunnels and piping will be extended to the existing network, and existing piping would be upsized where needed to accommodate the new loads.

ADVANTAGES

- » Second plant creates additional redundancy.
- » Allows serving of Koch Arena and the West Residential facilities.
- » Reduces anticipated pumping energy consumption.
- » Less possibility for chilled water supply degradation between the generation location and the point of use.
- » If initial campus expansion occurs west and north, will delay some of the required distribution system upgrades till later, allowing the postponement of some capital outlays.

DISADVANTAGES

- » Requires additional staffing, for two separate plants.
- » Control and sequencing of two separate plants will be more complex than a single plant.
- » If initial expansion occurs on the south part of the campus, there will be significant costs associated with upgrading the existing distribution that will need to occur immediately.

OPTION B

Option B involves expanding the central plant to the west of the existing location, as outlined in the previous central plant expansion study. New tunnels and piping will be extended to the existing network, and existing piping would be upsized where needed to accommodate the new loads.

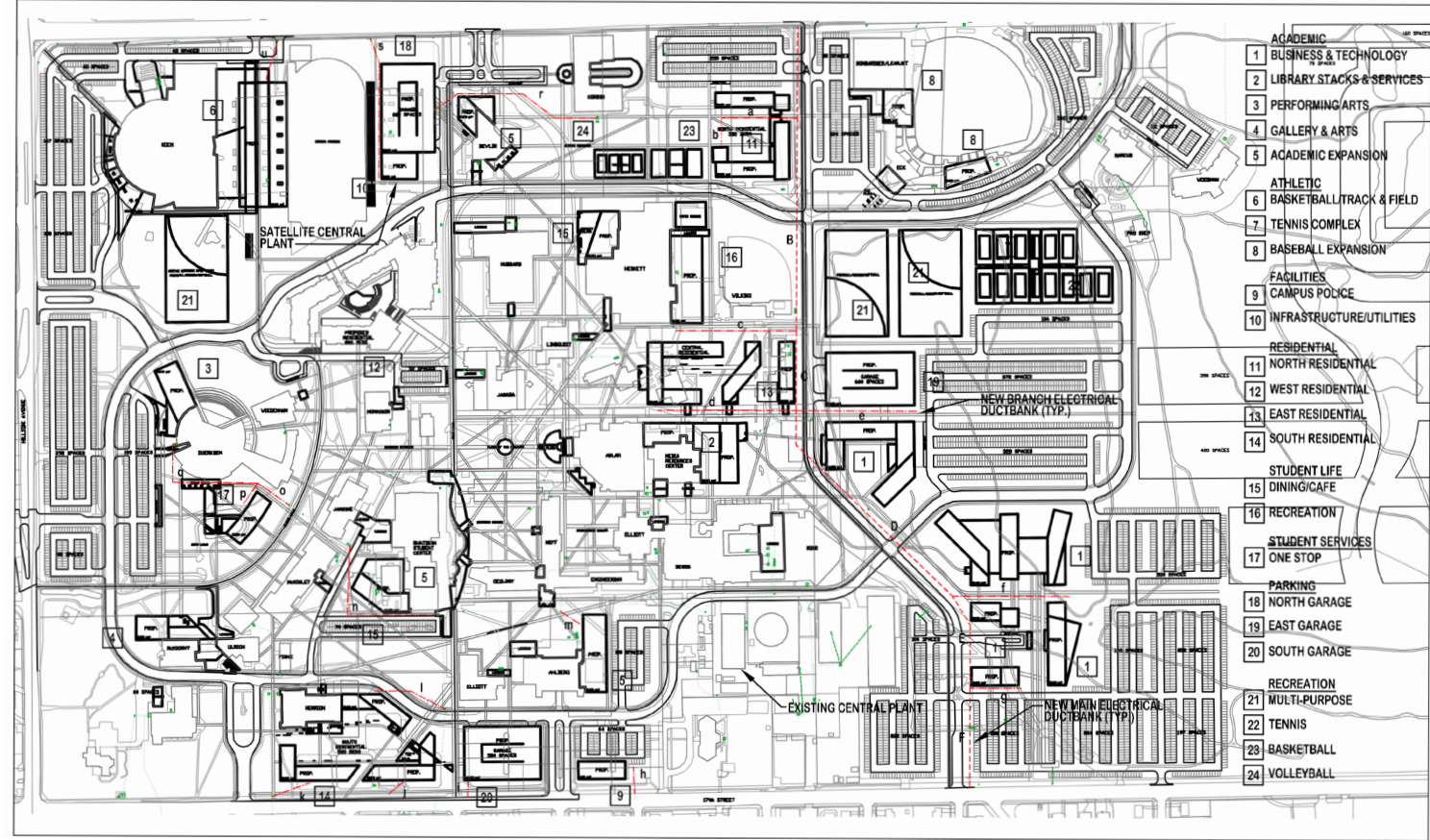
ADVANTAGES

- » Requires staffing for only one plant, versus two.
- » Control and sequencing of a single plant will be simpler than two separate plants.
- » If initial expansion occurs on the south half of campus, will delay some of the required distribution system upgrades till later, allowing the postponement of some capital outlays.

DISADVANTAGES

- » If initial campus expansion occurs on the north half of campus, there will be significant costs associated with upgrading the existing distribution that will need to occur immediately.
- » Less redundancy.
- » Higher pumping energy consumption.
- » More possibility for chilled water supply degradation between the generation location and the point of use.





Electrical Distribution System

ELECTRICAL DISTRIBUTION SYSTEM

Westar Energy is the electrical service provider for Wichita State. The majority of the electrical services are routed underground. Underground services are fed from pad mounted utility company transformers. The utility company meter is mounted on the pad mounted transformer for larger services (typically services larger than 400 amps) and on the building or an equipment stand for smaller services (typically services 400 amps or less). Overhead services are fed from pole mounted transformers and the utility company meter is typically mounted on the building.

The main campus consists of the area bounded by 21st Street on the north, 17th Street on the south, the golf course on the east, and Hillside Avenue on the west. All of the electrical distribution for the main campus is routed underground from existing Westar overhead lines routed along 17th Street North and 21st Street North or from the Westar substation located south of the Gaddis Physical Plant. Westar’s distribution system voltage is 12,470 volts, 3 phase.

Westar has a line traversing the main campus from north to south that runs along the old Yale Street corridor from 21st Street North to 17th Street North. The distribution is routed underground via a series of Westar owned manholes and vaults. At the southeast corner of the Rhatigan Student Center (Westar Manhole M.H.2083), another underground line originating at Westar’s substation south of the Physical Plant, ties into this north-south line. Both lines connect to a pad mounted switch.

The north portion of the line is normally fed from the overhead line along 21st Street North. There is a normally open switch in the pad mounted switch that can connect the north line to the south line that is normally fed from 17th Street North.

The south line also feeds to the east to the vault (Wichita State Manhole #13) located on the north side of Ahlberg Hall. There is a normally open switch that then connects to the line originating from the substation south of the Physical Plant.

EXISTING ELECTRICAL DISTRIBUTION SYSTEM - AREAS ADJACENT TO THE MAIN CAMPUS

Buildings located adjacent to the Main Campus include Fairmount Towers, the Child Development Center, Intensive English, Garvey International Center, Blake Hall, and Brennan Halls.

Fairmount Towers and the Child Development Center are fed underground from Westar’s overhead line located on Hillside Avenue. The Housing Maintenance Shop located north of Fairmount Towers is fed overhead from Westar’s overhead line along 22nd Street North.

Intensive English Language Center and Intensive English Annex are fed from



an overhead line located west of Hillside Avenue. Intensive English Language Center is fed overhead while Intensive English Annex is fed underground. The utility company meter is mounted on the building in both cases.

The Garvey International Center and Blake Hall are fed from the overhead line along 17th Street North. The Garvey International Center is fed underground from pole mounted transformer. Blake Hall is fed from a pad mounted transformer. The utility company meter is mounted on the building in both cases.

Brennan Hall I, II, and III are fed from an overhead line located on the west side of the buildings. All three buildings are fed underground. The utility company meter for Brennan Hall I is mounted on the building. Brennan Hall II and III are both served from the same utility company pad mounted transformer and there is a single meter mounted on the transformer.

**EXISTING ELECTRICAL DISTRIBUTION SYSTEM - METROPOLITAN COMPLEX CAMPUS**

The Metropolitan Complex is fed from an overhead line located 29th Street North. Westar's primary electrical line is routed underground via a series of junction cans to a pad mounted transformer located on the east side of the building. The utility company meter is mounted on the transformer.

The Advanced General Education in Dentistry building is fed from an overhead line located on North Oliver Avenue. Westar's primary is routed underground via a junction can to a pad mounted transformer located on the south side of the building. The utility company meter is mounted on the transformer.

**PROPOSED ELECTRICAL UPGRADES**

Wichita State personnel have noted a few areas of concern in connection with the existing electrical distribution system including the National Institute of Aviation Research.

National Institute of Aviation Research is short on electrical distribution system equipment and capacity for additional loads. The current service is rated 2500 amps at 277/480 volts, 3 phase. It is believed this system is at capacity. In addition the distribution system does not have spare space for adding additional loads even if the system had the spare capacity. It is proposed to upgrade the existing electrical distribution system to 4000 amps.

**ELECTRICAL INFRASTRUCTURE FOR PROPOSED MASTER PLAN DEVELOPMENT**

Proposed buildings located along or near to 17th Street North or 21st Street North could be fed from the existing Westar overhead lines.

For the proposed buildings located on the east side of campus, new electrical infrastructure will be required. A proposed new primary underground ductbank would be routed from 17th Street North and extend to 21st Street North, similar to the existing primary underground ductbank that is on the west side of campus in the old Yale Street corridor. The ductbank routing would follow the proposed access road. This routing would also allow the opportunity to possibly connect to the existing distribution fed from the west side of campus and create some loops to provide alternate circuit feeds to the central part of campus, if desired.

**EXISTING ELECTRICAL DISTRIBUTION SYSTEM AND PROPOSED BUILDINGS – MULTI-BUILDING IMPACTS**

Some proposed buildings and additions will impact the existing electrical infrastructure serving other existing buildings. These include the proposed addition to the Rhatigan Student Center, the new One Stop, and the proposed addition to Devlin Hall.

The proposed addition to the Rhatigan Student Center will impact the electrical service to multiple buildings on the west side of campus. These include the Rhatigan Student Center (RSC south service and service to all the RSC chillers), McKinley Hall, Duerksen Fine Arts Center, and Wiedemann Hall.

The proposed One Stop will require the relocation of the existing primary electrical service to Duerksen Fine Arts Center.

The proposed addition to Devlin Hall will require the relocation of the existing primary electrical service to Corbin Education Center.

**EXISTING ELECTRICAL DISTRIBUTION SYSTEM AND PROPOSED BUILDINGS – SINGLE BUILDING IMPACTS**

Other proposed building additions will impact the building being expanded. These include the additions to Ahlberg Hall and the Heskett Recreation Center.

The proposed building addition to Ahlberg Hall will require the relocation of the existing utility company transformer. The addition will require a new larger electrical service and the existing service will need to be refed as required.

The proposed addition to east side of Heskett Recreation Center will require the relocation of the existing utility company transformer. The addition will require a new larger electrical service and the existing service will need to be refed as required.



*All presentations to the Master Plan Committee given by the design team throughout the design process accompany the master plan document in digital form. These presentations provide condensed supplemental materials and data guiding the direction of the master plan.*

- 2012-10-08-MP Kickoff.pdf*
- 2012-12-05-MP Analysis.pdf*
- 2013-03-05-MP Concept Alternatives.pdf*
- 2013-04-25-MP Draft Plan.pdf*
- 2013-10-15-MP Final Plan.pdf*



WICHITA STATE UNIVERSITY

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S A S A K I



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PROFESSIONAL ENGINEERING CONSULTANTS, P.A.



GLMVArchitecture





# WICHITA STATE UNIVERSITY | MASTER PLAN INNOVATION CAMPUS SUPPLEMENT

2017







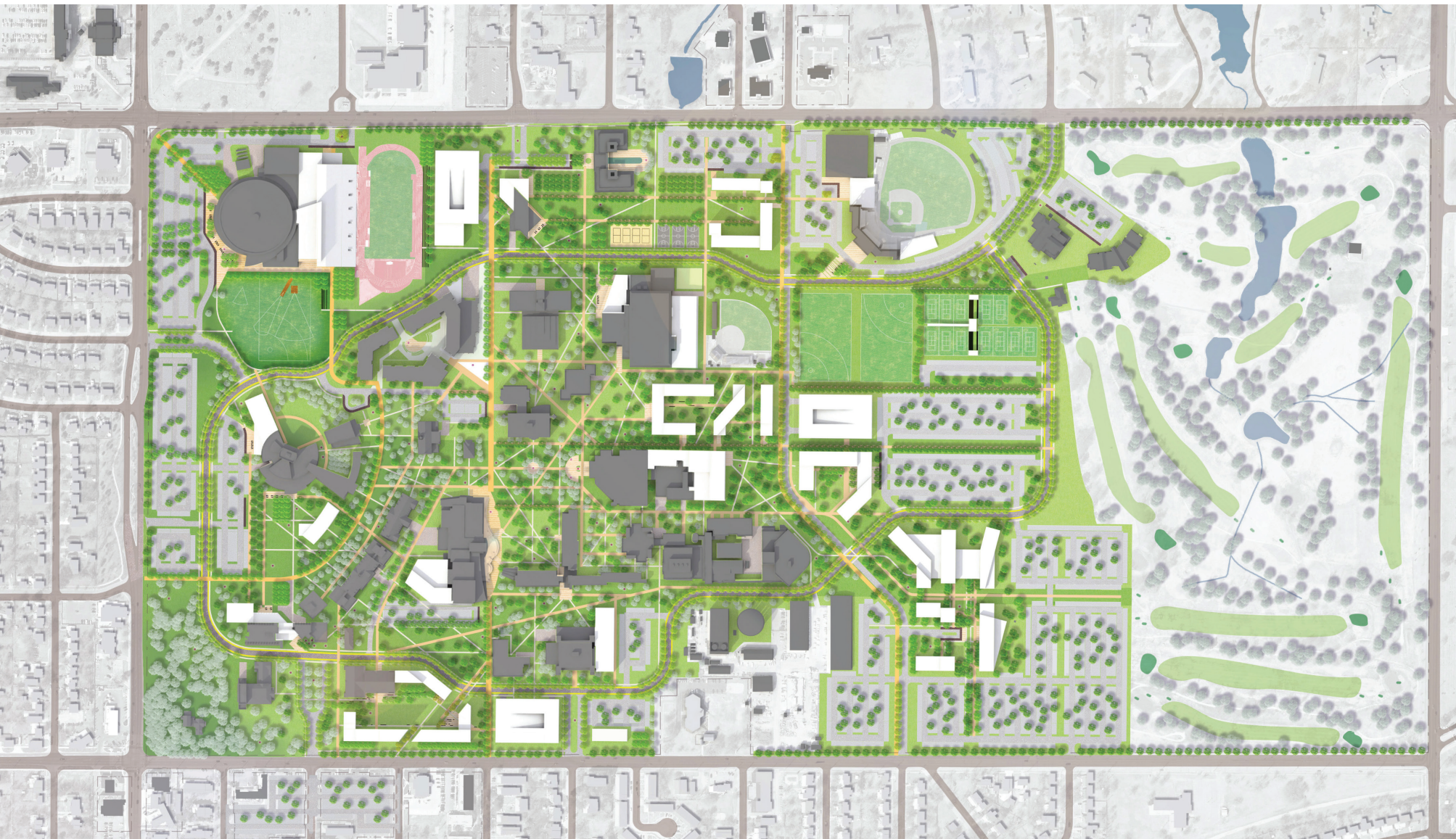
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## 01 | INTRODUCTION





2014 Master Plan

## Prologue

A Master Plan was started in Fall 2012 for the purpose of focusing primarily on the future development of the main campus with the consultant team of Sasaki Associates, GLMV Architecture and PEC Engineering. The Master Plan was completed in Spring 2014 and serves as the backbone for current development on the main campus. In early 2014, as the original Master Plan was nearing completion, the University's strategic planning process shaped a new vision to be internationally recognized for applied learning and research.

A number of projects from the 2014 Master Plan have been implemented and the plan continues to be relevant for the main campus. Examples include the completion of Alumni Walk; a major portion of Yale Walk; a parking garage for the Arts & Applied Sciences corridor to be completed in August 2017; and fundraising for a new School of Business is well underway.

The Innovation Campus serves as the inspiration for the new strategic planning process for applied learning and research needed to foster relationships between those businesses and students by providing expansion of the University's infrastructure and the land for high-profile businesses to locate on campus.

The Innovation Campus Supplement 2017 expands the scope of the original Master Plan to fully include the development of the former Braeburn Golf Course. GLMV Architecture, a principal member of the earlier plan, was retained in order to provide continuity and an understanding of the University's goals and objectives.

## History

The Innovation Campus is situated on 150 acres that was originally a nine-hole golf course for Crestview Country Club in 1921. The University purchased the property in 1967 with the intention to use it for campus expansion. Additions such as Eck Stadium, Woodman Alumni Center and the Marcus Welcome Center changed the course layout over the years and reduced it to approximately 120 acres. The University announced in late October that the course would be closing on November 3, 2014 to move ahead with the Innovation Campus.





The process involved members mentioned above, the planning team and engineering consultants to develop concept alternatives based on possible long-term private partnerships that were in line with the WSU strategic plan. The current Master Plan is a living, breathing guideline with an established infrastructure framework that is undergoing updates to accommodate applied learning or research experiences for students and future business partners.





# Goals

The additional Goals for the development of the Innovation Campus are built around the Innovation University theme that transformation is the ultimate fulfillment of Wichita State's long-term strategic plan. The University intends to transform the world through:

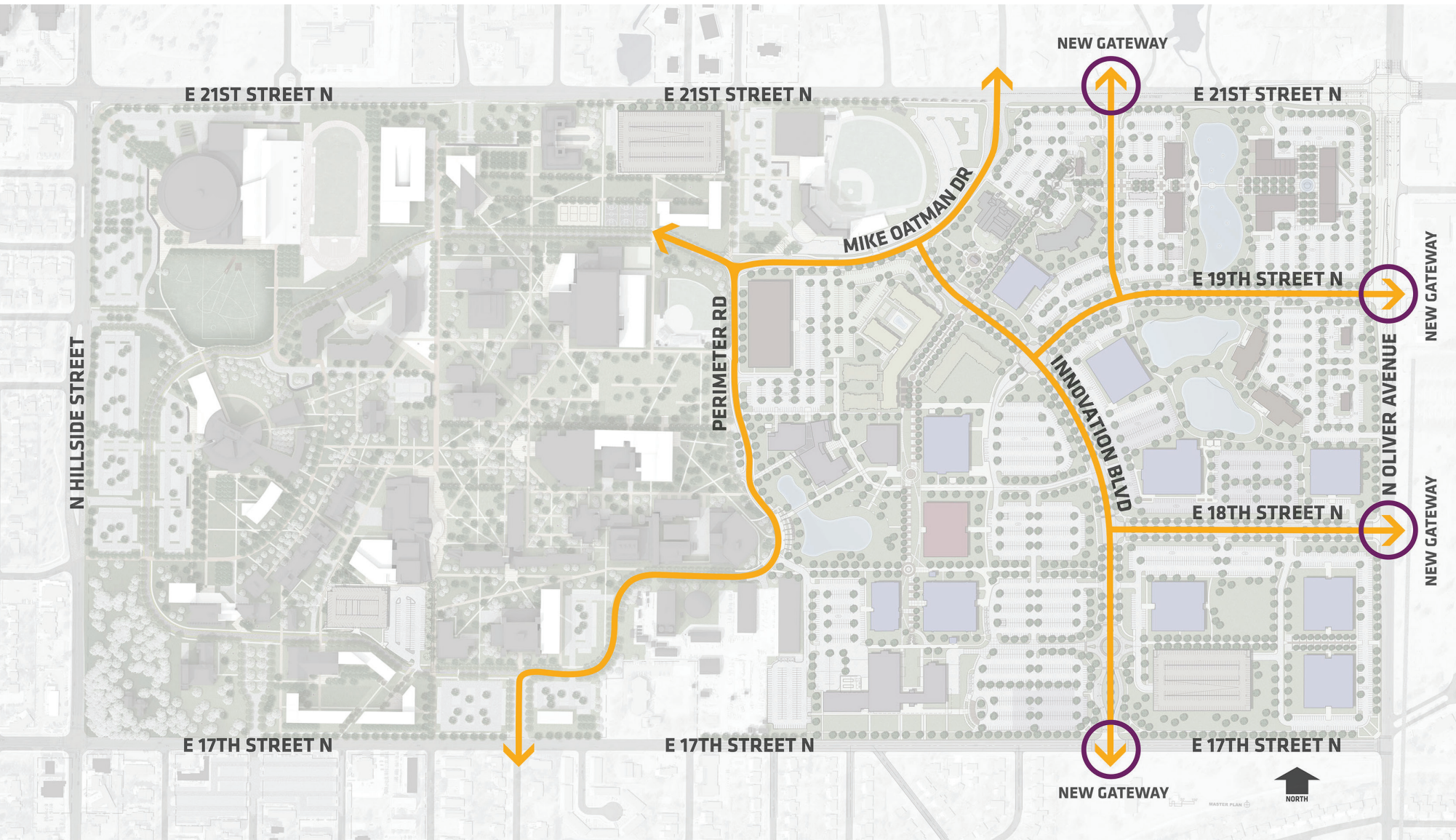
- » Guaranteeing applied learning or research experiences for students
- » Pioneering interdisciplinary curriculum development
- » Capitalizing on trends that increase quality educational opportunities
- » Accelerating knowledge transfer
- » Empowering students to create a campus culture that meets their needs
- » Reflecting the evolving diversity of society
- » Creating a new model of assessment, incentive and reward processes

The development of the Innovation Campus Master Plan is being built around innovation and thinking differently to develop new ways to fulfill the needs of those we serve and the desire to do what we do better.









Framework Plan

# Framework

## PERIMETER ROAD

Perimeter Road maintains its importance as a vehicular and pedestrian axis for the campus. This axis defines the western edge of the Innovation Campus and still serves as a conduit for the delivery of new research and academic initiatives on campus. The southern end terminates at the Experiential Engineering Building and the maker space.

## INNOVATION BOULEVARD

Innovation Boulevard now serves as the major north-south axis for the Innovation Campus. This axis defines the heart of the Innovation Campus with major pedestrian and vehicular intersections along its path from 17th Street North at the south, East 18th Street North, East 19th Street North and Mike Oatman Drive toward the north. The boulevard serves as the primary vehicular access to Partnership buildings at the heart of the Innovation Campus.

## EAST 18TH STREET NORTH

The east-west connection to Oliver Street serves as a conduit to the heart of the campus and allows vehicular traffic major entry/exit points along the eastern edge of the Innovation Campus. It also serves as visual separation between partnership sections of the campus.

## 19TH STREET NORTH

The east-west connection to Oliver serves as an additional entry/exit point along the east edge of the Innovation Campus and as a visual separation between the mixed-use restaurant and retail and partnership sections of the campus.

## PEDESTRIAN MALL

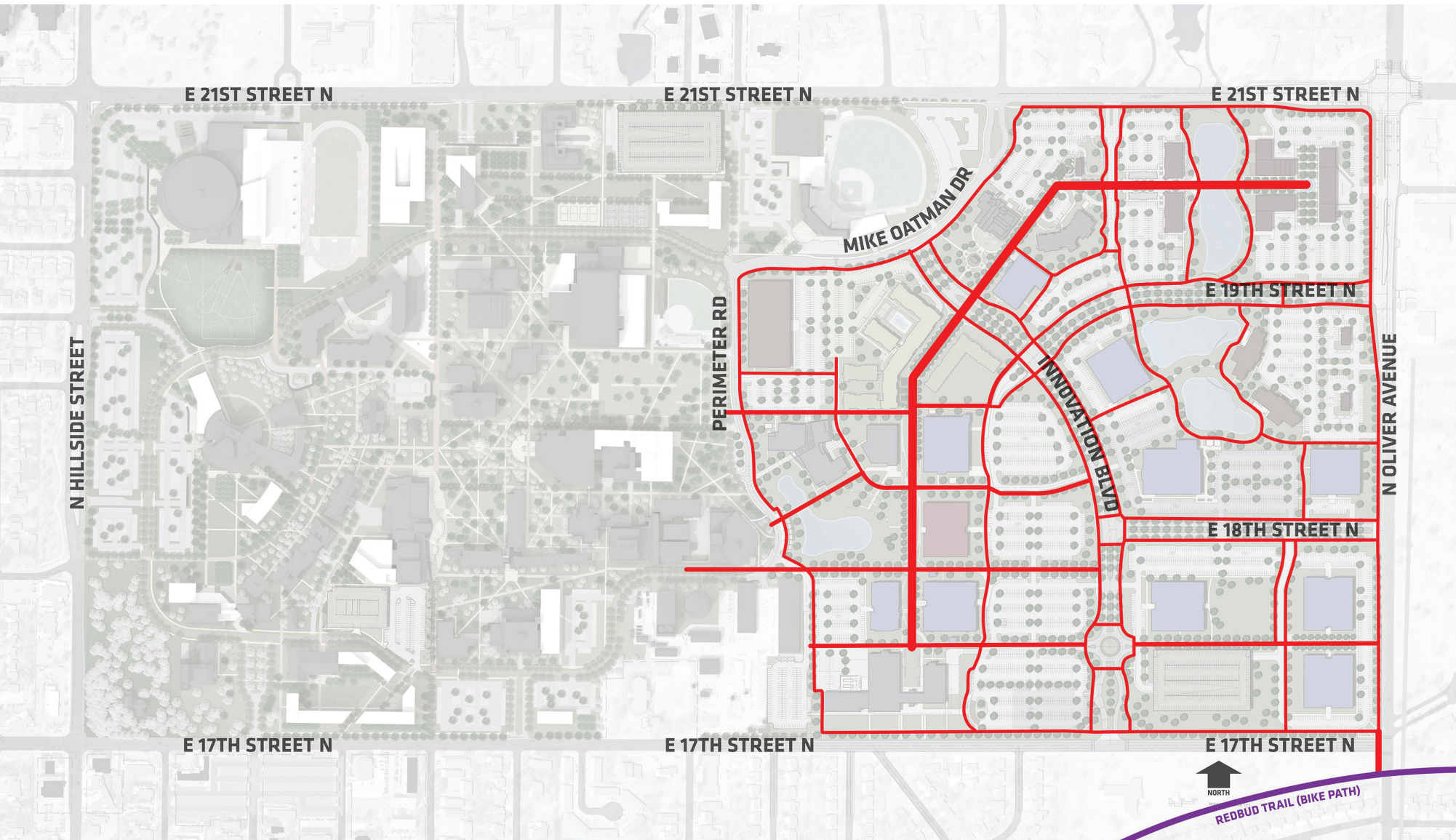
The Master Plan envisions the Pedestrian Mall as the major pedestrian-only spine of the Innovation Campus. It will serve to link all of the facilities with student housing and mixed-use opportunities and will reach from the northeast section of the campus and terminate almost at 17th Street North on the south. In several locations it collides with east-west pedestrian intersections as extensions from the original campus all the way to Innovation Boulevard.





## 03 | CONNECTIVITY





Connectivity Plan

# Connectivity

## PEDESTRIAN CONNECTIONS

The Innovation Campus pedestrian links build on the existing connections to unite the campus at the pedestrian level. They extend to Innovation Boulevard in the east-west direction as the primary connections to the existing campus. The new Pedestrian Mall serves as the unifying north-south axis throughout the Innovation Campus expansion.

## PERIMETER ROAD EXTENSION

The Master Plan envisions the existing location of Perimeter Road as the western boundary of Innovation Campus.

## INNOVATION BOULEVARD

The Master Plan introduces a new boulevard as the primary entry/exit that will bisect the Innovation Campus at 17th Street N. Additional east-west connections along Oliver Street intersect with the boulevard and allow peak hour traffic to enter/exit the campus in a timely manner in all directions. This provides the Innovation Campus with a boundary that is defined by the existing major streets in both directions.









## Land Use

The Innovation Campus Master Plan builds on the existing core and density of the main campus with the development of additional facilities and landscape projects. The Innovation Campus is a major expansion in an effort to support job creation based on innovation. For its partners, it represents a unique opportunity to become more productive, more profitable and more prosperous for generations to come. From helping startups get off the ground to assisting in long-term growth of major corporations, the Innovation Campus supplies the resources necessary to achieve corporate goals and bolster bottom lines.

The Master Plan is being custom designed to help carry out the vision and goals of the Innovation University concept—a place that blurs the line between education and application and creates an atmosphere that fosters groundbreaking collisions between the University and partners from every industry.

Working closely with City of Wichita planners, a lengthy process was undertaken to zone the Innovation Campus a “University Overlay District.” This designation will allow the University to develop all anticipated uses of the land.







# Program



**RESIDENTIAL – THE FLATS AT WSU**

Wichita State has partnered with a developer to construct 283 beds as a part of the new Master Plan with planned phases for an additional 120 beds as growth requires. The residential facilities are located at the hub of the Pedestrian Mall and allow easy access to student services, the academic facilities, the new Starbucks and the mixed use retail/restaurant activities in the northeast quadrant of the Master Plan.



**ACADEMIC**

The WSU Barton School of Business/Innovation Center is an academic building slated for a location on the Innovation Campus. The new four-story building will be a state-of-the-art facility designed to foster collaboration, experiential learning and entrepreneurial activity among students, faculty and the business community while ensuring that teaching and learning models are innovative, student-centric and widely recognized. It is located on the western edge of the Innovation Campus near other academic facilities to the west of Perimeter Road.



**RESEARCH**

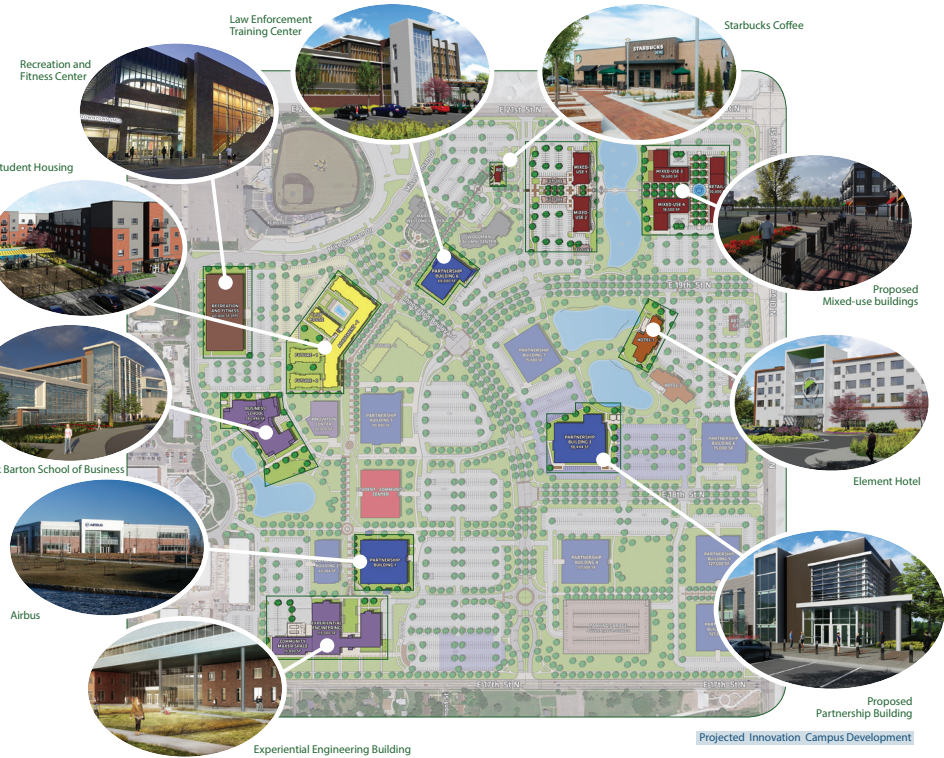
The campus is planned to become an interconnected community of partnership buildings where organizations establish operations and reap the rewards of the University’s vast resources, technology and research laboratories that give students access to real-world applications and the training needed to effortlessly assimilate into the workforce, a community maker-space that gives both students and non-students alike access to the technology, services and business incubators that help facilitate product development as well as mixed-use environments that provides everyone with a place to eat, sleep, play, shop and share.



**STUDENT LIFE**

The Master Plan will build on the investment in campus facilities and amenities put into place over the last two to three years. The intent is to promote students to stay on campus to study, dine and socialize through the extension of interactive social zones in student housing areas, landscaped pedestrian-only “social spots” that link in multiple connections through the Innovation Campus with retail, restaurants, and recreation with all-hour access to academic facilities.





**BUSINESS PARTNERSHIPS**

The largest part of the Master Plan is devoted to business partnerships and is an area where ideas can be shared, learned from and improved upon for the greater good. As a whole, the Master Plan symbolizes what the Brookings Institute has termed an “Innovation District,” a densely populated geographic area that facilitates collaborations, accelerates the commercialization of new ideas and promotes knowledge spillover. As of this date, the following buildings are currently located on campus or in planning:

- » An Experiential Engineering Building tied to the University’s strategic vision of being “internationally recognized for applied learning and research.” The building contains engineering laboratories and a maker space open to paying members. This facility serves as the south terminus of the pedestrian mall.
- » A new 2-story home for Airbus Engineering that provides 400 engineers with top quality space to work with WSU Students and faculty.
- » The Flats at WSU - a new apartment-style residence facility with the first phase containing 283 beds located at the hub of the pedestrian mall and adjacent to the Law Enforcement Training Center. The future residential phases would build the residence facility to approximately 400 beds.

- » The 60,000-square-foot, 3-story Law Enforcement Training Center that serves the City of Wichita and Sedgwick County law enforcement on the first 2 floors with shared training, tactics areas, classrooms and crime scene investigation rooms. The upper floor will be for the criminal justice department at WSU.
- » The largest free-standing Starbucks in the United States, with 2,000 square feet, was the most requested amenity of the student body and is located along the Pedestrian Mall.
- » A new home for the W. Frank Barton School of Business, with an adjacent Innovation Center and state-of-the-art technology open to students around the clock, located in close proximity to The Flats at WSU.
- » A mixed-use retail/restaurant complex with multiple buildings surrounding the existing water features in the northeast quadrant of the Master Plan. This area also serves as the north terminus of the Pedestrian Mall.

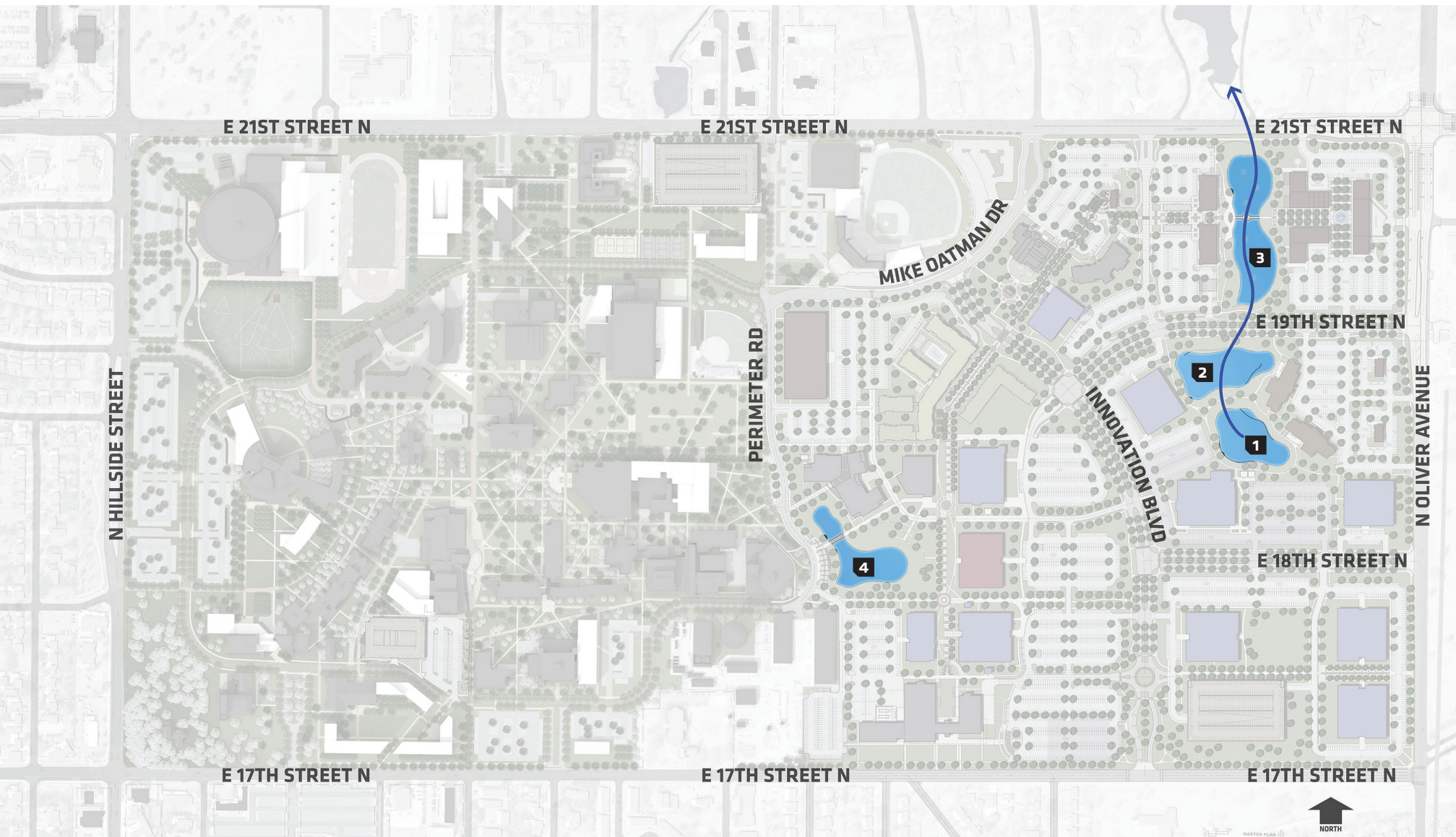
- » An Element Hotel by Marriott with approximately 93 rooms in 70,000 square feet that will offer fully equipped kitchens; spa-inspired bathrooms; and sustainable, eco-friendly amenities. The hotel will accommodate on-campus or off-campus guests with direct access to a major street and located in close proximity to the restaurant retail in the northeast quadrant of the Master Plan.
- » A second hotel of similar room count for short-stay on-campus and off-campus guests will also be located in the general vicinity of the first hotel with direct access to a major street to reduce on-campus traffic congestion.
- » A 60,000-square-foot recreation facility used by students, faculty and the public, which will include a Health & Wellness space for students and faculty, to be located in close proximity to The Flats at WSU.
- » PB2, a public/private partnership shell building containing approximately 55,000 square feet on 2 floors that will accommodate up to 8 tenants, located adjacent to Airbus Engineering and the Experiential Engineering Building.





06 | LANDSCAPE AND ENVIRONMENT





Hydrology Plan

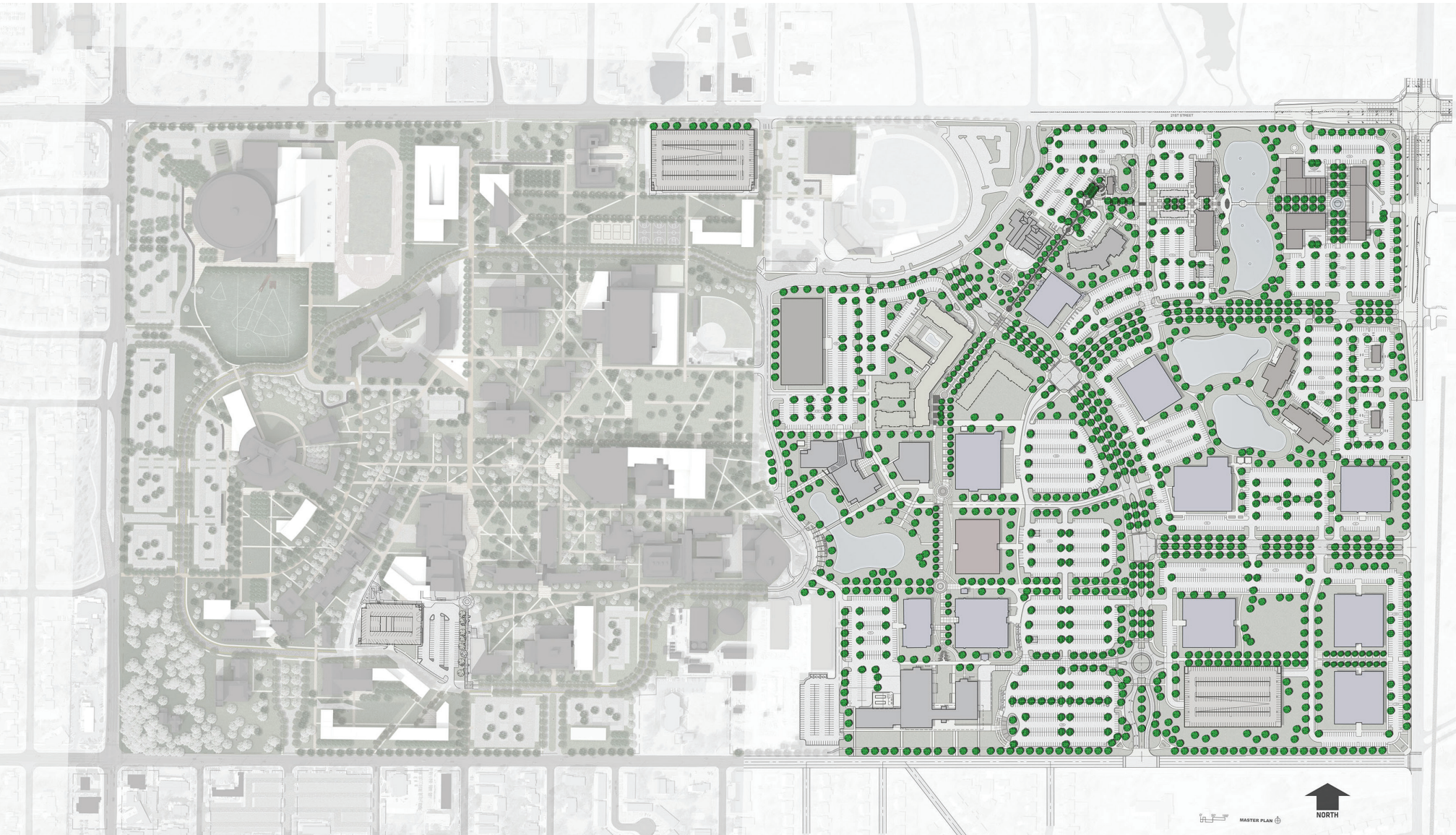
# Landscape and Environment

## HYDROLOGY

The majority of water conveyance on the Master Plan will be developed through engineered solutions. The site is divided into 4 main drainage basins that drain in different directions. These are referred to as the 4 ponds on the Master Plan. Each basin will provide stormwater detention to reduce the developed peak flow rates below existing condition peak flow rates. Each basin will also provide water quality volumes either through stormwater detention ponds or proprietary devices. Channel protection will be provided in the basins in the proposed stormwater detention facilities. The development of the Master Plan has the most impact on the basin that drains to the north. Additional detention will be provided to reduce the occurrence of stormwater from flowing into 21st Street North. Pond number 3 flows over top into 21st Street in a 2-year storm event or larger. With proposed developed conditions, the new constructed pond will overtop in approximately a 100-year storm event or larger. This development also benefits the property north of 21st Street by reducing the peak flow rates to the ponds and drainage way.

Please refer to the [Development Drainage Study for the Wichita State University Innovation Campus](#) prepared by MKEC, dated December 2014, for supplemental information.





Proposed Vegetation Plan

**VEGETATION**

The Master Plan will build off the precedent established on the original campus. The planting of rows of trees along the main interior vehicular boulevards, the Pedestrian Mall and other pedestrian walkways shape the open space, provide spatial definition and provide shade.

**RECREATION AND OPEN SPACE**

The addition of The Flats at WSU on the campus presents the need for added outdoor recreational spaces. The Master Plan facilities this additional need with outdoor amenities at the apartments, the open spaces around the proposed detention ponds and the “social spots” creating along the Pedestrian Mall.

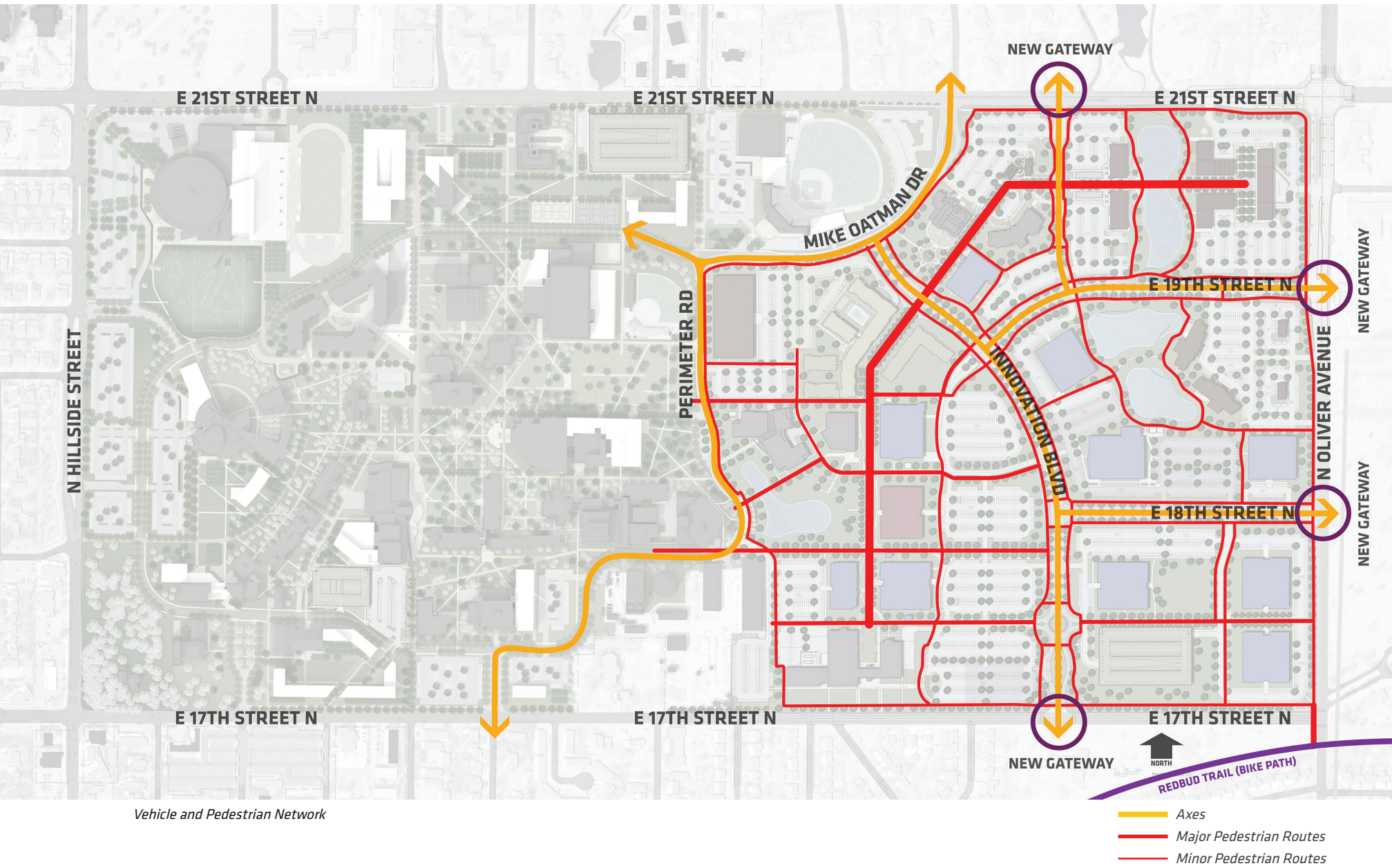
**SCULPTURE**

The intent is to continue with the theme established by the University. It is recommended that pubic/private partnership buildings consider the inclusion of a sculpture component with the addition of various stakeholders and private partners to help guide the process.









# Mobility

The existing campus has relied on a culture of mobility and the new Innovation Campus will introduce considerably more traffic in the coming years. Based on the long-term growth, a Vehicular Traffic Impact and Pedestrian and Bicyclist Study was conducted that addresses traffic impacts within the project site as well as the four adjacent arterial street corridors, their intersections, Innovation Campus access points, the four major existing WSU campus access points (Yale Avenue, Mike Oatman Drive, Harvard Avenue and Fairmont Avenue) and at the intersection of Innovation Boulevard through the Innovation Campus and Mike Oatman Drive. The study includes the following:

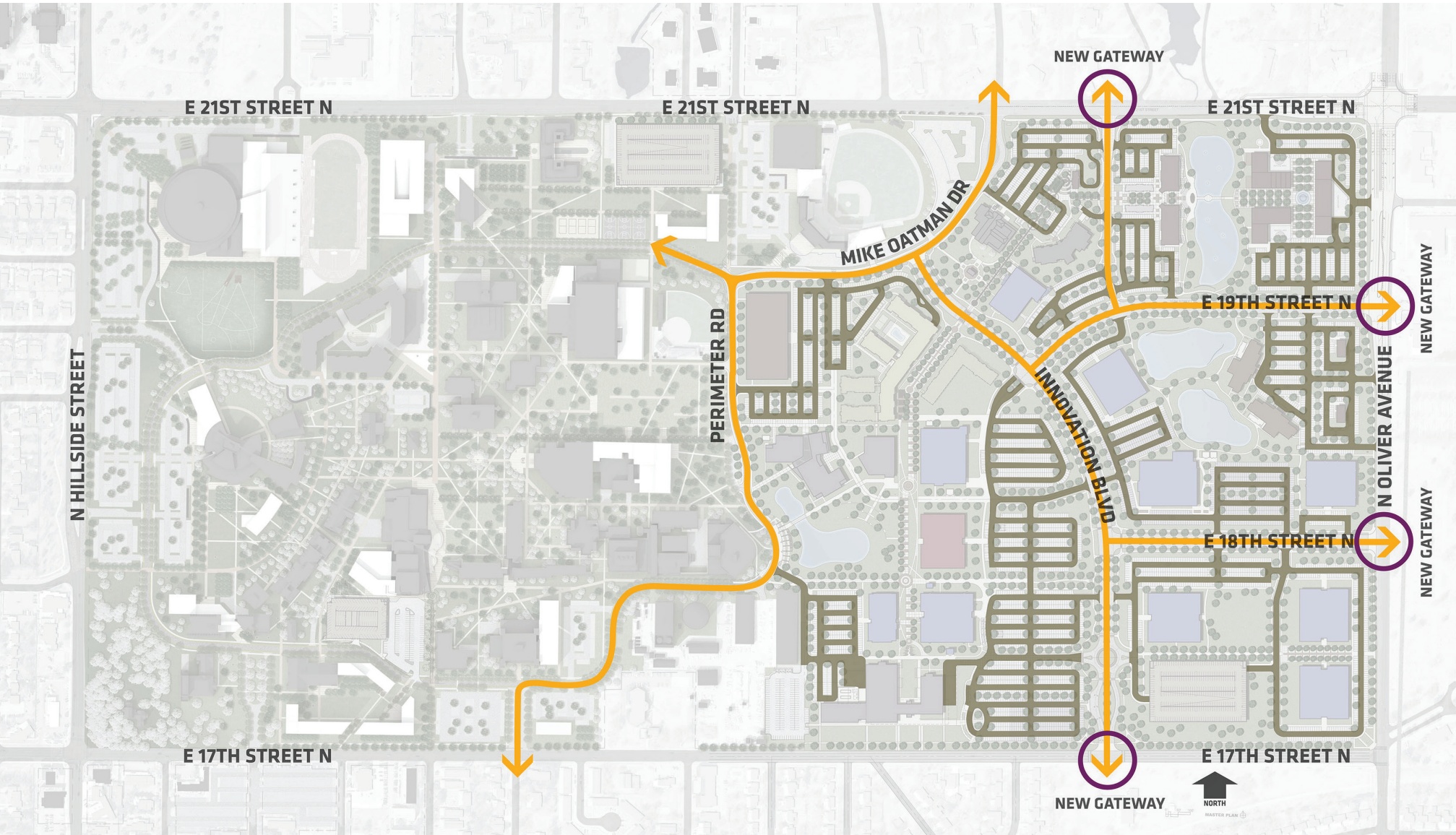
- » Traffic trip generation
- » Intersection analysis
- » Pedestrian and bicycle system study
- » Geometric changes and traffic control

Some of the recommendations have already been implemented in the planning and development, mainly for on-campus recommendations. As further development occurs the arterial street improvements will need to be implemented. Please refer to the study prepared by MKEC, dated December 2014, for supplemental information.

## BICYCLES AND PEDESTRIANS

Recently the City of Wichita conducted a bicycle facilities planning study that will help integrate the Innovation Campus into the city-wide bike facilities system. Especially key is the Redbud Shared Use Path south of the campus with an intersection shared at 17th Street N and Oliver Street. Ultimately, this path will extend into East Wichita and Andover. The introduction of traffic signals, pedestrian-actuated signals, and pavement markings to delineate bicycle lanes on both sides of 17th Street North will provide traffic calming and accommodate crossing into the campus. Innovation Boulevard, 18th and 19th Streets North will have wider sidewalks for service and emergency as well as other improvements recommended in the study.





Vehicular Circulation

**AUTO**

Auto mobility starts at the entry points into the Innovation Campus with the following recommendations:

- » The interior roads for the Master Plan are to have raised landscaped medians, turn lanes at the various intersections and one through lane in each direction. Lane width should be 20 feet from curb to curb to accommodate emergency vehicles or any stalled vehicles.
- » Internal campus drives will be controlled by signage or mini-roundabouts.
- » 17th Street – center islands and turn bays; through traffic accommodated with single lanes east and west bound.
- » 17th Street North and Innovation Boulevard – a signal will be needed with near build-out on the Master Plan.
- » Oliver at 17th Street North - turn lanes for both north/south directions with signalization in the long term.

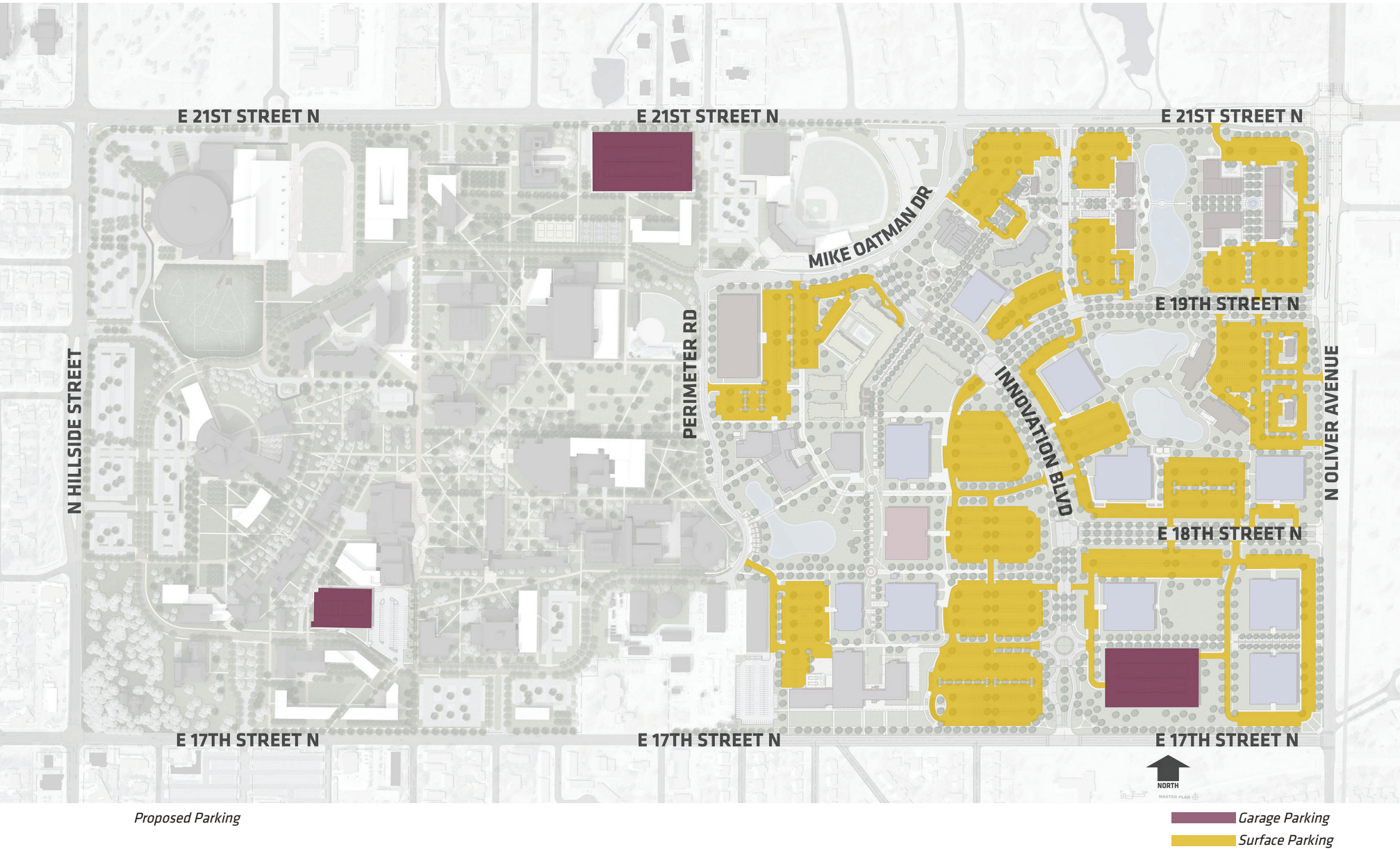
- » Oliver at 18th Street North – turn lanes for both north/south directions and consideration for a Continuous Green T-intersection in the long term.
- » Oliver at 19th Street North – turn lanes for both north/south directions with signalization in the long term.
- » 21st Street North at Oliver – double turn lanes for both east/west and north/south directions with 2 through lanes in all directions.
- » Various right-of-way needs for the roadway improvements noted above will be required.

With the implementation of the recommendations above there could still be slow movements during the rush hour a.m. and p.m., which is typically expected during those times. During hours outside of peak times the intersections will operate at higher levels of service.









# Parking

Parking requirements for the Innovation Campus will need to take into account a combination of academic facilities, community use facilities including retail/restaurant and public/private partnership facilities.

Academic buildings, recreation, student housing and community facilities are located on the west side of the Master Plan with parking to accommodate their requirements and added capacity for the main campus.

The retail/restaurant and hotel facilities have parking with direct links to arterial streets to minimize access and congestion and are located in the northeast quadrant of the Master Plan.

The public/private partnership buildings are located in the middle and east side of the Master Plan and served by parking that will be regulated by the size and occupancy of the building. Parking has direct links to the interior roadways for ease of access in and out of the campus and direct pedestrian connections with the balance of the campus.

## GARAGE

The Master Plan proposes two garages: the South Garage and a relocated North Garage that are both placed to accommodate the additional vehicular traffic on campus.

The South Garage is a 1,256-car, 4-level structure located near 17th Street North and Oliver. The garage supplements the surface parking for the 3 public/private partnership buildings in the southeast quadrant of the Master Plan. Access is from 17th Street North to Innovation Boulevard with a right hand turn at the mini-roundabout.

The North Garage is a 914-stall, 3-level structure located in the existing surface parking lot west of Eck baseball stadium directly south of 21st Street North. The garage is located in the Active Corridor of the campus and will serve the new student housing and recreation as well as major and minor events at nearby campus venues. Entry is from Perimeter Road to the south or a new entry point directly east of the structured parking on 21st Street North. The North Garage is to take the place of the structured garage that was originally located east of Cessna Stadium.

In addition, there is a 427-car, 3-level garage currently nearing completion directly south of the Rhatigan Student Center that occupies a portion of the existing surface lot.

## SURFACE

The mixed-use and hotels are served by surface parking with links to arterial streets to minimize access and congestion to the heart of the campus. The remainder of the surface lots to support the public/private partnership buildings have direct access to the interior roadways for ease of access in and out of the campus and direct pedestrian connections with the balance of the campus.

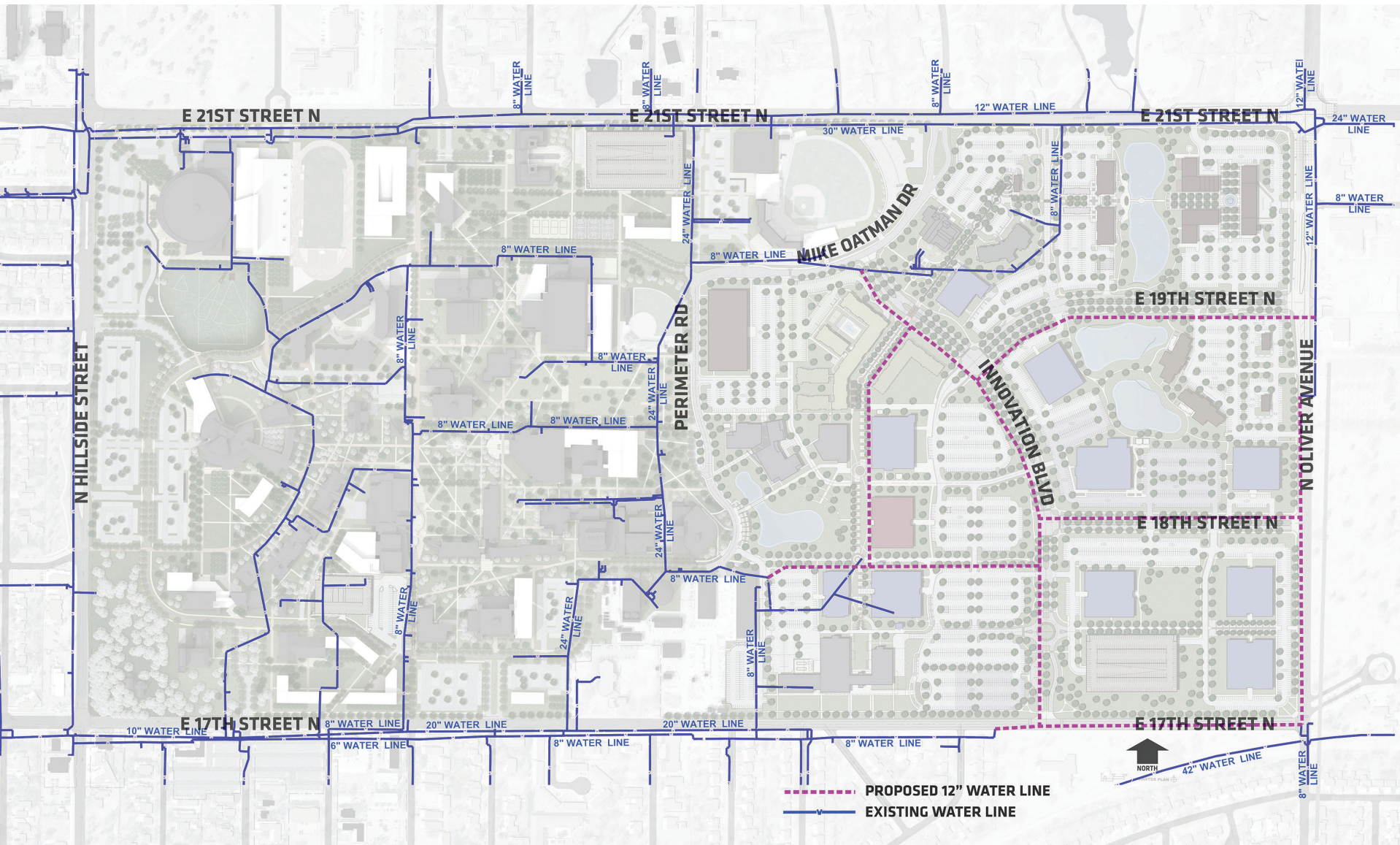
Parking lots are to be comprised of simple materials with striping demarcating each stall and landscaping with trees to break up the sea of paving, offer much-needed shading at strategic locations and provide catchment for stormwater.





## 09 | UTILITIES AND INFRASTRUCTURE





Current and Future Waterline Infrastructure.

# Utilities and Infrastructure

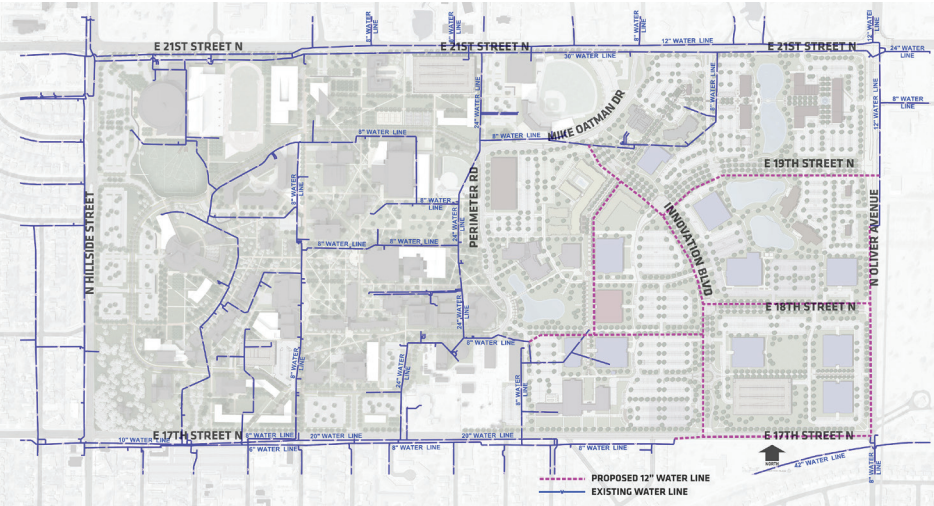
## ENVIRONMENTAL SITE ASSESSMENT

A Phase 1 Environmental Site Assessment (ESA) was prepared by Terracon Consultants, Inc. The ESA was conducted as an assessment of the WSU main campus and included the Innovation Campus. The ESA identified Recognized Environmental Conditions (RECs) associated with the site’s golf course maintenance operations. The identified RECs included fuel storage and surface staining associated with general golf course maintenance chemicals, such as solvents and pesticides.

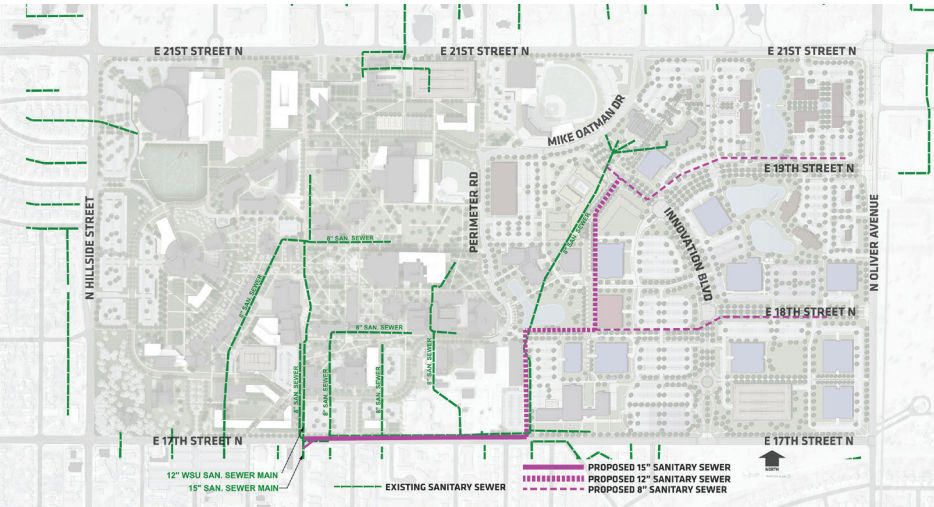
It should be noted that during a geotechnical investigation for the Master Plan, soil samples were collected on portions of the maintenance yard for the old golf course. Evidence of staining or odor that are normally associated with petroleum impacted soils were not observed during the field work or laboratory analysis of the samples.

Please refer to the complete EDA Environmental Narrative Report for the WSU Innovation Campus prepared for MKEC Engineering by Terracon Consultants, Inc., dated June 16, 2015, for supplemental information.





Water Line Plan



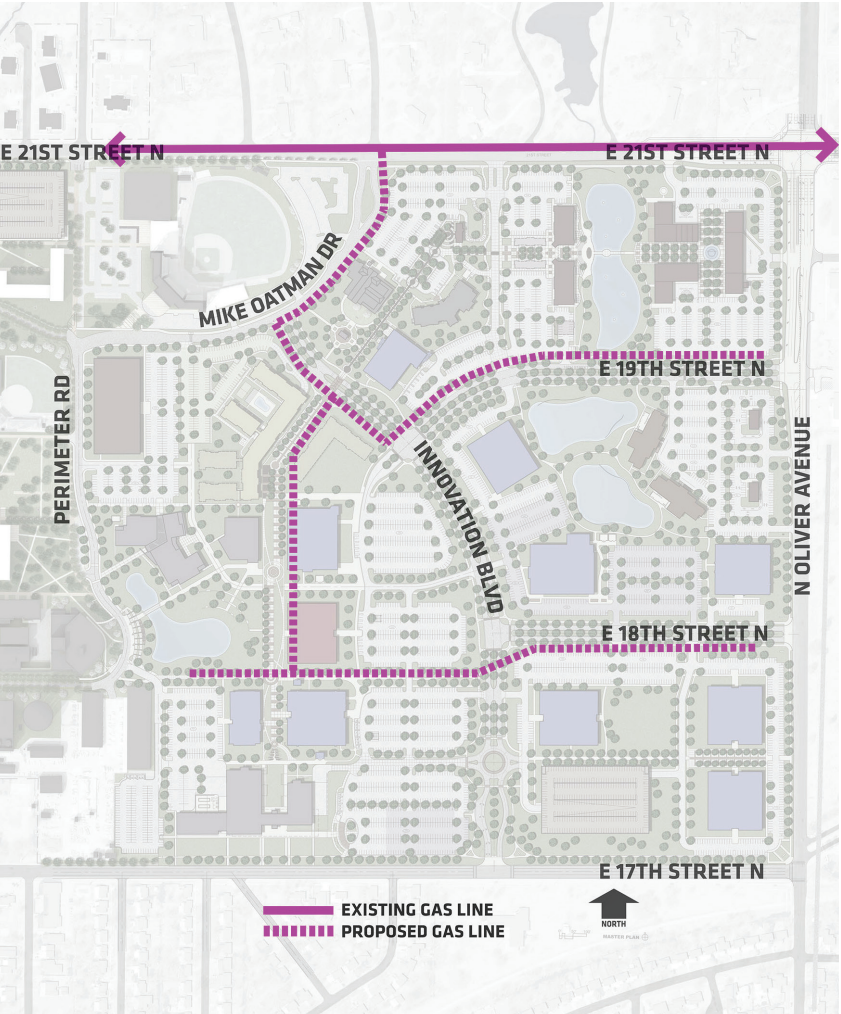
Wastewater Plan

**WATER AND DISTRIBUTION SYSTEMS**

Water for the site will be provided by the City of Wichita for domestic, irrigation and firefighting purposes. The water service needs are proposed to be met primarily by extending an existing 12-inch line in Oliver Street on south to 17th Street North; taking this 12-inch line west along 17th Street North to a connection with an 8-inch line at 17th Street North and Fountain, and completing a series of loops within the Master Plan. The proposed lines are sized to deliver approximately 8,000 gallons per minute (gpm) to areas throughout the Master Plan without dropping the system pressure below 20 pounds per square inch (psi). Additionally, a two-million-gallon City of Wichita water tank exists on the main campus, approximately 500 feet north of 17th Street and 1/2-mile west of Oliver, near the southwest corner of the Innovation Campus.

**WASTEWATER COLLECTION**

The City of Wichita will provide sanitary sewer service for the Master Plan. An eight-inch sanitary sewer crosses the western part of the site, and services facilities located north of the site including the Alumni Center, Marcus Welcome Center and Eck Stadium. The nearest sanitary sewer main with capacity to serve the site is a 15-inch line that runs from 17th Street North along Yale Avenue and serves the existing University campus, flows south across 17th Street North and connects to this 15-inch line. New 8-inch lines will be added along 18th and 19th Streets North for new facilities on the Innovation Campus.



Gas Line Plan

**MECHANICAL INFRASTRUCTURE**

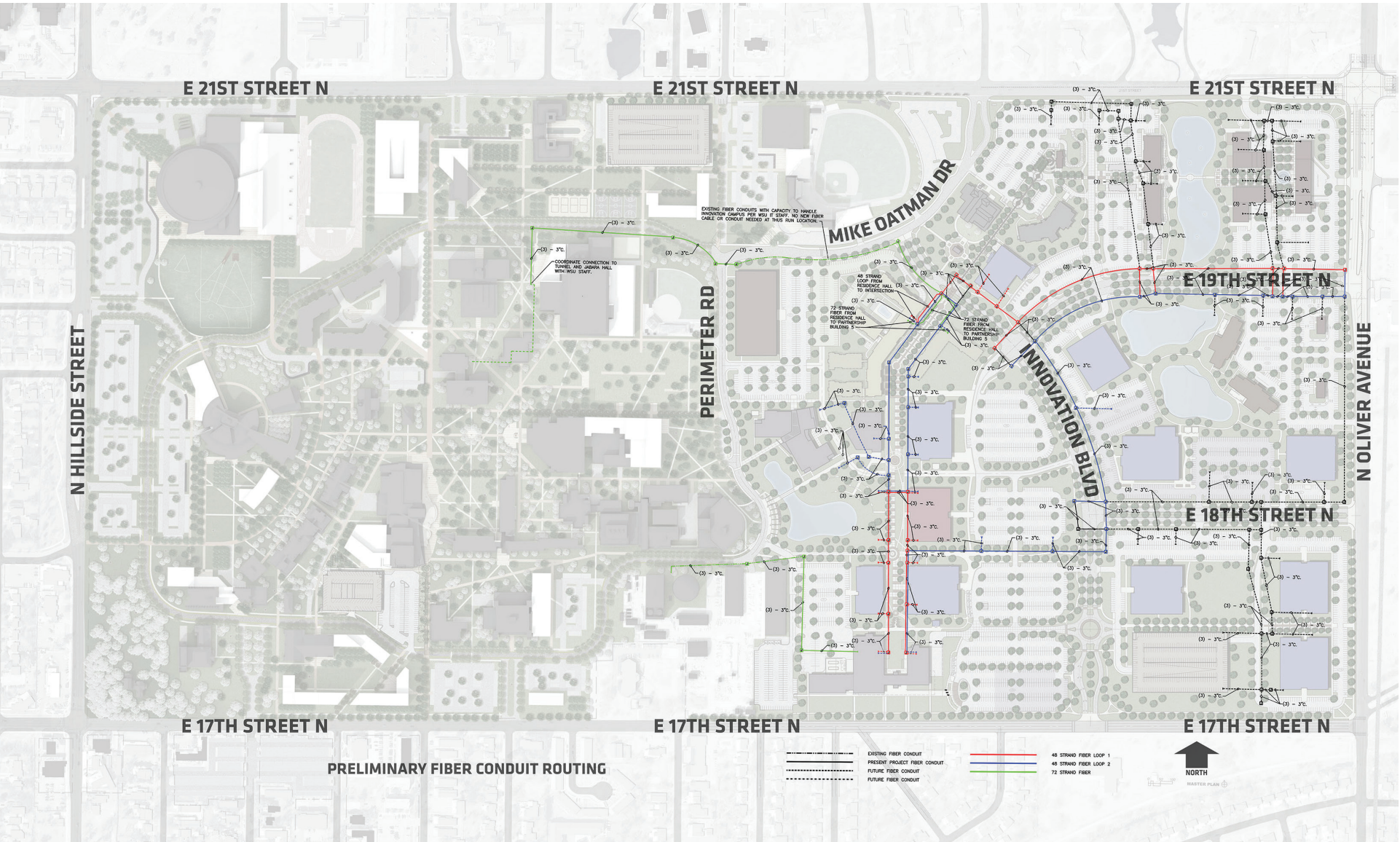
Due to the existing central plant being at capacity, all the buildings located on the Innovation Campus will be independent mechanical systems sized to accommodate each particular building. Chillers will be ground-mounted, located away from building entrances with privacy screens as required.

A study for a satellite central energy plan serving the Innovation Campus estimated the construction cost to be approximately \$20 million. This was deemed unfeasible. Please refer to the Satellite Central Energy Plant Program Document prepared by Professional Engineering Consultants dated November 2014.

**GAS INFRASTRUCTURE**

Natural gas service will be provided by Kansas Gas Service. Nearby lines are provided along 21st Street North and 17th Street North. New gas service will come south from 21st Street North with connection points along Mike Oatman Drive, Pedestrian Mall, the north half of Innovation Boulevard, 18th and 19th Streets North to serve future buildings on the Innovation Campus.





Preliminary Fiber Conduit Routing

**FIBER LOOP**

The fiber backbone consists of 72- and 48-strand, single-mode, fiber optic cable to allow voice and data transmission over several miles. The 72-strand fiber connects the original campus to the Innovation Campus from 2 separate sources and multiple service providers. The 48-strand fiber is routed throughout the Innovation Campus in a double loop with all new buildings receiving 2 separate connections to the loop for redundant operation. In-grade boxes are installed every 300 feet to provide convenient connection locations for fiber infrastructure tie-in as facilities are developed. A separate 19-cell tube cable is also installed alongside the traditional fiber to allow for the installation of blown fiber to increase capacity as needed in the future.

Please refer to the Development Utility Study for WSU Innovation Campus prepared by MKEC Engineering, dated December 2014, for supplemental information.

**ELECTRICAL INFRASTRUCTURE**

Electrical service for the north portion of the site including retail, mixed-use and hotels will be served from primary service along 21st Street North at various pick-up points. The southern portion of the site will be served by primary service along 17th Street North in multiple locations.

Wichita State University and Westar Energy, Inc. have received legislative authority to exchange property that will allow Westar to construct a new substation. This substation will increase the full load capability from 35 MVA to 50 MVA providing reliability and added capacity to accommodate the anticipated growth of the university and the surrounding area.







# Credits

All presentations to the Master Plan Committee given by the design team throughout the design process accompany the Master Plan document in digital form. These presentations provide condensed supplemental materials and data guiding the direction of the Master Plan.

*Development Utility Study for WSU Innovation Campus, December 2014, created by MKEC*

*Vehicular Traffic Impact and Pedestrian & Bicyclist Studies, December 2014, created by MKEC*

*Development Drainage Study for the WSU Innovation Campus, December 2014/Revised in May 2016 by MKEC*

*EDA Environmental Narrative Report for the WSU Innovation Campus, June 2015, created by Terracon Consultant’s, Inc.*

*Satellite Central Energy Plant Program Document prepared by Professional Engineering Consultants, Inc., November 2014*

## WICHITA STATE UNIVERSITY

### MASTER PLAN COMMITTEE

- John Bardo**; President
- Anthony (Tony) Vizzini**; Provost and Senior Vice President
- Mary Herrin**; Vice President for Administration and Finance
- David Moses**; Vice President and General Counsel
- Andrew (Andy) Schlapp**; Executive Director of Governmental Relations and Board of Trustees, Executive Director of Operations
- John Tomblin**; Vice President for Research and Technology Transfer and Executive Director of the National Institute for Aviation Research

### FACILITIES PLANNING

- Eric King**; Associate VP for Administration & Finance
- Emily Patterson**; Director of Facilities Planning
- Woodrow Depontier**; Director Physical Plant

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- Ken Kallenbach**, AICP
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