REDEFINING THE STUDENT EXPERIENCE:
THE NORTH RESIDENTIAL DISTRICT PLAN
DECEMBER 2012
Dear Colleagues:

Our North Residential District is well on its way to becoming reality. I am proud to share the enclosed report, which has been a truly collaborative effort. This report is sterling evidence of the promise of One University, working in concert.

The Plan is wholly transformative, providing the foundation for a unique educational experience—one that impacts students, faculty, staff, and the surrounding community. Quite simply, this is the future of Ohio State.

The new plan will propel Ohio State into the front ranks of the modern American university, setting a new precedent for student engagement and community involvement. The two-year residential experience will promote personal growth and academic achievement from the moment students set foot on campus. These all-important years will set the tone for students’ undergraduate path, from interactions with faculty to exploration of research and internship opportunities.

The Ohio State University will become a national model for innovative thinking, meticulous planning, and bold purpose in higher education. The enclosed report is a blueprint toward that goal.

Dr. E. Gordon Gee, President, The Ohio State University
August 2012
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EXECUTIVE SUMMARY
EXCERPT FROM THE OHIO STATE FRAMEWORK PLAN, P. 32
The Ohio State University is among the nation’s largest universities. In 2010, Ohio State established the long-term goal of becoming the premier public university in the United States.

THE FRAMEWORK PLAN

As the first step toward building this vision, the University commissioned The Ohio State University Framework Plan in 2010. The Framework is a bold, holistic, campus-wide plan that will guide changes necessary to accommodate the evolving physical space needs of the University over the next 100 years. It closely links ideas about learning, campus life, and programmatic space requirements to financing and implementation strategies, embodying the strategic academic mission of the University and creating the ability to respond to institutional priorities over time.

The guiding principles of the Framework Plan will ensure that individual decisions at every scale over the coming decades will incrementally build toward the University’s larger vision. The principles will enable Ohio State to be an agile decision maker, ensure that the University’s size is always an asset, and position Ohio State to anticipate and adapt to change, while always building toward a long-term vision of campus and community.

FRAMEWORK PRINCIPLES:
- Be trans-institutional
- Ensure that the academic mission drives the physical environment
- Integrate strategic, physical, and financial planning
- Concentrate academic activity to focus energy and enable community

CAMPUS LIFE PRINCIPLES FROM THE FRAMEWORK PLAN:
- Create a 24/7 campus
- Improve existing on-campus residential districts; do not create new ones
- Recognize the whole campus as part of the learning environment
- Enhance neighborhoods in support of live-work philosophy
SECONd-YEAR TRANSFORMATIONAL EXPERIENCE PROGRAM

ACCESS
Enhance student access to faculty and academic resources

COMMUNITY
Focus on student development as part of a larger community, emphasizing leadership and service

SELF-AWARENESS
Focus on individual development in many aspects, with application for career growth and global citizenry

SELF-AWARENESS
Discovery & Development (Co-curricular)
- Leadership and service
- Sustained healthy behaviors
- InterGroup dialogue
- Career

SECOND-YEAR TRANSFORMATIONAL EXPERIENCE

ACCESS
Academic Engagement (Curricular)
- Faculty mentors
- Workshops
- Informal meeting time

COMMUNITY
Learning Environments
- On-campus housing
- Greek housing
SECOND-YEAR TRANSFORMATIONAL EXPERIENCE PROGRAM

In alignment with the Framework Plan, Ohio State has made a commitment in 2012 to the Second-Year Transformational Experience Program (STEP). Going forward, Ohio State is committed to achieving on-campus residency for the majority of first- and second-year undergraduates. This commitment reflects the University’s conviction that on-campus residency—especially for the first two years—contributes greatly to student academic achievement, self-awareness, and the development of lifelong learning and leadership skills. Ohio State data supports this premise, showing that two years of on-campus residency improves student retention, academic success, and graduation rates.
REDEFINING THE STUDENT EXPERIENCE: THE NORTH RESIDENTIAL DISTRICT PLAN

THE OHIO STATE’S RESIDENTIAL DISTRICTS

- Existing Facilities
EXECUTIVE SUMMARY

THE NORTH RESIDENTIAL DISTRICT

The North Residential District is one of Ohio State’s three on-campus residential neighborhoods and is the closest to the Academic Core North. The District defines the northern boundary of the campus, an urban edge condition that mediates between existing residential neighborhoods to the north and the collegiate character of the Academic Core North, which lies along the District’s southern edge. The Framework Plan identifies the transformation of the North Residential District as a priority in achieving Ohio State’s goals.
THE EXISTING NORTH RESIDENTIAL DISTRICT

- Existing Facilities
THE NORTH RESIDENTIAL DISTRICT PLAN

What is the North Residential District Plan?
The North Residential District Plan sets forth the University’s student life goals for a transformed District and the specific architectural, planning, and landscape parameters and strategies that will guide the physical realization of that vision.

How Will the District Plan be Used?
The District Plan will serve as the roadmap for design and construction of all the buildings and site improvements that will come together to create the transformed North Residential District. Many teams of professionals will take part in the physical transformation of the North Residential District — architects, engineers, landscape designers, transportation planners, construction contractors, and more. The planning and design guidelines, recommendations, and implementation strategies set forth in the District Plan will ensure that, while it will be built by many different entities, the transformed North Residential District will realize the Framework Plan’s vision as a seamless, integrated community of neighborhoods—a place where students will live, learn, interact, share experiences, and flourish.

What Does the District Plan Provide?
The District Plan provides:

- a summary of The Ohio State University’s aspirations for the North Residential District
- important information describing existing physical conditions considered in the planning of the transformed District
- principal concepts and details of the Plan’s recommendations and guidelines
- planning and design guidelines to assure consistent development of District concepts
- an implementation plan with project budget information

Further Evaluation
The District Plan defines technical and site infrastructure requirements to support the goals for the District. Numerous conceptual options were formulated for each of these requirements, including storm water management, chilled water, hot water, emergency power, and others. The Plan describes a base concept upon which the District cost estimate has been developed, as well as the most advantageous options based upon various life-cycle analyses. Further evaluation by the University, where appropriate, will make the final determination of the options upon which subsequent design will be based.

Appendix
Included in a separate Appendix to the District Plan are supporting reports, reference documents, planning data, drawings, and other detailed information.
REDEFINING THE STUDENT EXPERIENCE: THE NORTH RESIDENTIAL DISTRICT PLAN

Existing Facilities  New Construction  Neilwood Gables Improvements (separate project)
The North Residential District Plan will create a transformative residential and learning community that integrates a variety of out-of-classroom settings where students will engage with faculty and other students.

**THE MISSION**

During the highly formative first two years at Ohio State, students will live throughout campus, including in the transformed North Residential District. Students will live, learn, and socialize in an immersive, interactive, and deeply supportive residential community—a community that is created by its wide variety of social, study, meeting, dining, and recreation spaces. The new North Residential District will be an environment that enhances and enlivens learning, prepares students to become globally engaged citizens, and fosters lifelong habits of involvement and success. It will be a full expression—both through its program and its design—of the profound transformation in student living-learning that will take place across the entire University in the coming years. The Ohio State University will establish a set of metrics by which it will periodically evaluate the achievement of the District goals.

**PROGRAM GOALS**

Designed to give students the tools they need to excel in both their academic life and the global community, the key goals of the North Residential District Plan are to:

**REALIZE THE SECOND-YEAR TRANSFORMATIONAL EXPERIENCE** in the North Residential District’s wide variety of community-oriented campus spaces that are incorporated into its buildings and site planning. The Plan will create places where students and faculty from within and beyond the District come together outside the classroom setting. The new District’s mixture of room types, plus its attractive mix of building and campus spaces, will encourage the District’s third- and fourth-year residents to engage with and mentor first- and second-year Ohio State students.

**MAKE A GREAT PLACE FOR STUDENTS TO LIVE AND LEARN** by providing a dynamic, comfortable, engaging, diverse, sociable, fun, stimulating, and sustainable environment. The District will emphasize transparency, a community feel, connectivity, dining choices, and recreation and fitness options.
PLANNING GOALS

STRENGTHEN THE SENSE OF COMMUNITY AND CONNECTION TO OHIO STATE by planning a series of interconnected open spaces and properly scaled neighborhood courtyards tied to the campus core by convenient pedestrian paths. The Town Square will be linked to the Academic Core North through the extension of North Green, which is being constructed in conjunction with the Chemical and Biomolecular Engineering and Chemistry Building (CBEC) project south of Woodruff Avenue. The District will also be connected to future campus development to the west toward the river. Internally, a series of spaces—from public to private—will make a big campus seem smaller. A centralized pedestrian way has been named the Oak Walk after the stand of oak trees that historically stood on West Frambes Avenue, the street that formerly ran east and west at this location. The Oak Walk serves as a central circulation spine that will connect the District’s principal public spaces: the Town Square, College Square, and the Lane & North High Plaza. Each of these public open spaces will be framed by buildings with active, transparent, ground-floor community spaces, dining venues, and recreation opportunities.

The Town Square and other spaces will be programmed to accommodate casual socializing among students of every year with faculty and with other students. Special events will further support an interactive community at different times of day and year. These will include festivals, community dialogue, student organization and learning community sign-ups, music performances, and outdoor movies.
CREATE A SPECIAL IDENTITY FOR THE NORTH RESIDENTIAL DISTRICT including the Town Square, the Oak Walk, and new “neighborhoods” in the District. Each of these neighborhoods will have its own memorable character by virtue of unique building spaces, landscape design, and building architecture. In these places, students will make new traditions and form connections. Their memories of Ohio State will last a lifetime and be formed by the special character of the North Residential District and its neighborhoods.

DEVELOP AN ICONIC CAMPUS CORNER AT LANE AVENUE AND NORTH HIGH STREET, an important crossroads that will become an intersection of University and civic life and the symbolic gateway to the campus from the north. Many of the thousands of off-campus students living in neighborhoods to the north and east of the District walk through this campus portal daily. While specific programs for this corner have not been finalized, the District Plan proposes a group of taller buildings that will define an open plaza and welcome pedestrians through to the center of the District. These will be animated by common spaces on the first floor. Together, these elements will define a strong civic presence that engages the broader University community and transitions to the Academic Lawn along North High Street.

ENHANCE FACULTY/STUDENT ENGAGEMENT by capitalizing on the North Residential District’s proximity to the Academic Core North. The District will welcome faculty across Woodruff Avenue to its new dining centers and common spaces. These appealing indoor and outdoor environments will attract students, faculty, staff, and visitors.
The planning process identified a number of important principles that have guided the development of the District Plan and will continue to serve as touchstones for final design and implementation. All support the guiding principles outlined in the Framework Plan.

ACHIEVE MULTIPLE UNIVERSITY GOALS with every investment in the District.

CREATE A RESIDENCE-BASED, 24/7 LEARNING ENVIRONMENT that supports and advances STEP, celebrates diversity, and encourages student exploration and discovery.

CREATE FLEXIBLE AND HIGHLY ADAPTABLE SPACES that regenerate the core and can adjust to long-term programmatic changes and requirements.

BUILD A HIERARCHY OF STUDENT ENGAGEMENT from fully private to fully public spaces that enable self-awareness, exploration, and growth; foster community-building at multiple scales; and make the Ohio State campus feel smaller and more intimate.

SHAPE A VIBRANT, SUSTAINABLE, AND FUNCTIONAL DISTRICT that includes careful integration of transportation, circulation, and service and is marked by purposeful learning opportunities, an activated pedestrian core, a strong civic identity, and clear wayfinding. Every element of a sustainable North Residential District must be about educating students to become responsible stewards of the planet. All buildings in the District are anticipated to achieve LEED Silver certification or better.

STRENGTHEN EDUCATIONAL, SOCIAL, PHYSICAL, AND CIVIC CONNECTIONS within the District, to the surrounding campus, and to the greater community.

IMPROVE DISTRICT EDGES AND KEY INTERSECTIONS to capitalize on the importance of the North Residential District to the University’s overall mission.
CONCEPTUAL RENDERING OF OAK WALK
A DISTRICT TRANSFORMED

The transformed North Residential District will be contemporary, sustainable, durable, cost-effective, and beautiful.

NEIGHBORHOODS WITHIN NEIGHBORHOODS will activate a District-wide living-learning environment that brings students and faculty together in a dynamic community of exploration and discovery.

TWELVE NEW RESIDENTIAL BUILDINGS will accommodate 3,875 students, adding 3,200 new residents and replacing 675 beds currently in buildings recommended for demolition. New architecture will relate respectfully to existing buildings.

TWELVE NEW DINING CENTERS, A NEW FITNESS CENTER, AND OUTDOOR RECREATIONAL SPACES will attract residents and visitors, adding to an interactive sense of community in the District.

PUBLIC GATHERING SPACES AND NEIGHBORHOODS will have individual identities created by distinctive landscape design and building architecture. The District will be a community created by its residents, buildings, outdoor spaces for recreation and public assembly, and the connective activities within and among its neighborhoods.

NEW PEDESTRIAN CONNECTIONS will reach out to the greater community and draw them into the North Residential District. New walkways will connect to the close-by Academic Core North, the broader campus, and off-campus communities to the north and northeast.

ATTRACTIVE AND WELCOMING GATEWAYS will invite students and visitors into the District. Campus edges on Lane Avenue and North High Street will encourage future development partnerships.

By creating NEW AND DYNAMIC LINKAGES to the Academic Core North, buildings and landscape will unify the North Residential District along Woodruff Avenue with the collegiate character of the Fisher College of Business and the river to the west, and the Academic Core North on its southern edge.

The FLEXIBLE DESIGN of the North Residential District will accommodate changes in academic and cultural priorities over time, assuring its enduring qualities for future generations.
A large number of faculty here at Ohio State are very involved in living-learning programs and extremely committed to increased faculty engagement and mentorship, all of which are important because these are the cornerstones of the goals for the student experience in the District.

Dr. Jeffrey Wadsworth
Board of Trustees Member
The Ohio State University
PLANNING PROCESS
REDEFINING THE STUDENT EXPERIENCE: THE NORTH RESIDENTIAL DISTRICT PLAN
DISTRICT PLANNING PROCESS

In November 2011, The Ohio State University retained a planning and design team to lead the development of the North Residential District Plan. This professional team was complemented by Columbus-based engineers and other consultants. The University established a Core Project Team to oversee the work of the planning/design team and to coordinate with other campus stakeholders.

The development of the District Plan engaged The Ohio State University campus in a nine-month process of intensive workshops and meetings involving the University’s Core Project Team, the planning and design team, and a broad array of Ohio State stakeholders. The process was iterative, creative, inclusive, and participatory. More than 30 members of Ohio State’s staff and administration were involved, as well as several student representatives and a number of Trustees. These participants represented a broad spectrum of stakeholders, including participants from Student Life, Administration and Planning, Physical Planning and Real Estate, Facilities Operations and Development, Transportation and Parking, Office of Energy and Environment, Academic Affairs, and Strategic Enrollment Planning. Students expressed their aspirations for the District during numerous focus group sessions and meetings of the Student Strategic Design Committee.

Several expanded work sessions addressed topics such as goals and strategies to achieve the University’s objectives for excellence and student success, as well as goals for elevating the University’s rank position relative to its peers. These included discussions about admissions policies, faculty recruitment, and the delivery of coursework. Other expanded work sessions addressed Ohio State’s philosophy and goals with regard to establishing appropriate sustainable practices to be incorporated into the design and operations procedures for the District.

At key points in the planning process, the team presented planning parameters, goals, guiding principles, and the evolution of planning concepts to two senior-level groups for review and guidance: the Executive Sponsors Group and a subcommittee of the Board of Trustees. These groups kept the Board of Trustees apprised of progress throughout the planning period to ensure that the Plan is aligned with larger University goals and priorities.

THE PLANNING PROCESS WAS ORGANIZED INTO FOUR PRINCIPAL OVERLAPPING PHASES:

- Formulation of Key Strategic Goals
- Analysis of Existing Conditions and Context
- Program Development
- Finalization of Recommendations for the North Residential District Plan
PROCESS SUMMARY

Formulation of Key Strategic Goals, Principles, and Assumptions

Through this open process, which included numerous work sessions, the planning/design team and Ohio State participants developed the overall strategic goals that would inform the development of the District Plan. These goals were stated at an aspirational level and set the stage for actual physical planning.

Each of the plan options was evaluated with respect to the North Residential District Plan goals, principles, and assumptions; the Ohio State Framework Plan; and project budget conformation. The District Plan achieves Ohio State’s ambitious goals as set forth in STEP and the Framework Plan.

Analysis of Existing Conditions and Context

The planning/design team collected baseline information including existing drawings of the District and relevant prior studies. The team documented existing physical characteristics of the North Residential District such as existing building sizes, bed counts, dining statistics, and other baseline data.

The team studied the existing District site and buildings to determine key considerations that could influence the development of the District Plan. Separately but concurrently, a Facility Suitability Index survey (FSI)—which was part of a pilot program—and Facility Condition Index assessment (FCI) added valuable information that further informed this process. The team also considered the attributes of adjacent campus precincts and off-campus neighborhoods.

Space Program Development

Through a series of iterations, the team developed a comprehensive program of requirements for the District. Each of the primary program component types—residential, common space, dining, and recreation—was discussed over the course of multiple meetings. The resulting space program addresses the needs associated with:

- residents
- accommodation of common spaces
- dining facilities
- recreation facilities
- the entire campus community
- other space needed to achieve the broad goals of STEP, including enhancing faculty-student interaction
Finalization of Recommendations for the North Residential District Plan

The planning/design team developed the planning strategy for the transformation of the North Residential District based on what became known as the “Consensus Diagram,” which illustrates a strong, comprehensive District planning concept and eight supporting plan elements. The Consensus Diagram formed the basis for the subsequent development of a number of variations and options for the District Plan.
PLANNING ASSUMPTIONS

Planning concepts and options were developed on the basis of the following assumptions:

- The North Residential District Plan will add capacity for 3,200 new beds.

- The current number of beds available in the District is assumed to be 3,159 in mostly of two-room double-occupancy modified suites. The proposed Plan capacity will increase this amount to 6,359 beds. In addition, 18 staff apartments will bring the total for the District to 22 staff apartments after accounting for certain existing apartments that will remain and the demolition of others.

- The residential living unit mix will be 85% double-occupancy rooms, with the balance accommodating single-occupancy. A variety of unit types will be offered to complement the limited types of existing units.

- Individual building capacities will range from approximately 220 beds to no greater than 500 beds.

- Initial evaluations determined that Scott House would be demolished and its 111-bed capacity replaced.

- Subsequent evaluation determined that Nosker, Blackburn, and Haverfield Houses would also be demolished and their 564-bed capacity replaced by new construction.

- Dining and recreation space will be appropriately sized to support proposed student capacity and use by patrons from other parts of the campus as well as nearby off-campus students.

- New outdoor recreation facilities will replace existing outdoor recreation facilities and will include basketball, volleyball, a multi-purpose sport surface, and numerous informal recreation areas.

- Facilities to accommodate central Housing Administration, Dining Administration, Commissary, Catering, and Maintenance/Housekeeping will be budgeted on the basis that they will be located in renovated existing space. Subsequent evaluation determined that the Commissary will be located outside of the District in renovated space at 2650 Kenny Road, an existing Ohio State building approximately two miles from the District. Locations of the other facilities will be determined during design and implementation.

- General convenience parking will be removed from the District. New parking capacities will accommodate limited staff parking, short-term parking for deliveries and visitors, ADA parking, and short-term maintenance vehicle parking.

- Buildings are to be completed for occupancy in two phases of delivery (summer 2015 and 2016).
We have close to 65,000 students in total. There is no reason in the world that a great American university, a great land-grant institution, cannot provide an intimate, socially viable, and culturally enlightened experience to every one of those students.

Dr. E. Gordon Gee
President, The Ohio State University
EXISTING CONDITIONS
REDEFINING THE STUDENT EXPERIENCE: THE NORTH RESIDENTIAL DISTRICT PLAN

THE OHIO STATE UNIVERSITY CORE CAMPUS
CONTEXT

The core Ohio State campus is bounded by North High Street on the east, Lane Avenue on the north, King Avenue on the south, and University buildings and land assets lying west of the Olentangy River. The Oval, Ohio State’s principal and iconic open green space, serves as the symbolic and functional heart of campus as well as an important recreational resource for the University.

Academic buildings are concentrated north and south of the Oval, with the Library sitting as a commanding presence at the Oval’s west end. On-campus residential districts accommodating undergraduates are located south, west, and north of the Oval. The North Residential District is the residential neighborhood closest to the densely developed Academic Core North. Pedestrian connections between the North Residential District and the Academic Core North are currently well-defined and will be further reinforced by the design of the District Plan.
HISTORY OF THE NORTH RESIDENTIAL DISTRICT

The most dramatic period of growth for The Ohio State University occurred during the years directly following World War II. Enrollment in 1943 was approximately 6,500. In 1946, it was close to 25,000. The GI Bill created tremendous demand for higher education to accommodate returning soldiers, which in turn created the need for rapid expansion of academic and residential facilities. Several key leaders were responsible for guiding the University through this period of enormous growth and for creating the land acquisition, planning, and financing strategies necessary to meet these needs.

Neil Farm, commemorated by Neil Avenue and Neilwood Gables, was consolidated into the University and became the North Campus. The District’s three towers were named as a tribute to the significant leadership of three visionary University administrators, Harry Drackett, Jacob Taylor, and Lawrence Donald Jones. With the naming of the North Commons, William “Bill” North is remembered for his long service as the Campus Policeman from the early- to mid-20th century.

Ohio State chose to honor the sacrifices of its alumni during World War I, World War II, and the Korean War, and most of the other buildings built in the District honor their memory. Curl Drive, which many people assume is named for its winding path, remembers Lt. Col. James Curl, shot down over Germany in the closing days of World War II.

The North Residential District was conceived and planned during this very special time. The names of each service person and University administrator remembered by the names of buildings and roads in the District reflect the value the University places on duty, service, sacrifice, and visionary leadership.
Prior to the construction of the campus buildings in this District, the area was a moderately dense urban residential neighborhood divided into northern and southern portions by West Frambes Avenue, and further subdivided by two service alleys, Poe Alley to the north and Joe Alley to the south.

Today, the North Residential District is home to multiple residence halls, related common facilities, and surface parking. Most of the structures in this District were built between 1963 and 1968 and consist of repetitive residential building forms: low-rise bar buildings and L-shaped buildings, high-rise towers, plus three one-story buildings originally designed as dining halls.

These buildings form three loosely organized groups, each clustered around a central high-rise residential tower, three low-rise residence halls, a dining facility, and an outdoor space. Four small University-owned buildings serve as visiting faculty and staff apartments along Lane Avenue.

In addition, Curl Drive provides general and emergency vehicular and pedestrian circulation and surface parking. Surface parking is also accommodated in a large lot at Lane Avenue and North High Street and in various service courts.

In general, the existing District buildings are located far from street edges. Their distance from the street isolates them and increases a sense of their disengagement from both the urban context and from the University.
HISTORIC SIGNIFICANCE OF DISTRICT BUILDINGS

As noted in the University’s Historic Analysis for the North Residential District Transformation, Neilwood Gables was built in 1924 as a privately developed apartment building housing Ohio State students and faculty, and has served residential and administrative office needs over the years. It is locally significant under National Register Criterion C as an example of the Jacobethan Revival Style.

None of the other existing buildings in the District meet the 50-year age criterion or the four criteria established by the National Register Criteria of Evaluation as historically significant. Jesse Owens North is a satellite student recreation building constructed in 1976.
WALKING DISTANCES FROM THE OVAL

- 10 MINUTES - HALF MILE
- 5 MINUTES - QUARTER MILE
- 20 MINUTES - ONE MILE
According to demographic data derived from the 2000 Census and 2008/2013 estimates compiled by ESRI, Inc., approximately 16,000 students live within a one-mile radius of the core Ohio State campus, almost 6,000 of whom reside to the east of North High Street and north of Lane Avenue. This area, loosely bounded by Clinton Avenue to the north, King Avenue to the south, and the Conrail tracks to the east, has a total population of approximately 24,000 residents, including students and non-students, making it the most densely populated area adjoining the University. Within this geographic area, nearly 85% of the available housing comprises rental units.

Housing consists mainly of single-family homes and duplexes built in the early 1900s. Many of these have been densified into multiple apartments. Some have been replaced with apartment buildings. Uses on the other corners of Lane Avenue and North High Street include small-scale retail and casual dining/fast food.

The North Residential District is ideally situated to serve not only students living within the District, but also other campus residents and the nearby off-campus community. It will bring students, faculty, staff, and visitors together in a robust setting that is convenient to a diverse population.
The North Residential District site comprises approximately 27 acres, including the parcel that accommodates Jesse Owens North. The District’s location at the northeast corner of the campus at Lane Avenue and North High Street makes it a prominent gateway to The Ohio State University.
EXISTING CONDITIONS

EXISTING BUILDING USE
The North Residential District’s 21 existing buildings include nine low-rise residence halls, three residential towers, three commons buildings (two of which were formerly dining halls), and the four Lane Avenue apartments, as well as Neilwood Gables, which is currently used for offices and housing.

The residential buildings include a limited range of student room or suite types. Most are two-room double-occupancy modified suites.
FACILITY CONDITIONS AND SUITABILITY TO ACCOMMODATE SPACE PROGRAMS

Coordinated studies were conducted early in 2012 by Ohio State and its consultants. These studies evaluated each building in the District with regard to its physical condition and its suitability to accommodate the space needs and functionality associated with Ohio State’s current and future residential life program.

The FCI and FSI conducted by the University represented the first time that the District’s physical conditions and programmatic efficacy were evaluated simultaneously. These studies were conducted separately from the North Residential District Plan, but informed the University’s plans for existing District buildings as it embarked on this major new initiative.

The results of these studies showed that most of the existing buildings in the District have been maintained quite well, with appropriate improvements made when needed. With regard to the suitability of existing buildings to accommodate Ohio State’s residential program, it was recognized that the District buildings were planned and constructed to accommodate programs prevalent in the 1960s.
Contributing factors with regard to the FSI include:

- Lack of living unit variety – Student living units throughout the District comprise modified suites where two double-occupancy rooms share a bathroom. The space program formulated in response to Ohio State's STEP includes a variety of single- and double-occupancy living units such as traditional single- and double-occupancy rooms, modified suites, and full suites.

- Lack of appropriate common spaces – Although there are a few sizable common spaces in existing buildings, most buildings lack adequate and appropriate common spaces. Most have little or no upper-floor common spaces and lack natural light.

- Dimensional constraints – Because the District buildings were designed to standards of the 1960s, they are not dimensionally sufficient, horizontally or vertically, to easily accommodate contemporary building technical systems such as modern heating, air conditioning, plumbing requirements, data, and accessibility.
REDEFINING THE STUDENT EXPERIENCE: THE NORTH RESIDENTIAL DISTRICT PLAN

OPEN SPACES

The District currently contains a disparate collection of open spaces that vary in typologies, ranging from open lawn to paved plazas to programmed recreation areas. Most of the open space is residual and does not contribute to the spatial definition of the District or to the pedestrian experience—although there is ample green space, it is fragmented and is not organized to form legible spaces. Scott Lawn along Woodruff Avenue is the only green space of significant size available for organized activities. Open spaces will be significantly increased in the proposed Plan.
EXISTING CONDITIONS

TREE CANOPY

The District has approximately 535 trees dispersed throughout the site. These include a mix of large, mature deciduous trees such as honey locust, red oak, American sycamore, and evergreen trees such as Japanese and Austrian pines, firs, and hemlocks. The University has completed a study evaluating the existing trees and highlighted 22 trees as Heritage Trees (specimen trees). The University will outline a tree protection plan for all Heritage and existing trees to remain during the construction phases of the project. Details and protection methods will be part of the implementation phase.
TOPOGRAPHY

There is a 30-foot grade change from the high point at the intersection of North High Street and Lane Avenue (+774 feet) to the Neilwood Gables Building (+744 feet) in the southeast corner of the site. As the District has evolved over time, there has not been a District-wide approach to providing building access and circulation. The buildings are accessed from raised or lowered entry plazas with walls, stairs, and a series of walkways. These and other walls and stairs within the existing landscape create impediments to overall pedestrian movement and handicap accessibility within the District.
Although the anticipated pedestrian circulation patterns and volumes through the District are expected to contribute to the active character of the community, further detailed study is recommended to determine appropriate pedestrian and vehicular circulation management configurations and management practices within and surrounding the District.

The OSU Campus Crosswalk Study dated February 2007 points out that both North High Street and Lane Avenue are among the highest volume streets in the vicinity. It also highlights West Woodruff Avenue as part of a significant current circulation loop within the campus carrying high vehicular volumes.
REDEFINING THE STUDENT EXPERIENCE: THE NORTH RESIDENTIAL DISTRICT PLAN

PEDESTRIAN CIRCULATION

With thousands of students living off-campus in neighborhoods directly north and east of the North Residential District, their circulation through the District is added to the anticipated pedestrian volume generated by the more than 6,000 future District residents. This dynamic will contribute vibrant activity to the District and will serve to assimilate the on- and off-campus student populations.
There are currently seven Ohio State bus routes that serve students in the North Residential District, including stops along Curl Drive for late night and weekends.
REDEFINING THE STUDENT EXPERIENCE: THE NORTH RESIDENTIAL DISTRICT PLAN

VEHICULAR CIRCULATION

The District is bounded by four lanes of heavy traffic on both Lane Avenue and North High Street. Woodruff Avenue—one lane in each direction—accommodates both heavy bus and car traffic. The residential neighborhoods to the north and east of the North Residential District, as well as the pedestrian corridor to the west, generate heavy pedestrian traffic. Currently, circulation and movement patterns within the District are unclear and lack hierarchy. Pedestrian paths mix with vehicular circulation and do not relate to building entries. An internal road, Curl Drive, provides vehicular access within the District and accommodates move-in/move-out traffic, building service, emergency vehicle and fire access, and every day drop-off and pick-up. Its circuitous route, with cars parked on both sides of the street, creates a barrier and potential safety concerns. Many small surface parking lots and service enclosures in the District disrupt and disorient the pedestrian movement.
**Service**

Each of the District’s three towers is served by a paved service court. These courts accommodate trash/recycling dumpsters, cellphone equipment, and service vehicle parking. Low-rise buildings have defined loading docks. Ohio State service vehicles drive along pedestrian paths as needed, conflicting with pedestrian uses.

**Emergency**

Emergency vehicles use Curl Drive as well as pedestrian paths.
Ohio State conducted a classroom utilization study for the Academic Core North, establishing intensity of classroom use close to the North Residential District. This data established the approximate student and faculty classroom population of buildings near the District. This information helped determine the most advantageous locations for spaces that will enhance faculty and student engagement within the District.
EXISTING CONDITIONS

DEMOLITIONS

Planning concepts formulated subsequent to the Analysis of Existing Buildings and Context determined the benefits of demolishing several existing buildings within the North Residential District. Buildings that will be demolished because they do not accommodate contemporary program needs are inappropriate for re-investment and significantly compromise the goals of the District Plan include Royer, Raney, North Commons, Scott, Nosker, Blackburn, Haverfield, and the four apartment buildings on Lane Avenue.

The demolition of Scott, Nosker, Blackburn, and Haverfield Houses will result in a loss of 675 beds, which will be replaced by new construction.

In addition, several building elements such as entry vestibules, ramps, Jones Pool, and several miscellaneous spaces at Drackett, Jones, and Taylor Towers will be demolished to accommodate topography, accessibility, new additions, and other design considerations. The extent of demolition will be determined based on development of design concepts subsequent to this Plan. Curl Drive will also be demolished.
Parts of the existing infrastructure within the District lie within what were formerly street and alley rights-of-way prior to the development of the District by Ohio State. These include the former West Frambes Avenue, which lies east-west and bisects the District, and Poe Alley and Joe Alley, which were situated north and south respectively, parallel to West Frambes Avenue.

Most of the existing storm sewers within the District are original to the existing development and connect into the existing 66-inch combined sewer. The 66-inch combined sewer in old West Frambes Avenue is owned by the City of Columbus. In addition to sanitary sewers, the alleys also accommodate parts of the existing water distribution within the District. All water lines are owned and maintained by Ohio State with the exception of a 12-inch main that, beginning at High Street, is located on the north side of Woodruff Avenue and then winds northbound mid-way through the District and connects to Lane Avenue. The ownership of all active existing gas lines in the District will be determined by Ohio State during subsequent design phases. There are also numerous gas meters within the existing District, the most prominent being located in a Gas House enclosure on the north edge of the District.
In addition to the active lines, there are several old and abandoned gas lines that run through the old alleys. The North Residential District buildings are served by a full array of underground utilities, including electric power, gas, water, storm, and sanitary sewer. A significant utility feature is the existing 66-inch combined storm/sanitary sewer running east-west along the alignment of former Frambes Avenue. Many of the existing utility lines are at or past their useful service life and will require replacement as part of the Plan.

**EASEMENTS**

Within the District there are a number of existing utility and other encumbrances held by third parties (e.g., gas, water, sanitary sewer). In many cases, existing easements may not be in use by the respective utility companies but the legal rights continue to be in place. For example, when alley corridors were vacated by the City of Columbus, the ordinances vacating the alleys reserved rights for existing utilities. Part of the site preparation work for this project will involve review of these rights, determination as to which need to be extinguished or relocated, and completion of all necessary legal documentation to achieve a site suitable for the plans outlined in the District Plan.
The District Plan is driven by increasing the quality and quantity of access points for knowledge transfer and learning.

Benjamin T. Reinke
PhD candidate in the Nuclear Engineering Program
The Ohio State University
### NORTH RESIDENTIAL DISTRICT SPACE PROGRAM COMPONENTS (NEW CONSTRUCTION)

#### 1.00 RESIDENCE HALL

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>ASF</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.10</td>
<td>Living Space</td>
<td>568,306</td>
</tr>
<tr>
<td>1.20</td>
<td>Upper Floor Private Common Area</td>
<td>65,520</td>
</tr>
<tr>
<td>1.30</td>
<td>Ground Floor Private Common Area</td>
<td>50,310</td>
</tr>
<tr>
<td>1.40</td>
<td>Managed Public Space</td>
<td>33,600</td>
</tr>
<tr>
<td>1.50</td>
<td>Public Space</td>
<td>5,050</td>
</tr>
<tr>
<td>1.60</td>
<td>Administration and Maintenance</td>
<td>17,580</td>
</tr>
</tbody>
</table>

Subtotal 740,366
Assignable to Gross Factor 1.5
Total GSF Estimate 1,110,548

#### 2.00 INDOOR RECREATION

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>ASF</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.10</td>
<td>Indoor Recreation</td>
<td>23,420</td>
</tr>
</tbody>
</table>

Subtotal 23,420
Assignable to Gross Factor 1.5
Total GSF Estimate 35,130

#### 3.00 DINING

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>ASF</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.10</td>
<td>Traditional Dining</td>
<td>29,743</td>
</tr>
<tr>
<td>3.20</td>
<td>College Square</td>
<td>8,022</td>
</tr>
<tr>
<td>3.30</td>
<td>Commissary and Bakery</td>
<td>10,760</td>
</tr>
</tbody>
</table>

Subtotal 48,525
Assignable to Gross Factor 1.5
Total GSF Estimate 72,788

#### 4.00 MAINTENANCE / OPERATIONS & HOUSEKEEPING CENTRALIZED

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>ASF</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.10</td>
<td>Maintenance / Operations / Housekeeping</td>
<td>16,458</td>
</tr>
</tbody>
</table>

Subtotal 16,458
Assignable to Gross Factor 1.5
Total GSF Estimate 24,687

#### 5.00 OTHER PROGRAM

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>ASF</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.10</td>
<td>Housing Administration</td>
<td>2,595</td>
</tr>
<tr>
<td>5.20</td>
<td>Dining Administration</td>
<td>5,300</td>
</tr>
<tr>
<td>5.30</td>
<td>Catering</td>
<td>8,995</td>
</tr>
</tbody>
</table>

Subtotal 16,890
Assignable to Gross Factor 1.5
Total GSF Estimate 25,335
SPACE PROGRAM OVERVIEW

The North Residential District program of requirements is critical to achieving the mission of Ohio State’s STEP. The District is considered to be one integrated residential community comprising both new and existing buildings. The provision of public common space in this program is intended to be a campus-wide resource, serving students residing in the District, those residing in other University residential communities, and students living off-campus. Although outlined individually, many of the program spaces described may serve multiple functions across the categories described.

The table on the opposite page summarizes the space program components. The program has been evaluated with respect to its support of Ohio State’s goals for the District, financial feasibility, and the anticipated capacity depicted in the North Residential District Plan. For planning purposes, an assignable-to-gross-square-foot factor of 1.5 was used. Actual building capacities and efficiencies will vary depending on the final disposition of program resolution for each building, preferred mechanical systems, and final configurations of all structures.

District buildings will be designed to be flexible, allowing for future changes in culture, policy, and student needs. Future modifications will preserve the underlying principles and integrity of the District mission.

The program of requirements for housing, dining, recreation, and common spaces is represented in the North Residential District’s estimated total project cost and has been approved by senior University administration effective November 2, 2012.
CONCEPTUAL RESIDENCE HALL LIVING SPACE TYPES
RESIDENTIAL SPACES

The North Residential District Plan will construct space to accommodate 3,875 beds (3,200 beds of new capacity and 675 replacement beds to compensate for capacity lost to demolition). The total capacity of the District, including new and existing beds, will be 6,359 beds. In addition, the District will also accommodate 18 staff apartments in new buildings.

The program for new residential spaces is configured to provide multiple living options for first- and second-year students, along with an appropriate complement of Resident Assistants and a limited number of third- and fourth-year residents. In addition, the residential program includes multiple unit types that comply with accessibility regulations such as the Americans with Disabilities Act, the Fair Housing Act, and other considerations.

Community sizes have been based on the following resident-to-staff ratios:

- 400 residents: One Hall Director
- 400-650 residents: One Hall Director plus one Assistant Hall Director
- Over 650 residents: One Hall Director plus two Assistant Hall Directors

Actual ratios for each building or group of buildings will be determined during subsequent design phases. Communities within the District will comprise students, Resident Assistants, Hall Directors, and Assistant Hall Directors. Depending upon building sizes, proximity to each other, living unit type distribution, and other factors, a community may be defined as being within one building or may include a group of buildings.
Residential buildings within the District will vary in size and capacity ranging from five to 12 stories in height and 220 to 500 beds. For purposes of arriving at a comprehensive District space program, a hypothetical typical building configuration was established based on a working assumption that all 12 residential buildings in the District would be of equal capacity—approximately 320 beds each. In the actual implementation of the Plan, building by building space programs will be prepared in response to individual physical building configurations, sizes, and locations within the District prior to the commencement of building design. Ohio State will provide guidance relative to individual building program development.

<table>
<thead>
<tr>
<th>1.10</th>
<th>DISTRICT LIVING SPACE TYPES</th>
<th>QTY</th>
<th>ASF</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.10.1</td>
<td>Student Double</td>
<td>796</td>
<td>192</td>
</tr>
<tr>
<td>1.10.2</td>
<td>Modified Suite</td>
<td>255</td>
<td>578</td>
</tr>
<tr>
<td>1.10.3</td>
<td>Student Suite - 2 Doubles</td>
<td>38</td>
<td>788</td>
</tr>
<tr>
<td>1.10.4</td>
<td>Student Suite - 3 Doubles</td>
<td>49</td>
<td>1,061</td>
</tr>
<tr>
<td>1.10.5</td>
<td>Student Single</td>
<td>411</td>
<td>136</td>
</tr>
<tr>
<td>1.10.6</td>
<td>Student Single w/ Bath</td>
<td>48</td>
<td>231</td>
</tr>
<tr>
<td>1.10.7</td>
<td>Resident Assistant</td>
<td>90</td>
<td>231</td>
</tr>
<tr>
<td>1.10.8</td>
<td>Student Accessible Double</td>
<td>40</td>
<td>240</td>
</tr>
<tr>
<td>1.10.9</td>
<td>Student Accessible Modified Suite</td>
<td>13</td>
<td>700</td>
</tr>
<tr>
<td>1.10.10</td>
<td>Student Accessible Suite - 2 Doubles</td>
<td>10</td>
<td>1,000</td>
</tr>
<tr>
<td>1.10.11</td>
<td>Student Accessible Suite - 3 Doubles</td>
<td>10</td>
<td>1,200</td>
</tr>
<tr>
<td>1.10.12</td>
<td>Student Accessible Single</td>
<td>24</td>
<td>260</td>
</tr>
<tr>
<td>1.10.13</td>
<td>Accessible RA</td>
<td>12</td>
<td>260</td>
</tr>
<tr>
<td>1.10.14</td>
<td>Staff Apartments - Two-Bedroom</td>
<td>12</td>
<td>900</td>
</tr>
<tr>
<td>1.10.14.10</td>
<td>Staff Apartments - One-Bedroom</td>
<td>6</td>
<td>450</td>
</tr>
<tr>
<td>1.10.15</td>
<td>Common Baths</td>
<td>84</td>
<td>416</td>
</tr>
</tbody>
</table>
COMMON SPACES

The North Residential District space program includes a wide variety of common spaces, many of which will serve multiple activities. Spaces are included to support such activities as faculty-student engagement, seminars, meetings, study groups, academic advising, counseling, office uses, quiet study, music practice, art making, exhibits, performances, and social events.

These common spaces are organized into three general categories:

- private common space
- managed public common space
- public common space

The location and arrangement of public and managed public spaces are intended to activate the most public zones of the Town Square, along the Oak Walk, and near the corner of Lane Avenue and North High Street. Interior public spaces are anticipated to have large expanses of glass facing major outdoor areas, making activities within them apparent and attractive to passersby. All of these facilities will invite faculty to interact with students in comfortable, inviting, flexible environments.

Private Common Space

Private common space will serve the residents within a given residential building and their invited guests. These spaces are accessed from inside each building and will accommodate a range of hall meetings, social events, recreation, and study groups. Lobbies and reception areas, living rooms with appropriate amenities, shared kitchens, meeting/study rooms, and general building support spaces will, in general, be located on ground floors. Upper residential floors will include lounges, studies, and group work spaces.

### 1.20 DISTRICT UPPER-FLOOR PRIVATE COMMON SPACE

<table>
<thead>
<tr>
<th>QTY</th>
<th>ASF</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.20.1 Meeting/Work Rooms</td>
<td>156</td>
</tr>
<tr>
<td>1.20.2 Lounge</td>
<td>156</td>
</tr>
</tbody>
</table>

### 1.30 DISTRICT GROUND-FLOOR PRIVATE COMMON SPACE

<table>
<thead>
<tr>
<th>QTY</th>
<th>ASF</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.30.1 Hall Lounge</td>
<td>12</td>
</tr>
<tr>
<td>1.30.2 Hall Meeting #1</td>
<td>12</td>
</tr>
<tr>
<td>1.30.3 Hall Meeting #2</td>
<td>12</td>
</tr>
<tr>
<td>1.30.4 Game Room (Flex Space)</td>
<td>12</td>
</tr>
<tr>
<td>1.30.5 Reception/Control Desk Area</td>
<td>12</td>
</tr>
<tr>
<td>1.30.6 Communal Kitchen with Dining Area</td>
<td>12</td>
</tr>
<tr>
<td>1.30.7 Laundry Rooms</td>
<td>12</td>
</tr>
<tr>
<td>1.30.8 Open Study</td>
<td>12</td>
</tr>
<tr>
<td>1.30.9 Vending Area</td>
<td>12</td>
</tr>
<tr>
<td>1.30.10 Trash/Recycling</td>
<td>12</td>
</tr>
<tr>
<td>1.30.11 Trash/Chute Room including Recycling</td>
<td>33</td>
</tr>
</tbody>
</table>
Managed Public Common Space

Managed public common space may be used, as a first priority, by all students in Ohio State residence halls and their invited guests. These spaces may have access from residence hall lobbies as well as directly from the exterior. The larger spaces in this category will be centrally scheduled by the Office of Student Life, while the smaller spaces will include some that are available for impromptu meetings and events involving students and faculty. This approach provides an important level of flexibility for the University, allowing scheduling for learning communities, special events, and activities that primarily serve residential hall students.

This category will include a variety of gathering and multi-purpose meeting spaces, art studio spaces, and active social spaces.

<table>
<thead>
<tr>
<th>1.40</th>
<th>MANAGED PUBLIC COMMON SPACE</th>
<th>QTY</th>
<th>ASF</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.40.1</td>
<td>Program Space with Movable Chairs and Tables 50-80 People</td>
<td>2</td>
<td>1,500</td>
</tr>
<tr>
<td>1.40.2</td>
<td>Small to Medium Meeting Rooms Tables with Chairs 20 People</td>
<td>12</td>
<td>750</td>
</tr>
<tr>
<td>1.40.3</td>
<td>Event Space with Movable Chairs and Tables 150 People</td>
<td>6</td>
<td>3,000</td>
</tr>
<tr>
<td>1.40.4</td>
<td>Art Studio Space</td>
<td>4</td>
<td>1,000</td>
</tr>
<tr>
<td>1.40.5</td>
<td>Music Practice Rooms</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>1.40.6</td>
<td>Active Social / Party Space</td>
<td>1</td>
<td>3,000</td>
</tr>
<tr>
<td>1.40.7</td>
<td>Quiet Room</td>
<td>2</td>
<td>300</td>
</tr>
</tbody>
</table>

Public Common Space

Public common space will be accessible to the entire Ohio State community. Access will be directly from the exterior. These spaces may be scheduled or opened for general use by any student, faculty, or staff member with a valid ID (controlled via card swipe). Located on the ground floors of multiple buildings, these are the most open and unrestricted common spaces in the North Residential District.

<table>
<thead>
<tr>
<th>1.50</th>
<th>PUBLIC COMMON SPACE</th>
<th>QTY</th>
<th>ASF</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.50.1</td>
<td>Art Gallery - Public Space</td>
<td>-</td>
<td>*</td>
</tr>
<tr>
<td>1.50.2</td>
<td>Resource Stations / Kiosk</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>1.50.3</td>
<td>Soft Seat Program Space - 25-Person Tutoring Center</td>
<td>1</td>
<td>1,200</td>
</tr>
<tr>
<td>1.50.4</td>
<td>Office Suite - Transient Use</td>
<td>2</td>
<td>1,500</td>
</tr>
<tr>
<td>1.50.5</td>
<td>Storefront or Kiosk Space - Location for Student Business</td>
<td>1</td>
<td>750</td>
</tr>
<tr>
<td>1.50.6</td>
<td>Transient Office Use</td>
<td>1</td>
<td>1,000</td>
</tr>
<tr>
<td>1.50.7</td>
<td>Bike Depot</td>
<td>1</td>
<td>300</td>
</tr>
</tbody>
</table>

* Art Gallery Space to be included in public circulation spaces of each residential building.
CAMPUS RECREATION AND FITNESS

Campus Recreation Facilities

Recreation facilities in the North Residential District will include a combination of new and existing buildings as well as outdoor facilities. A new fitness facility will provide flexible rooms for dance, yoga, spinning, and other activities, as well as space for aerobic and resistance equipment, free weights, and meeting rooms.

Directly adjacent to the new fitness building will be four new outdoor basketball courts. Those courts will be lit for evening use. When additional funding becomes available, the new fitness building will be expanded to include new indoor courts and other spaces. Additional outdoor basketball courts could be provided on the roof of the future addition.

Complementing the new fitness building will be a selective reinvestment in the Jesse Owens North recreation facility to improve climate control. It is anticipated that Jesse Owens North will accommodate four indoor basketball courts. Other program uses will relocate to the new facility.

In addition to the four outdoor basketball courts, the District will include three sand volleyball courts and a multi-sport surface that can accommodate removable dasher boards for hockey.

<table>
<thead>
<tr>
<th>2.10</th>
<th>INDOOR RECREATION</th>
<th>QTY</th>
<th>ASF</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.10.1</td>
<td>Fitness</td>
<td>1</td>
<td>11,000</td>
</tr>
<tr>
<td>2.10.2</td>
<td>Flexible Space</td>
<td>2</td>
<td>3,500</td>
</tr>
<tr>
<td>2.10.3</td>
<td>Lockers (incl. showers)</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>2.10.4</td>
<td>Reception / Control Desk (incl. equip check-out &amp; spectator seating)</td>
<td>1</td>
<td>1,500</td>
</tr>
<tr>
<td>2.10.5</td>
<td>Administration Offices</td>
<td>4</td>
<td>140</td>
</tr>
<tr>
<td>2.10.6</td>
<td>Repair Shop</td>
<td>1</td>
<td>600</td>
</tr>
<tr>
<td>2.10.7</td>
<td>Storage</td>
<td>1</td>
<td>1,000</td>
</tr>
<tr>
<td>2.10.8</td>
<td>Laundry</td>
<td>1</td>
<td>150</td>
</tr>
<tr>
<td>2.10.9</td>
<td>Maintenance Workshop</td>
<td>1</td>
<td>250</td>
</tr>
<tr>
<td>2.10.10</td>
<td>Housekeeping Office and Storage</td>
<td>1</td>
<td>320</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.20</th>
<th>PROGRAMMED OUTDOOR RECREATION</th>
<th>QTY</th>
<th>ASF</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.20.1</td>
<td>Outdoor Basketball Courts</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>2.20.2</td>
<td>Sand Volleyball Courts</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>2.20.3</td>
<td>Multi-Purpose Sports Surface</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
REDEFINING THE STUDENT EXPERIENCE: THE NORTH RESIDENTIAL DISTRICT PLAN

DINING VENUES

Existing dining venues in the North Residential District will be decommissioned and replaced with modern facilities that respond to contemporary market preferences. New dining places have been programmed and planned to encourage more “stay” time, where students may linger longer, share meals with friends, meet new people, engage with faculty, have more social and academic interaction, relax, and relieve stress. The seating capacities of the new dining venues have been calculated to accommodate District residents, guests, and off-campus students. All calculations were based on actual demand histories for existing District and other Ohio State dining facilities located in close proximity to the District.

Two new dining venues will provide convenient and comfortable places for faculty to spend quiet time with students, with more time for engagement, mentoring, and advising. New dining venues will be attractive in character and menu, inviting students from the entire on- and off-campus community to visit and share common experiences with colleagues in the District.

Traditional Dining

The dining program includes a significant new traditional dining facility to replace the existing North Commons with a dynamic display cooking area and ample back-of-house support space.

3.10 TRADITIONAL DINING

<table>
<thead>
<tr>
<th></th>
<th>Seats</th>
<th>ASF/SEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.10.1 Dining</td>
<td>743</td>
<td>16</td>
</tr>
<tr>
<td>Small Group / Semi-Private Dining</td>
<td>100</td>
<td>18</td>
</tr>
</tbody>
</table>

Retail College Square Dining

The second dining facility is a retail dining venue. In addition to indoor facilities, it will include outdoor seating, enhancing dining with the ambiance of adjacent outdoor public spaces and the street experience. This cash or BuckID venue will be particularly attractive to faculty and students arriving from across Woodruff from the Academic Core North.

<table>
<thead>
<tr>
<th></th>
<th>Seats</th>
<th>ASF/SEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.20.1 Dining (Indoor)</td>
<td>242</td>
<td>16</td>
</tr>
</tbody>
</table>

Other Important Dining Functions Described in the Program

Dining Administration will be accommodated in renovated areas within existing space, either within or outside the North Residential District.

Catering will be relocated to another Student Life facility to be determined.

The Commissary and Bakery will be located at 2650 Kenny Road, an existing Ohio State distribution facility approximately two miles northwest of the District. A portion of this building will be modified to accommodate the Commissary requirements.
SUPPORT

Maintenance, Operations, and Housekeeping

North Residential District requirements for centralized maintenance, operations, and housekeeping facilities were derived from an analysis by Ohio State staff examining existing facilities and adjusting for the increased area of buildings. The centralized Maintenance and Operations space will be in two basement locations. These locations will include space for:

- offices
- central receiving for District needs
- inventory storage
- repair shops
- vehicle parking (indoor space for one service vehicle and one electric cart vehicle at each central maintenance location)

In addition to central facilities, a modest amount of maintenance and housekeeping space is programmed to serve the day-to-day needs of each District building.

Housing Administration

Space has also been programmed for Housing Administration. This will be located in existing space to be renovated either within or outside the District.

Service and Parking

Each service court is programmed to accommodate service vehicles such as trash/recycling trucks, emergency vehicles, University staff and contractor short-term parking (for maintenance), staff apartments, ADA parking, drop-off and pick-up of students, visitors, and small delivery trucks (e.g. pizza, USPS, FedEx).
BUILDING TYPES

Buildings in the North Residential District will comprise three variations of residential building types plus indoor recreation facilities.

- **Type 1** – Residential buildings with living units and private common spaces to support hall residents
- **Type 2** – Residential buildings that include living units, private common spaces, and public common spaces
- **Type 3** – Residential buildings that include living units, private common spaces, public common spaces, and dining venues on the ground floor
- **Type 4** – A new recreation/fitness building comprising two types of spaces — areas accessible to the public, and other areas where access is controlled through an entry control point
Ground-floor common spaces, both private and public, are considered to be among the most important components of the program in terms of their ability to support a transformation of student life in the North Residential District. After considerable study, a conceptual distribution of these spaces across the District was determined. Each of these spaces is located with strategic intent and with respect to its ability to activate the major public outdoor spaces of the site by its presence and visibility from outside. Complementing ground-floor common spaces, dining and fitness venues will enrich the daily lives of students and encourage student-faculty engagement.
SPACE PLANNING CONCEPTS

GROUND-FLOOR ORGANIZATION

Buildings with Managed Public Common Space In buildings that accommodate private and managed public common spaces, there will be an entry lobby, reception area, adjacent elevators, and in certain buildings, a central stair. These ground floors will be organized with the lobby and associated elements offering easy access to—while providing appropriate separation between—the private and public common spaces as well as secure access to student living spaces on upper floors.

Buildings with Public Common Space In buildings with public common space, access to the buildings’ entries, lobbies, private common spaces, and other building support spaces will be separated from public common spaces. Public common spaces will have access from the exterior and may have dedicated lobbies where multiple spaces are co-located.
UPPER-FLOOR ORGANIZATION

Active common spaces will be directly connected to each floor. Where building configuration and size allow, upper levels may be configured as multiple wings or floor sections. Placement of private common space at the center of the wings allows for potential interaction among students in each wing. The double and single rooms may be located closer to the interactive core, while the double modified-suites and single rooms with baths may be located at the outer portions of the wings.

Although room assignment criteria are flexible, it is anticipated that, in general, the second-year students will occupy the double-occupancy modified-suites and singles with private baths. For the second-year students, this floor organization will reinforce a sense of progression from the first-year experience while also allowing possibilities for interaction with first-year students. For the first-year students, common baths and close proximity to the core will enhance the potential for interaction with other students.

Providing for a mix of room types on each floor will allow the Office of Student Life greater flexibility in establishing and supporting different sizes and types of communities on each floor and greater flexibility to meet different yearly residency needs.
A great undergraduate experience leads to great graduate students, and
great teaching leads to great research. Together they are a mosaic.

Dr. E. Gordon Gee
President, The Ohio State University
THE DISTRICT PLAN
The North Residential District’s planning and design will embody the highest academic and social aspirations of The Ohio State University. The District Plan has been designed to create an environment where students develop the skills and life experiences necessary for them to excel in both their academic endeavors and their life pursuits after graduation. It has been formulated to be consistent with the objectives described in the Framework Plan and STEP.

The new District will be a great place for students to live, learn, pursue their interests, socialize, and meet with peers and faculty. It will be dynamic, comfortable, engaging, and fun. It will include ample and flexible interior and outdoor spaces where students will learn to be globally engaged citizens with a lifelong commitment to community involvement and personal responsibility.

The District Plan defines a public realm where gatherings, festivals, performances, lectures, group dialogue, and recreation will take place, as well as private areas where students may read, reflect, and spend quiet time. The Plan also makes strong connections to the campus core, the adjacent Academic Core North, and neighboring communities to the north and east.
1: MAJOR PUBLIC SPACES

2: IMPORTANT PEDESTRIAN CONNECTIONS

3: STRONG CAMPUS/DISTRICT EDGES

4: VARIED BUILDING HEIGHTS

5: DEFINED NEIGHBORHOODS

6: STRATEGIC LOCATION OF DISTRICT COMMON SPACES
PLANNING CONCEPT

The North Residential District Plan combines the six important planning elements outlined below into a cohesive, fine-grained campus district built of human-scaled places and buildings woven into the fabric of the existing northern portion of the Ohio State campus. There will be civic spaces, active student spaces, and quiet spaces in between. There will be tall structures that punctuate the District and provide commanding views of the entire Ohio State campus and lower buildings where students will live close to ground-level activities. Overall, there will be a new image for the District, one that is commensurate with the University’s vision for the future.

Neighborhoods within neighborhoods will give every student a sense of belonging and identity. Common spaces will be accessible and clearly visible to all, encouraging participation in one of the many learning communities, social organizations, and leadership opportunities. The fabric of spaces and places within the District will be connected by well-defined pedestrian paths, the most prominent of which will be the Oak Walk. The District will be connected to the rest of campus by pathways through the Town Square and along College Road. Improved pedestrian paths will provide clear and animated connections to off-campus communities.

| THE NORTH RESIDENTIAL DISTRICT PLAN IS COMPOSED OF SIX KEY PLANNING ELEMENTS: |
|---|---|
| 1. Major Public Spaces | 4. Varied Building Heights |
| 2. Important Pedestrian Connections | 5. Defined Neighborhoods |
| 3. Strong Campus/District Edges | 6. Strategic Location of District Common Spaces |
1. MAJOR PUBLIC SPACES

The Town Square

The Plan proposes the creation of a significant new outdoor multi-use space referred to as the Town Square. The new space forms the terminus to North Green and the spatial sequence that extends from Denney Hall, incorporating the green space next to the CBEC. The Town Square will be framed on its west side by Building J (dining with housing above), on its east by Building I (public common space with housing above), and at its northern end by Building K (fitness). The Town Square is composed of two parts: the southern portion, which is envisioned as an open lawn with trees along its east and west sides and terraces abutting the adjacent buildings; and the northern portion, seen as primarily hardscape to accommodate a range of uses from rallies to concerts and impromptu gatherings. This northern portion overlaps with the Oak Walk.

The Town Square will be activated by the presence of dining and common spaces along its edges, and is connected to the academic campus by carefully located pathways across Woodruff Avenue. A secondary pedestrian route runs east-west starting at the residential entry to Building J and extending mid-block past Building I into the South Quad and eastward toward College Square dining in Building H.
CONCEPTUAL RENDERING OF THE LANE AVENUE & NORTH HIGH STREET PLAZA
THE DISTRICT PLAN

THE DISTRICT PLAN

Lane & North High Plaza

The second of the District’s two major public spaces is located at the northeast corner of the District. This is widely acknowledged to be a unique corner of Ohio State’s campus. As the gateway to the campus arriving from Route 315 and the north, it has great importance in conveying to the larger community that one has arrived at the University. The North Residential District Plan envisions a well-scaled open plaza at this corner, framed by two buildings (D and E) and creating a portal into a more private green space. As part of the Plan, these buildings will have a mix of public common spaces on the first two floors in order to provide a lively, active street-level environment. The University continues to evaluate potential programmatic themes to be located at the Lane & North High Plaza.

Student residences on the upper floors of each building will assure an active, vibrant, 24/7 student presence within the plaza and adjacent quads.

The Plan creates a series of open spaces that lead pedestrians from the corner of Lane Avenue and North High Street southward into the District and connect to the Oak Walk.
CONCEPTUAL RENDERING OF THE OAK WALK
2. IMPORTANT PEDESTRIAN CONNECTIONS

The District’s open spaces and pedestrian connecting pathways establish a clear, cohesive circulation system. Existing and proposed building entrances are located along established paths to ensure that students are connected to the community and that the movement of people is safe, logical, and efficient. Student safety is a priority in all planning of pedestrian movement.

The Oak Walk

An east-west pedestrian path to be known as the Oak Walk—located in the same position as the former West Frambes Avenue—links the District’s major public spaces together and extends for virtually the full length of the District, ending at the Academic Lawn to the east. It is anticipated that the Oak Walk will be extended to the west in the future. Located at the north-south center point of the North Residential District, this zone will serve as a primary area for locating various types of common spaces, both in new buildings and in the proposed additions to the south sides of Drackett, Jones, and Taylor Towers. The Oak Walk will be gently sloped, without steps or retaining walls. Its landscape will create a strong identity for the District and a unique place on campus. Along the Oak Walk, pedestrians will pass through the District, accessing the entire campus along pathways through Town Square to North Green and College Square to College Road.

Secondary Pedestrian Connections

Important pedestrian connections will link off-campus communities north and east of the District with the Oak Walk and the broader campus to the south. Those living north of campus will enter the District at the intersections of Lane and Neil Avenues and Lane Avenue and North High Street. An additional street crossing mid-way between these two intersections may be developed if warranted by a future pedestrian and traffic study.
REDEFINING THE STUDENT EXPERIENCE: THE NORTH RESIDENTIAL DISTRICT PLAN

CONCEPTUAL RENDERING OF THE CAMPUS/DISTRICT EDGE ALONG NORTH HIGH STREET
3. STRONG CAMPUS/DISTRICT EDGES

The North Residential District Plan responds to three unique edge conditions of the District. Setback distances, building heights, ground-floor permeability, tree placement, and hardscape design will create conditions that respond to their context while providing a sense of cohesion and uniformity over the entire site.

The streetscape along Woodruff Avenue on the District’s southern edge forms a transition from the large massing of academic buildings further south to the smaller-scaled District residential buildings.

At Lane Avenue on the northern edge, a setback will allow for an urban lawn or hardscaped area. The streetscape will be urban in nature, and the continuity of building heights and massing will create a uniform but permeable condition.

The eastern edge of the District will be defined by the extension of the Academic Lawn that borders North High Street. The Lawn will terminate at Building E.
4. VARIED BUILDING HEIGHTS

Proposed building height strategies support the District planning objectives and give residents and visitors a sense of orientation and direction, both within the District and from a distance.

High-Rise buildings (12 stories)

Twelve-story buildings announce the major public spaces at Lane Avenue and North High Street, the Town Square at the north terminus of North Green, and College Square at the north terminus of College Road.

Mid-Rise buildings (six to seven stories)

Six- to seven-story buildings along Lane Avenue and North High Street form a strong campus/neighborhood edge.

Low-Rise buildings (five stories)

Five-story buildings establish a relationship with adjacent buildings at the Fisher College of Business and along the south side of the Oak Walk. Daylight will filter through new tree canopies in these areas to the pedestrian path beneath.
CONCEPTUAL RENDERING OF THE SOUTH QUAD
5. DEFINED NEIGHBORHOODS

Quadrangles and Courtyards

The spatial organization in the District is created by a network of courtyards that vary in their degree of public use. Creating a sense of neighborhoods within neighborhoods, the courtyards are diverse in scale and establish strong connections between indoor common spaces and outdoor terraces or plazas. These spaces are the focal points of the individual neighborhoods within the District.
CONCEPTUAL RENDERING OF COLLEGE SQUARE DINING FROM THE SOUTH QUAD
6. STRATEGIC LOCATION OF DISTRICT COMMON SPACES

The District’s ground-floor building spaces—dining areas, fitness centers, art venues, common rooms—will be transparent and vibrant. Every day, as students walk to and from their residences, the activities within these spaces will be visible, creating a sense of community and removing barriers for student and faculty engagement. Spaces will support activities such as seminars, meetings, study groups, academic advising, faculty-student engagement, office uses, quiet study, music practice, art making, exhibits, performances, and social events. Over time, students will naturally become interested in being a part of what they see.

These common spaces are organized into three general categories: private common space, managed public common space, and public common space. The location and arrangement of public and managed public spaces are intended to activate the most public zones of the Town Square, along the Oak Walk, and near the corner of Lane Avenue and North High Street. Interior public spaces are anticipated to have large expanses of glass facing major outdoor areas, making activities within them apparent and attractive to passersby. All of these facilities will invite faculty to interact with students in welcoming, flexible environments.

Some of the public common spaces at the corner of Lane Avenue and North High Street may be two stories. Dining, fitness, art studios, and meeting spaces will define the new Town Square. Private common spaces that support the quality of life for District residents will be accessible from the Oak Walk, South Quad, and other neighborhood gathering places.
Redefining the Student Experience: The North Residential District Plan

Pedestrian Circulation

North High Street
Lane Avenue
Woodruff Avenue
SITE CIRCULATION

The North Residential District will be a pedestrian environment. Existing on- and off-street parking comprising 255 spaces will be removed. A reduced complement of surface parking will remain for visitors, staff, and service vehicles in six perimeter service courts with drives from Lane Avenue and Woodruff Avenue. Building service and emergency vehicles will be accommodated in specific paved corridors. Design details regarding bus and bicycle circulation as well as integrated corridors will be developed further during implementation. Pedestrian safety has been the first priority in the planning of all elements of site circulation.

PEDESTRIANS

Principal pedestrian arrival places along the edges of the District include the corner at Lane Avenue and North High Street, College Square at the north end of College Road, and the corner of Lane and Neil Avenues. Each of these places is planned to include active program spaces and unique architectural design to announce District and campus gateways. Careful planning will direct pedestrian traffic moving through the District along public pathways, each of which will be framed by public common spaces offering a wide variety of activities. District residents will find places for outdoor recreation and socializing in quieter, more residentially-oriented spaces removed from the public pathways. Off-campus students living north and east of campus will pass through the District on the way to class and home again. Many will stop for a meal in one of the dining venues, a coffee at College Square, or to exercise in one of the recreation centers.
REDEFINING THE STUDENT EXPERIENCE: THE NORTH RESIDENTIAL DISTRICT PLAN

SHARED SERVICE COURTS

Shared service courts are an important public arrival point for visitors and student drop-off. All courts are designed to serve multiple buildings. In addition, the courts will accommodate limited staff and service vehicle parking, delivery, trash and recycling management, as well as certain exterior equipment. Although the service court areas are constrained in many instances by existing buildings and site features, their configuration will create separation, to the extent practical, between vehicles and pedestrians as well as trash/recycling and technical equipment from the public, drop-off, and pedestrian experience. Schedules for service and delivery will be controlled.

<table>
<thead>
<tr>
<th>SERVICE COURT SPACES</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handicap Accessible Spaces</td>
<td>20-40%</td>
</tr>
<tr>
<td>Staff Parking Spaces</td>
<td>22%</td>
</tr>
<tr>
<td>State Parking Spaces</td>
<td>12%</td>
</tr>
<tr>
<td>Short-Term Pick-Up and Drop-Off / Delivery</td>
<td>23%</td>
</tr>
<tr>
<td>Car-Share Program Spaces</td>
<td>3%</td>
</tr>
</tbody>
</table>
Emergency vehicle access corridors will be designed to withstand heavy vehicular loads and be clear of any obstacles to ensure fire truck and other emergency vehicle circulation. Mountable curbs will be provided at locations where the corridors meet roadway curbs on Lane Avenue, North High Street, and Woodruff Avenue. Access locations and configurations will conform with City of Columbus requirements. Initial discussions with City personnel have begun, and the City will continue to conduct reviews throughout the design process.
BICYCLE PARKING

Bicycle parking and storage areas are distributed throughout the District along the north-south connectors and adjacent to building entrances. Bicycle parking is proposed as a series of grouped bike racks. Future development of the design will consider distributed bike shelters.

Bicycle parking areas depicted above represent only appropriate capacities and proximities to buildings and site circulation. It will be a high priority to make final determination of locations, sizes, and access during subsequent design phases.
Currently existing bus routes are shown in the Existing Conditions section of this Plan. Future study will determine the most appropriate location for new and late-night bus service. The District will be served by both City (COTA) and Ohio State (CABS) bus routes along its perimeter. It is anticipated that bus stops along Woodruff Avenue and North High Street will serve the District day and evening every day except certain holidays. Service will be supplemented by additional late-night and weekend bus stops along Lane Avenue and Neil Avenue, proving students convenient access to stops during these extended hours.
The goal is to create a great neighborhood. That is not created by individual buildings; it is created by what happens in and around those buildings—the contact with faculty, the program activities, and the unprogrammed activities which, knowing our students, will probably be a little more exciting and vital than anything we could program.

Ronald A. Ratner  
Board of Trustees Member  
The Ohio State University
These design guidelines are formulated to create a dynamic new residential community that achieves the goals and objectives of The Ohio State University’s Framework Plan and STEP.

They provide a roadmap for future decision making with regard to the design and construction of new buildings, building additions, site infrastructure, and landscape improvements within the North Residential District, and will create:

- legibility and hierarchy of campus structure and building design
- a cohesive collegiate environment
- opportunities for innovation in design, building system technologies, and sustainable principles
- a sense of place and orientation
- architectural design sympathetic to existing buildings within and adjacent to the District
- a sense of neighborhood and livability
- architectural expression consistent with the aspirational goals of The Ohio State University

Final programming, planning, design, and construction of the District will be consistent with Ohio State’s policies, practices, and guidelines with respect to campus safety. The District Plan will also endeavor to preserve the historic character of Neilwood Gables, existing Heritage Trees, and other mature landscape features.
PROCESS

The North Residential District Plan’s implementation will be multi-phased and will advance over several years. A number of teams will be engaged to design and manage implementation of the Plan’s various phases. These teams will consist of design architects, architects of record, building engineering consultants, infrastructure engineers, landscape architects, students, faculty, and staff. In addition, there will be various construction professionals engaged to implement the many projects within the District.

The planning, design, and implementation of the North Residential District Plan will be iterative, collaborative, deliberate, and in compliance with project budget and schedule parameters. University project management will work with each project team separately and collectively to achieve the District Plan goals.

RESPONSIBILITIES

The Ohio State University

The Ohio State University has established the following goals for the design and construction of the North Residential District components:

- consistency with the planning goals and principles outlined in the North Residential District Plan
- project implementation efficiency
- execution of the Plan with economy
- quality of construction and durability of buildings and site improvements
- incorporation of safety as a priority in all design and construction

In order to achieve these goals, the University will:

- Manage each project design and implementation element on a day-to-day basis to assure that the interests of Ohio State are advanced.
- Coordinate the design of each project element and phase with concurrent and subsequent elements.
- Schedule and manage periodic multi-team project work sessions to assure that the work of each design team is compatible with others.
- Schedule and manage periodic Ohio State Design Review Board reviews and presentations to senior University administration.

Design Review: In addition to customary project meetings, multi-team work sessions, and Ohio State Design Review Board and other administrative project meetings, the University will review the progress of design for each project element at major milestones, which will occur at 50% and 100% of schematic design, design development, and construction documents.
Project Design Teams

Prior to beginning planning and design of the various project components, project design teams will review this District Plan and its appendices, the Framework Plan, The Ohio State University Building Design Standards, all applicable planning ordinances and building codes, local trade practices, and building materials availability in the region of Columbus, Ohio.

In addition, project design teams will:

- Prepare planning and design concepts consistent with the Plan and these design guidelines.
- Coordinate with project management and with other design teams engaged concurrently.
- Prepare all materials necessary to describe project designs as they relate to these design guidelines.
- Attend all multi-team work sessions.
- Present progress of work to periodic meetings of the Ohio State Design Review Board and senior University administration.
The proposed District is a mixture of buildings carefully modulated in height, program, and iconographic importance. The District Plan identifies specific locations where the architecture of proposed buildings, and the civic spaces they define, will be designed with higher degrees of expression and innovation. As previously noted, the Lane Avenue and North High Street corner commands a prominent urban position. The Town Square and the terminus of College Road at College Square are also important District gateways. The placement of new 12-story residential buildings, expressive design, and innovative use of materials at these locations will provide orientation landmarks from the campus historic core, from Lane Avenue and North High Street, as well as from neighborhoods within the District.
Defining Neighborhoods

Within the North Residential District, smaller components of the District are loosely organized as neighborhoods, each associated with an outdoor space. It is the primary responsibility of the architecture to define the civic realm and to provide spatial legibility in the courtyards and quadrangles. The architectural language should reflect the individual nature of each smaller community. Style, however, is not as important as the compatibility of colors and materials. The disbursement of buildings with related architectural languages and material palettes can be placed into six groups as shown in the diagram. While the design of these buildings may be created by different architects, the buildings defining each neighborhood should convey a sense of cohesion and should exhibit similar thematic components. Additionally, while each neighborhood will be unique, each must also contribute to the larger community of structures in the District.
Open Spaces

Outdoor spaces—and the level of engagement and variety of interactions they support—will contribute to the success of the District Plan. These outdoor spaces have been carefully planned to provide a range of public and intimate places that support recreation and socializing. While these quadrangles, courtyards, and pedestrian pathways form the basis of the District’s spatial organization, their most powerful contribution will be to provide a wide variety of places where students can make connections with other students and with faculty.

As illustrated above, the major spaces that form the nuclei of primary neighborhoods include:

- South Quadrangle
- Taylor Quadrangle
- Drackett Quadrangle
- three secondary courtyards providing smaller spaces for barbecues, house parties, and other small gatherings

The District Plan provides a minimum goal of 62% of the site to be used for open space and 4% for active recreation. A maximum goal of 4% of the site is to be used for service courts and parking.
The South Quadrangle

South Quadrangle is the largest open space in the District and is defined by a collection of building types. It is anchored by a tall building (Building I) on the west and College Square dining (Building H) on the east, flanked by two low-scaled residence halls and activated by generous campus and building common spaces. The design of the Quadrangle preserves a grove of existing trees and is open for informal recreation. Sand volleyball courts will be appropriately integrated into the South Quad landscape. The periphery is defined by a wide paved walk. This provides differentiation between unprogrammed activities at the center of the Quadrangle and activities in residential terraces adjacent to common spaces along the edges. In this manner, higher degrees of privacy and quiet are achieved as one recedes from the center.

Peripheral circulation provides emergency vehicle access around the Quad and widens to provide building services access between Building I and L and the Quad. Pedestrian conflicts will be avoided.

The Quadrangle’s focal point is the College Square dining located at the east end of the space. It is both a part of the broader campus community and a gathering place for District residents. Fronting on Woodruff Avenue and the South Quad, the area invites diners to simultaneously engage the broader University world and the inner world of the residential neighborhood. The Quadrangle is further activated by terraces and outdoor seating associated with College Square dining.

In scale and form, the South Quad bears the greatest relationship to traditional campus quadrangles. Its architecture should reflect this in maintaining low-scaled building heights and a consistent treatment of vertical surfaces. While the high-rise portions of Building I will dominate the ensemble, efforts should be made to mitigate the massing at the lower levels. At Buildings L, M, and H, studies and lounges with large windows should be located to take advantage of views of the Quadrangle and to highlight the activities within.
Taylor Quadrangle

Taylor Quadrangle is partially defined by two residential high-rises (Taylor Tower and Building D) and the low-rise residential Building F. While the space is characterized by the larger-scaled buildings, its architecture should capitalize on creating a more textured and open lower level that consolidates the group of buildings.

The level change between Buildings D and E will be a focal point for the neighborhood. The west-facing stairs and terracing should be treated as a place for student gathering and a pedestrian connection east to Lane & North High Plaza. The spaces flanking the gap should be transparent and active, creating an urban proscenium where events and performances can take place. The Quad will also connect directly to the Oak Walk through a passage between Houck House and Building F.

The addition to Taylor Tower will help accommodate active common spaces and a reconfigured building entry. The addition will reduce the scale and repetitive surface of the existing building’s façade. The addition should be transparent, welcoming, and tectonically precise. Elements of this volume, however, should invoke architectural inventiveness and, as a focal point for the neighborhood, should be expressive.

The ground level along the south façade of Taylor Tower will be excavated approximately six feet to allow natural daylight and improved access into the existing basement.
Dracket Quadrangle

Dracket Quadrangle is the focal center for a residential neighborhood engaging residents of Drackett Tower, Building A, and Archer and Norton Houses.

A rich variety of programmatic elements and building typologies surround the space, and the ground-floor levels contain almost entirely common spaces. The western elevation of the proposed recreation center (Building K) will serve as a well-lit beacon, and the activities within will animate the Quadrangle late into the night. The space is an important pedestrian crossroads—a substantial amount of foot traffic will pass diagonally through the site from the Neil and Lane Avenue corner to the new Town Square.

The southern elevation of Drackett Tower will dominate the space. The proposed addition to the tower will provide architectural contrast and create a more refined sense of scale. Similar to the addition at Taylor Tower, the volume will introduce a level of thoughtful expression as a focal point for the neighborhood. It is anticipated that the addition will accommodate various public common spaces and re-configured building entries.

The ground level will be excavated approximately six feet to allow natural daylight and access to the basement level of Drackett Tower and to improve the spatial unity of the Quad. At the eastern edge of the space, the elevation change creates an amphitheater where students can congregate, taking part in or watching informal sports and other activities.
A series of more intimate secondary courtyards are defined within each neighborhood. In contrast to the larger primary quads, these spaces act as forecourts or anterooms to building entrances. They should be treated as extensions of the interior common spaces that address them. Each of these similarly scaled outdoor rooms has its own identity and role in contributing to the character of the neighborhood.

The space defined by Building A and the northern elevation of Drackett Tower (shown as #1 above) is an example of a courtyard that is simultaneously intimate and highly active. The grade change between the two buildings creates a terraced edge. This elevated covered patio helps to provide a sense of scale at the base of the Tower and a common organizing element within the buildings. The character of the space will largely be defined by the lobby and by the transparency of Building A’s ground-floor common spaces.

The courtyard directly south of Building B (shown as #2 above) is activated by building entrances and by a service/drop-off court. Special attention should be paid to the treatment of screen walls and landscaping at the service yard. These will contribute positively to the character of the space and mitigate the presence of necessary electrical and service equipment. Where possible, such screen walls should be extensions of the architecture.

The courtyard defined by the south and west elevations of Building G (shown as #3 above) provides an opportunity for common spaces to open directly onto a collegiate backyard. A low site wall at the southern edge of the space will further define the space and create a sense of ownership for the occupants of Building G and Halloran House.
District Setbacks and Build-To Guidelines

In order to maintain coherence within the North Residential District and at its periphery, setbacks and build-to guidelines have been established. The goal is to outline specific alignments that establish consistent building street faces, building-to-building setbacks, and view corridors. Within these parameters, the specific form of each building may vary in its established envelope. The massing of the buildings, however, must not encroach on any portion of the established open space or pathways for pedestrians and service and emergency vehicles.
ARCHITECTURE

Architectural Expression

The following criteria should be considered in determining the appropriate architectural expression of each new building, addition, or renovation in the District:

- hierarchical position within the District Plan
- building use and scale
- building height
- solar orientation
- architectural characteristics of existing buildings within and adjacent to the District

The North Residential District Plan depicts these considerations as a continuum of architectural design expression. This continuum is described in the illustration and matrix on the following page.

Massing

- Projected and recessed volumes should be incorporated at certain locations in order to provide variety to the massing of the buildings and respond to specific site circumstances.

- High-rises should be treated as independent volumes with predominantly vertical compositions of windows and panels.

- Base additions to existing towers should provide a transition between the ground plane and volumes above. These may be expressed as either projecting or recessed volumes.

- In the event that they are included, mechanical penthouses and screens should be integrated into building massing. Enclosures should be continuations of building walls and should not sit on building roofs as independent volumes.
<table>
<thead>
<tr>
<th>Area</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Areas of greatest public identity and active ground-floor spaces.</td>
<td>Active ground-floor spaces along major pedestrian paths</td>
</tr>
<tr>
<td>Active hall common ground-floor spaces that relate to significant outdoor recreational and social spaces</td>
<td>Adjacency to quiet outdoor green spaces</td>
</tr>
<tr>
<td>Architectural Expression</td>
<td>Most iconic and architecturally interpretive</td>
</tr>
<tr>
<td>Consistent with neighboring buildings with similar positions</td>
<td></td>
</tr>
<tr>
<td>Entries</td>
<td>Clear and inviting entries to residential buildings and public common spaces</td>
</tr>
<tr>
<td>Clear and inviting entries to residential buildings</td>
<td></td>
</tr>
<tr>
<td>Ground-Floor Glazing</td>
<td>Transparent, generously glazed façades at public common spaces on ground floors</td>
</tr>
<tr>
<td>Relationship between Ground-Floor and Exterior Spaces</td>
<td>Entry plazas with seating or garden walls as meeting places for students</td>
</tr>
<tr>
<td>Entry plazas with seating or garden walls as meeting places for students; porches or terraces accessible from building entries and from common spaces oriented to outdoor spaces</td>
<td></td>
</tr>
<tr>
<td>Upper-Floor Glazing</td>
<td>Transparent façade elements expressing residential common spaces on upper floors</td>
</tr>
<tr>
<td>Plan complexity and geometry</td>
<td>Inventive, iconic, reflective of special interior program activities</td>
</tr>
<tr>
<td>Simple geometry shifts, overhangs, and recesses</td>
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</tr>
<tr>
<td>Typical bay spacing</td>
<td>Taller building heights at major public spaces; bay spacing may vary to allow fenestration shifts</td>
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<tr>
<td>Bay spacing may vary to allow fenestration shifts</td>
<td>Consistent bay and fenestration spacing within unit types; may vary between unit types</td>
</tr>
<tr>
<td>Extent to which proportions are governed by regulating lines: roof cornices and edges, ground- and second-floor lines</td>
<td>May vary from adjacent regulating lines</td>
</tr>
<tr>
<td>Regulating roof lines may vary; ground- and second-floor lines consistent with adjacent buildings</td>
<td></td>
</tr>
</tbody>
</table>
Ground Floors

On the exterior, lobbies and common spaces will be articulated as larger expanses of glass that glow in the evenings, welcoming students home. Public and active private common spaces at the ground-floor levels of residence halls will open onto significant public sidewalks, courtyards, plazas, and open spaces. They should have expansive, transparent walls to the outside, high ceilings to permit deep daylight penetration, and flexible, open configurations. They should employ multiple techniques for extending the “stay” time of students, faculty, and staff—from considerations as simple as plentiful electrical outlets for charging devices to alluring color schemes, comfortable furniture, and finishes.

Ground-floor common spaces should be expressed as transparent volumes. Their overall expression should be horizontal, with individual glazing portions vertical. These elements should have specific relationships to exterior terraces and should contribute to defining the character of quadrangles, courtyards, and plazas to celebrate the social and civic life of each residential community and encourage students to become engaged.

Overhangs should be provided at the ground-floor level, with canopies expressed as simple planar elements to enhance the pedestrian experience, help modulate scale, provide shade on common-space glass, and create spatial zones adjacent to buildings to accommodate seating areas. Building entrances should be recessed to allow for cover from inclement weather and treated as outdoor rooms defined by both architecture and landscape. They should be well-lit with clear sightlines to control desks. Cladding materials at entries should be inviting—slate, terra cotta, and glazed brick are examples of acceptable materials. This treatment will provide expressions of individuality within the District.
Upper Floors

Private common spaces and unique programmatic spaces on the residential floors should have large expanses of glass and be distributed around the building volume to address specific view corridors and campus axes, or provide focal points for courtyards and open spaces. Similar to the student rooms, daylight should be controlled on south- and west-facing façades. Interior spaces should be sufficiently daylit to eliminate any need for significant electrical lighting during the daytime.

Each student room should have at least one large window, creating a reading of each individual student residence on each façade.

Bathrooms, whether en suite or common to the floor, should also be designed to include these attributes. If possible, they should be naturally lit and naturally ventilated.

Views Where possible, fenestration should be oriented to address the District’s courtyards and pedestrian paths. By engaging these elements, a psychological connection is made to changing daylight and the activities of other students. Certain buildings, in particular D, H, and I, will be tall enough to offer views that look south toward the campus and along North High Street. These views, either from student rooms or carefully located study areas, will provide a greater sense of connection and orientation within the broader campus context.
REDEFINING THE STUDENT EXPERIENCE: THE NORTH RESIDENTIAL DISTRICT PLAN

CONCEPTUAL RENDERING OF AN EXISTING TOWER ADDITION
ADDITIONS TO EXISTING TOWERS

The Plan provides for one- and two-story additions to the three existing towers: Drackett, Jones, and Taylor. These elements will provide a sense of scale at the base of the towers, improve underutilized basement spaces, and enhance ADA accessibility. By excavating the existing ground plane at each tower, the entrance sequences into the buildings will be greatly enhanced.

The proposed architecture should be expressive but disciplined. The additions should be highly transparent in order to both highlight the activities within and allow sunlight to reach deep into the basements and first-floor spaces. The three tower additions should be treated with common language and thematic elements, but should present an image that is unique to each neighborhood they are defining. Cladding materials at bases should differ from those of the towers and be expanded as simple planes of brick or other masonry panels.

The composition of each addition should include:
1. simple glass volumes
2. entrance canopies and recesses
3. solid wall elements expressed as planes
4. integrated terraces or patios
The proposed architectural image is a taut, smooth building skin of brick with punched openings of regular and repetitive sizes for the residential areas of the façade. Larger contiguous areas of glazing should be created for ground-floor common space, gathering/social spaces such as floor lounges on upper floors, and other special places to emphasize key vistas and urban design gestures. The architectural expression and composition of special buildings such as Buildings J and H (dining with residential), Building K (recreation/fitness), or parts thereof can display different materials and are expected to employ much larger expanses of glass.

The design approach for the District should be honest about the materials and construction of today and feel comfortable in the context. The buildings should express the program within.

Above all else, the student residence is a home. Finishes should have a residential quality, with materials that are familiar to students. Natural materials and colors should be incorporated where practical, especially at ground-floor areas and within building interior spaces. Materials should be chosen for their visual and tactile appeal. The buildings must be attractive so that they will invite students, faculty, and staff to approach and engage them.
**Masonry** The principal cladding of the buildings should be a closely related range of modular masonry products including brick and cast stone. The masonry should harmonize with the existing brick buildings in the District. The façades of buildings in close proximity to the Fisher College of Business and along Woodruff Avenue should be of similar color, size, and texture as the prominent materials of the Fisher College.

- Brick is preferred to be of standard modular size.
- Mortar color should be compatible with the brick color.
- Brick surfaces should be expressed as simple planes.
- Accents of glazed brick, decorative brick coursing and patterning, and metal panels or shingles are encouraged to create variety from one building to the next.
Glass The glazed area throughout the North Residential District is intended to average 30% of the total wall area for each building. Actual glass area will vary based on interior space layouts, building orientation, thermal performance of other building envelope material, energy modeling, and LEED certification criteria. It is important that a consistent use and expression of fenestration is maintained within the District.

- All glass will be clear. Tinted or reflective glass will not be used in the District.
- Typical windows in student rooms should express the residential character of living spaces.
- Larger areas of glass should express the buildings’ internal circulation and common areas. Undifferentiated expanses of glazing are to be avoided, and panel and mullion sizes are to be thoughtfully modulated to provide a sense of scale.
- Windows are to be set back from the surface of the wall. Shadows create visual depth and enhance the sense of solidity and permanence.
- Glazing should incorporate some operable fenestration.
- Glazed areas should be subdivided by true mullions and should present a clear hierarchy of widths and depths.
- Mullions are to be of light colors and compatible with the palette of masonry and metal elements.
- Solar shading should be incorporated where appropriate and should be integral to the composition of the building.
Metals and Composite Materials The use of metal panels, metal plates, and accent pieces within the District should reinforce the tectonic language of each building and be used with a conscious understanding of their distribution across the site.

- The locations of metal cladding should visually reinforce the District’s planning principles. When implemented, these locations should terminate campus view axes and provide definition to important civic locations.

- Building penthouses and mechanical screens are acceptable locations for metal cladding.

- Panel colors should be compatible with the building composition and relationship to other materials.

- Other metal elements such as plates, channels, and angles should articulate the system of cladding panelization.
Accent Materials

Building entrances and ground-level common spaces provide unique opportunities within the District to utilize a more expressive palette of materials. They are considered outdoor rooms or porches, and will provide a sense of shelter and security. These zones should be visually expanded to include landscape materials of related scale and materiality. The materials in these areas should be warm, approachable, tactile, and inviting.

- At building entrances, materials should be different from the general brick field.
- Secondary materials within neighborhoods should be related to each other.
- Glazed brick, slate, and stone are examples of acceptable materials.
- Secondary materials should relate to the palette of interior materials and reinforce the connection between interior and exterior.
- Secondary materials may be used on upper levels to emphasize figural readings or to highlight buildings’ specific programmatic elements.
- Wood and other natural materials should be integrated into interior public spaces.
**LANDSCAPE**

The District Plan increases open space by 106%. The design and materials used to define the District’s outdoor spaces are critical elements necessary to establish the civic realm within the District. These plazas, quadrangles, courtyards, service courts, and other outdoor features will support the University’s goals to create an interactive environment that connects indoor and outdoor activities, establishes a strong sense of District identity, makes welcoming campus gateways, and provides flexible outdoor spaces for formal and informal gatherings and recreation. These landscape guidelines suggest the following site coverage distribution:

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing Buildings</strong></td>
<td>8%</td>
</tr>
<tr>
<td><strong>Proposed Buildings</strong></td>
<td>22%</td>
</tr>
<tr>
<td><strong>Open Space</strong></td>
<td></td>
</tr>
<tr>
<td>The Oak Walk</td>
<td>10%</td>
</tr>
<tr>
<td>Civic plazas</td>
<td>12%</td>
</tr>
<tr>
<td>Quads</td>
<td>20%</td>
</tr>
<tr>
<td>Interstitial spaces, bike racks, entry plazas</td>
<td>20%</td>
</tr>
<tr>
<td>Active outdoor recreation</td>
<td>4%</td>
</tr>
<tr>
<td>Service courts/parking</td>
<td>4%</td>
</tr>
</tbody>
</table>

The landscape of the North Residential District establishes and unifies landscape types, materials, and lighting. Criteria in the selection of landscape materials include:

- aesthetic unity
- long-term maintenance
- ease of repair
- financial achievability
- durability

Within the overall Plan, the type of materials and finishes, lighting and planting strategies, and site furnishings are based on the unique qualities of each District space and the function each serves.

**Public Spaces**

Major public spaces—the Oak Walk, Town Square, College Square, and Lane & North High Plaza—are envisioned to employ higher-end materials, custom and theatrical lighting for multiple uses, and custom furnishings.

**Building Entry Plazas**

Asphalt and concrete pavers are recommended to integrate building interior paving and exterior pavement types at building entries.

**Connectors and Service Courts**

The 20-foot-wide multi-purpose connectors and service courts are proposed to employ asphalt pavers with flush curbs designed for heavy vehicular uses, with lighting and site furnishing as required. The service courts will be enclosed with a screen wall.

**Bike Racks**

Bike racks will be set in pervious paving materials such as cobbles.
REDEFINING THE STUDENT EXPERIENCE: THE NORTH RESIDENTIAL DISTRICT PLAN

PROPOSED OPEN SPACE
- Green Space
- Paved Plazas
- Program Recreation Space

LANDSCAPE MATERIALS AND FINISHES
- Public Spaces
- Building Entry Plazas
- Connectors and Service Courts
- Bike Racks
- Quads and Courtyards
- Edges
Quads and Courtyards

The open spaces are framed with cast-in-place concrete walkways consistent with the rest of the campus. Small-scale features such as building entries and interior-exterior relationships will include higher-end materials such as asphalt pavers. Lighting will be designed to augment the visual character of each outdoor space.

Edges

Street verges are proposed along the edges of city and campus streets. The verges will take two forms, hard (paved) and soft (vegetated), which will be determined by the degree of pedestrian movement and density. Within the verge, consistent lines of trees, lighting, and signage will provide pleasant spaces for pedestrians and define the streetscape.

- Lane Avenue – The street verge of Lane Avenue will be soft, with a 12-foot-wide sidewalk in a double row of trees.
- North High Street – The street verge of North High Street will be hard, consistent with the more urban nature of the street.
- Woodruff Avenue – The improvement along Woodruff Avenue will build upon the existing improvements that include a 12-foot-wide planted verge and eight-foot-wide sidewalk. Building entry plazas will extend from each building to the existing sidewalk.

Trees

Heritage Trees The District has approximately 535 trees, 22 of which the University has designated as Heritage Trees. Future development will be planned around Heritage Trees.

New Trees There will be new trees added throughout the District. The University is evaluating the option of establishing nursery capacity to provide trees and other plant material for the District.
Environmental Graphics

Ohio State is currently preparing a campus-wide Signage and Wayfinding Plan with associated standards and design guidelines. The campus wayfinding, building identification, and informational graphics for the District will be developed concurrently using the Signage and Wayfinding Plan. Sign types in the District will be based on the recommendations and standards adopted by the University. In addition to these standards, the North Residential District Plan also represents an opportunity to explore and develop additional sign types. The design teams for the North Residential District will work closely with the Signage and Wayfinding Plan team to develop and refine new sign types, which will augment the current guidelines and become part of a comprehensive campus-wide system.

The North Residential District Plan will implement a number of elements of the Signage and Wayfinding Plan including:

- Gateways – The corner of Lane Avenue and North High Street is considered to be a major gateway to the University. It is assumed that the architecture at this corner will be the primary signifier of the gateway. However, consideration should be given to identifying architectural/landscape/signage elements that may be common to all gateways. Other entry points to the District may be communicated in a less formal and lower-profile manner, including the Town Square, College Square, and the intersection of Lane and Neil Avenues.

- Pedestrian Directional – Pedestrian directional signage will most likely take the form of maps with a limited list of destinations. A prototype of this sign type is being developed for the Hospital Expansion Project and that prototype should be used as a base to build upon.
- Vehicular Directional Signage – Vehicular signage directing visitors to campus and primary destinations along highways and main arterial streets will be implemented under a separate project. Supplemental directional and regulatory signage will be needed to identify access to the multi-functional service courts for delivery, pick-up and drop-off, accessible parking, service vehicles, etc., in addition to regulatory signage for parking and accessibility requirements.

- Building Identification – Signage will provide clear building identification without creating visual clutter. It is important for building identification to be harmonious with the architecture and appear to be part of each building's design.

- Additional Sign Types – As the design of the District evolves, additional sign types and signage needs may emerge. Some of these may include:
  - Retail signage to identify services and facilities that are open to faculty, staff, and students who are not residents of the District. Examples include food service and recreational facilities.
  - Interpretive signage to provide an opportunity to educate residents and visitors to the District about the unique features, including sustainable practices, and activities the District offers.
  - Temporary messaging for festivals and special events.
  - Commemorative signage and donor recognition for named buildings and indoor or outdoor spaces.

Examples of some of these types of signs exist or are in development for other projects or areas of the campus. It may, however, be found that other types need to be developed to augment and enhance the Signage and Wayfinding Plan currently in development.
TECHNICAL SYSTEMS

BUILDING SYSTEMS

Mechanical, Heating, Ventilation, and Cooling Systems

Mechanical systems in the North Residential District will be selected to provide efficiency and occupant comfort. Design and engineering teams will assess a wide array of variables as they consider the benefits of potential systems with respect to their implications for cost, durability, comfort, and sustainability.

Common areas will be served by dedicated ventilation air systems units capable of 100% outside air inlet and delivering space-neutral air to all interior conditioned spaces where operable window openings are not achievable. Individual four-pipe fan coil units will be provided for each residential space. The fan coil units will be horizontal style mounted above ceiling, or vertical style located in closets or chases at each student room.

Several new buildings are planned to be classified as high-rise per the Ohio Building Code, and those building will require a stairwell pressurization system.

- Air-handling units will maintain air quality by utilizing effective filters.
- The cooling energy used will be reduced by using fan-assisted natural ventilation (i.e., airside Economizer), but only when outside air conditions are able to maintain the cooling load without mechanical cooling. Full cooling design capacity will be available for the space when outdoor ventilation cannot achieve the desired setpoints.
- Individual temperature controls will be provided for each residence room.
- Window interlocks will be considered so that opening residence room windows forces temperature setbacks.
- All hallways will be ventilated.
Plumbing Systems

The new facilities planned for the North Residential District will require new domestic water service. Plumbing systems will be designed to optimize performance, considerations for decreasing student water usage, durability, and economy.

- Water service rooms will include a domestic water service entrance and a domestic booster pump if necessary based on building height.
- In all buildings three stories or greater, domestic water booster pumps will provide adequate water pressure for fixtures on all floors.
- In the 12-story buildings, pressure-reducing valves may be required on lower floors to prevent over pressurization of water systems.

Fire Life Safety

The new facilities planned for the North Residential District will be fully sprinklered buildings, including standpipes for all buildings. The need for fire pumps will be determined by pressure flow tests for water supply lines, to be performed in subsequent design phases. Fire service rooms will accommodate water service entry points and the required double-detector check backflow preventers. This space will house the fire pump where required. A separate fire command center will be required on all high-rise buildings above 75 feet to house the fire alarm system head-end. It is not required that this room be staffed continuously if the systems are monitored elsewhere on campus.

Structural Systems

Design of structural systems for the District will be determined on the basis of sub-surface geotechnical investigation and analysis during early design phases. For planning purposes, the following structural system concepts form the basis of the North Residential District Plan and associated budget projections:

**Basements** The District Plan anticipates basements to accommodate heating and domestic hot water equipment in buildings H and J. All other buildings are to be designed without basements. In the event the University chooses the mini-plant mechanical system concept described elsewhere in the Plan, buildings accommodating mini-plants (buildings A, C, G, H, J) will have partial or full basements.

**Foundations** Buildings without basements – poured concrete footings and foundation walls with slabs on-grade

Buildings with basements – poured concrete deep footings and foundation walls

**Superstructure** Five-story buildings – light metal gauge steel framing

Seven- and 12-story buildings – structural steel framing with composite floor systems

**Building Roof Perimeters**

Exterior building walls will be extended beyond roof structures to form four-foot parapets.
Electrical Power and Lighting Systems

Occupancy controls and energy efficient fixtures and appliances will be considered for all spaces.

- Electrical design will include systems for short circuit protection, ground fault protection, circuit breaker coordination, and arc flash exposure. Incident energies at distribution equipment will be limited to permit safe operation.
- Use of dedicated neutrals are recommended and will be further studied in subsequent design phases.
- Lighting controls will shut off fixtures when no one is using the space (dual levels can be considered for safety/security areas). Where occupancy sensors are not practical, these controls will interface with the building’s automated system.
- To control maintenance and storage costs, the wattage of lamps and ballasts in use will be limited. LED desk lighting will be provided to limit the energy used for lighting in the residence rooms.
- Only appliances and lighting items that meet the most cost-effective and highest energy-efficiency ratings will be used. As technologies and standards evolve, the most current standards should be applied.
- Further analysis may be conducted to explore potential combinations of photovoltaics and wind power to provide power at an optimum life cycle cost.
- Emergency response communications radio reception coverage will be installed in all buildings. This will make separate communication requirements for high-rise buildings unnecessary and provide consistency across the District.
- Electrical service will provide a minimum of 20 amps per bed.
- Full emergency cell phone coverage within buildings is recommended and may be included pending fund availability.

Elevators

- All buildings will be served by at least two elevators to ensure availability of at least one elevator in the event of extended maintenance issues.
- One elevator in each building will be sized to accommodate a stretcher and adequate weight capacity for freight.
- Elevator features will be suitable for everyday use by students in a residence hall, and the finishes will be durable. To ensure security, elevators that access student residential floors may have card access readers.
- All elevators throughout the District will be of the same manufacturer. Traction elevators with overhead mounted machines are the preferred option.
- A/C gearless with control standardization for all elevators is preferred.
- Energy efficiency will be an important consideration in the selection and specification of elevators.
Technology

Building Access Control All new buildings will adhere to the existing student housing access control standards. All exterior doors meant for student ingress will have a card reader and associated electronic locks to allow access to the building during certain hours. Student ID badges will allow students to gain access to approved doors and make purchases in student dining facilities and bookstores.

Intercoms will be placed at each main ingress door in the event that a guest or student cannot gain access. The intercom will communicate with the central security monitoring station or with designated rooms within that building.

Closed-Circuit Television (CCTV) All new buildings will adhere to the campus CCTV standard. The overall system will be IP-based. All new cameras could be IP-based or analog units and/or a combination of both and have the capacity to be added to a campus-wide video management system. Cameras will be installed in both the interior and exterior of each building including all exterior doors, loading docks, and elevators, and will be specified based upon their environment. They will be vandal-resistant as necessary and capable of recording video during low-light times of the day. Design architects should coordinate the location of these cameras in the design development phase. Their location, attachment, and housing should be considered an integral part of the design without compromising the cameras’ effectiveness.

Information Technology System Design and engineering teams should adhere to the most current University standards for terminations, wiring, closets, and infrastructure. These include:

- one (1) data line per two residents
- one (1) coax per resident room
- full wireless N coverage throughout building

In addition, the following recommendations will guide the scope and design of IT systems:

- Technology to deliver information is constantly evolving. A robust and flexible cabling infrastructure that can accommodate these changes will be critical to the future use of information technology.

- Wireless networking will be provided in the new buildings. Consideration at the onset of design and ongoing evaluations of plan layouts during both design and construction should be utilized for the delivery of wireless network services.

- Wiring for high-definition video and audio may be handled over IPTV-type connections. Provisions to provide this service to the student rooms will be reviewed.
INFRestructure

Most existing utilities in the District will be replaced or re-routed. Some are already abandoned; some pass under the footprints of buildings proposed by this District Plan. Those that will remain in service will be rehabilitated.

Integrated Corridors

Several multi-functional lanes or “integrated corridors” have been established within the District. These corridors will accommodate pedestrian paths, as well as fire and other emergency vehicle circulation at grade, while providing access to all buildings. Below grade, they will accommodate main utility distribution lines, providing convenient and economical lateral connections to all buildings. The establishment of these integrated corridors will leave broad site areas unobstructed by utilities. These will create ample open green spaces for student recreation, socializing, and enjoyment of natural settings within the campus fabric of the District. The location of the integrated utility corridors will also retain numerous open land sites for future buildings and amenities.
Storm Water

Most of the existing storm sewers within the District are original to the existing development and connect into the existing 66-inch combined sewer. As a result of deterioration, conflicts with new buildings, and new grading, most of the storm mains will require replacement. To separate the sewers, connections into the 66-inch combined sewer will be removed and storm water will be diverted into existing mains in Woodruff Avenue and Lane Avenue.

Storm water will generally be captured and routed via storm sewers to a number of underground storage tanks within each of the District’s neighborhoods to provide the storm water quantity and quality control required by regulators. Since the District site is classified as a redevelopment project with respect to Water Quality Volume (WQV), it will provide 20% of the WQV that would be required of a greenfield site. Part of the proposed storm water strategy will be to divert the post-development storm water discharge from the existing 66-inch combined sewer to the Lane Avenue and Woodruff Avenue storm sewers.
Therefore, the underground storage tanks will outlet either to the 60-inch storm sewer in Lane Avenue or the 84-inch storm sewer in Woodruff Avenue. Storage tanks will be located to avoid proposed utility corridors, allow for future building sites within green spaces, and limit excavation. Throughout the District, efforts will be made to clarify and reduce storm water run-off volumes and pollutants by promoting filtering and infiltration of runoff to the underlying soils. This will be accomplished by the use of storm water Best Management Practices.

The existing impervious area is 19.2 acres of approximately 27 acres in the District, or 71% of the total area. The proposed impervious area is 19.4 acres, or 71.85% of the total area.

A potential regional storm water management strategy that consolidates run-off from the District off-site will be investigated for approval by the City of Columbus during subsequent design phases.
Sanitary/Combined Sewers

The 66-inch combined sewer in old West Frambes Avenue is owned by the City of Columbus and will remain in place. Ohio State will request that the City investigate the need, feasibility of, and requirements for rehabilitating this sewer, the capacity of which is adequate for the new sanitary connections. District storm sewer flows currently accommodated by the combined sewer will be removed. The 12-inch and 15-inch sanitary sewers in Poe and Joe Alleys also have adequate capacity for the District. The upstream ends of these sewers will be relocated into the 66-inch combined sewer at the east end of the District, thus making the remaining sewers to the west private and available for University takeover. Some relocation of these sewers will be required to accommodate the locations of several proposed new buildings. Portions of the existing sewers that remain in place will be rehabilitated to like-new condition. Based on subsequent evaluation by the City of Columbus and Ohio State, existing City easements throughout the District may be vacated.

Water

In addition to sanitary sewers, the alleys also accommodate parts of the existing water distribution within the District. All water lines are owned and maintained by Ohio State with exception of a 12-inch main that, beginning at High Street, is located on the north side of Woodruff Avenue and then winds northbound mid-way through the District and connects to Lane Avenue. This City main may be abandoned west of St. Stephen’s Church and through the District, along with the easement. A new cross-connection will be provided between the existing City mains at High Street and Lane Avenue.

The old water line in Poe Alley (to the north) is abandoned. There is no line in the former West Frambes Avenue. The water line in Joe Alley is still active but is undersized and will interfere with new Buildings H, I, and J. It will be replaced with appropriately increased capacity as part of the District redevelopment.

Gas

There are several old and abandoned gas lines that run through the old alleys. Ohio State will determine the ownership and maintenance responsibilities for all active gas lines serving the District during subsequent design phases. In addition, there are numerous gas meters within the existing District. The most prominent of these is located in a Gas House enclosure on the north edge of the District, directly adjacent to the existing sidewalk along the south side of Lane Avenue approximately half way between Neil Avenue and North High Street. Additional study will be prepared in subsequent design phases to determine the most appropriate way to integrate this structure and all other gas meters into the District Plan. Potential strategies relative to the Gas House include: re-surfacing the façades of the existing Gas House to improve its appearance; placing the meter in a below-grade vault in its current location; re-locating the gas meter either above or below grade in a location to be determined. Ohio State will determine the ownership of the Gas House and other gas meters in the District. If owned by Columbia Gas, the University will work with the gas company to determine logistics, technical considerations, and cost allocation for the various potential strategies.
District Mechanical Systems Infrastructure

Numerous planning options were considered for chilled water, hot water, and emergency power District infrastructure components. The following section describes the base plans included in the North Residential District Plan budget estimate. Other options may exceed the estimated project budget and are outlined with a brief summary. A life cycle analysis was prepared comparing each option for each component. Prior to the commencement of detailed design, the University will further evaluate each of the options to determine the direction it prefers for each component.

Chilled Water Distribution

A base plan and four alternative plans for chilled water distribution were developed for the District.

- **Base Plan (referenced as C-1)** – Chilled water will be provided to buildings within the District in two distinct ways:
  1. **Buildings in the southern half of the District**
     - New buildings in the southern half of the District will be served by new chillers to be installed in the East Regional Chilled Water Plant (ERCWP). The distribution system for this half of the District will be similar to that recently installed in Woodruff Avenue and College Avenue as part of the Woodruff/Tuttle Road Rebuild and ERCWP projects.
     - Existing buildings that are anticipated to remain in the southern half of the District will be connected to the ERCWP when their equipment requires replacement. The distribution system will be sized to accommodate the cooling loads of existing buildings. Adequate space in the ERCWP will be reserved to accept a chiller to serve existing buildings in the southern half of the District.
  2. **Buildings in the northern half of the District**
     - New buildings in the northern half of the District will be served by individual rooftop air-cooled chillers. No chilled water distribution system will be required to serve these buildings.
     - Existing buildings will continue to be served with the equipment currently in place. No chilled water distribution system will be required to serve these buildings as part of this project.

- **Alternative Chilled Water System Options** – Four alternative systems were considered to serve the North Residential District with chilled water:
  - Option C-2: Stand-alone chillers, entire District
  - Option C-3: Mini-plants for northern half of the District, southern half from ERCWP
  - Option C-4: All mini-plants for the entire District
  - Option C-5: All chilled water from ERCWP, all new buildings and buildings currently served by Royer and Scott House
Although it exceeds the estimated project budget, and funding has yet to be established, based on a detailed life cycle analysis and other evaluations, Option C-5 was determined to be most advantageous to Ohio State. In this option, chilled water will be provided by the ERCWP for the entire District, eliminating the need for rooftop equipment in any of the District buildings. This initiative would provide the following benefits:

- incorporation of the most efficient option
- long-term cost benefits from reduced energy and operations expenses
- elimination of intermittent rooftop equipment service and replacement, which avoids disruption of student residents that may be caused by future intermittent service and repairs, and creates less need for maintenance personnel expense
- greater reliability and less service interruption
- redundancy of service
- minimization of floor space needs
- mechanical space and flexibility to accommodate future buildings that may be built in the District and existing buildings when equipment requires replacement
- sustainability – less energy, less equipment manufacture, shipping, replacement over time
- greater utilization of ERCWP space and equipment
- greater utilization of skilled ERCWP personnel
Hot Water Distribution – Heating and Domestic

A base plan and two alternative options for both heating and domestic hot water systems for the District were developed:

- **Base Plan – Individual Plants (referenced as H-1 for Heating Hot Water and D-1 for Domestic Hot Water)**
  
  All proposed buildings within the District will be served by individual boiler plants in each building for production and distribution of heating hot water and domestic hot water. As existing high-rise buildings are renovated, their existing boilers will be replaced.

  The heating and domestic hot water plant in Scott House currently serves Blackburn House, Nosker House, Norton House, and Archer House. An existing plant in Royer Student Activities Center produces and distributes heating hot water and domestic hot water for Houck House, Barrett House, Halloran House, and Haverfield House. This capacity will be replaced by two mini-plants located in basements of new Buildings J and H. New distribution to these buildings will be installed from these mini-plants.

- **Alternative Heating and Domestic Hot Water System Options**
  
  Two alternative systems were considered to serve the District with heating and domestic hot water. Heating and domestic hot water will be supplied by independent sets of boilers and will be arranged in similar configurations.

  - **Option H-2/D-2:** Central plant in the District
  - **Option H-3/D-3:** All mini-plants

  After considerable evaluation including a detailed life cycle analysis, Option H-3/D-3 (All mini-plants) was determined to be the most advantageous for Ohio State. In this option, several mini heating hot water boiler plants will be provided in basements of five new buildings throughout the District. Each mini-plant will include both a conventional and a high-efficiency condensing boiler. It is anticipated that existing buildings, both high- and low-rise, will be connected to the heating hot water distribution system at the point in the future when existing equipment in these buildings requires replacement. The mini-plants and distribution system will be sized to accommodate these replacements. Basements that accommodate the mini-plants will be sized to serve Neilwood Gables when it is renovated in the future. Domestic hot water boilers will be co-located with and serve the same buildings as the heating hot water boilers. Benefits of Option H-3/D-3 include:

  - lower construction cost than other options
  - long-term cost benefits from reduced energy and operations expenses
  - greater reliability and less service interruption
  - reduced required floor space
  - sustainability—less energy, less equipment manufacture, less shipping, less replacement over time
  - redundancy of service
Normal Electrical Power Distribution

As a result of grading, impacts from new buildings, and deterioration of existing duct banks, it is likely that most high-voltage power distribution throughout the District will be replaced with new service. The normal power distribution system will be configured to accommodate the customary demand loads for each building, site lighting, and other requirements. Among these loads, the most significant item that may vary will be loads related to providing cooling. A base plan for normal power distribution was developed to accommodate the base chilled water plan. Additional distribution requirements were identified for each of the four alternative chilled water schemes. Following are descriptions for the base plan:

**Base Plan** Additional normal power capacity will be required to serve the proposed new construction. A second 500 kCMIL, 13.2 kV circuit pair will be extended to the site from Smith Substation through a new duct bank that was installed as part of the CBEC project to supply the District.

The new circuit pair will be routed in dedicated concrete-encased duct banks through vaults/manholes that will be located no more than 400 feet apart. Existing manholes will be utilized where possible. Service to the buildings will tap and extend the feeder pairs with 4/0 to SF6 switches located within various buildings. The base plan is included in the estimated project budget cost for the options provided below and will be determined by subsequent detailed analysis.

**Alternative Normal Power Distribution Options** Each of the five chilled water distribution options developed for the District has different power demands. All, with the exception of Option C-5 (All buildings served with chilled water from the ERCWP), require a new circuit pair as described previously. In the event the University selects Option C-4, the new demand load would be served by adding a supplemental third feeder (a 750 kCMIL “super” feeder) along with the existing circuit pair.

**Option-C4: Normal Power for All Chilled Water from the ERCWP** The normal power for the North Residential District will be distributed using a medium voltage loop. The loop will incorporate the distribution switchgear for buildings A, C, G, H, J, and K. Each mini-plant building will distribute normal power to several other buildings:

- Building A will distribute normal power to Building A.
- Building C will distribute normal power to Buildings B and C and back-feed Houck.
- Building G will distribute normal power to Buildings D, E, F, and G.
- Building H will distribute normal power to Buildings H and M and back-feed Barrett and Halloran.
- Building J will distribute normal power to Buildings I, J, and L and back-feed Archer and Norton.
- Building K will distribute normal power to Building K.
Emergency Power Distribution

**Base Plan (Referenced as Option G-1)** The emergency power for the District will be provided using individual generators at each building. Emergency power will not be supplied to existing buildings that will remain in the District: Barrett, Halloran, Houck, Neilwood, and Norton. Each individual building will have an exterior generator housed in an architectural enclosure and will include transfer switches to accommodate the following specific loads:

- life safety systems: egress lighting, fire alarm systems, fire suppression systems, and stairwell fan pressurization or smoke evacuation systems
- elevator recall of all cars and operation of at least one (1) elevator car
- Buck ID card reader systems, at least for all exterior doors
- kitchen areas including at least one (1) each stove, microwave, and refrigerator
- infrastructure and changes to allow building heating system operation to sustain interior temperature to a minimum of 60 degrees
- banks of orange-colored convenience outlets in main lobby areas
- MDF and IDF rooms and equipment including Lenel panels
- connection primary main electrical feeder circuit transfer switch if applicable
- plug and play exterior connections to support portable generator if needed for backup of building system
- security camera systems
- Hall Director/RA intercom systems
- Hall Director/Assistant Hall Director and RA room on each floor level fully powered

Generator systems will include power conditioners to allow correct operation of components and alleviate damage. Fuel supply will sustain buildings for at least 24 hours before refill is required.

A 13.2 kV emergency distribution system for the District is not required under the base scheme, since all proposed buildings will contain emergency generators.

**Alternative Emergency Power Options**

Four alternative systems were considered to serve the District with emergency power:

- Option G-2: A central plant in the District, 13.2kv distribution to each building
- Option G-3: A modified central plant, 13.2kv distribution to mini-plants with 480v distribution to sub-buildings
- Option G-4: Mini-plants serving all buildings
- Option G-5: Stand-alone, interior locations in each building
Although it exceeds the estimated project budget, after considerable evaluation including a detailed life cycle analysis, Option G-4 (mini-plants), was determined to be the most advantageous for Ohio State. In this option, several generators will be co-located with the mini heating and domestic hot water boiler plants in basements of new buildings throughout the District. Benefits of Option G-4 include:

- elimination of need for generator locations within the District landscape
- limiting of sound nuisance from periodic generator exercising
- low risk of losing power to the entire District
- limited to moderate cost to accommodate load connections from existing buildings
- limited to moderate cost to accommodate potential future buildings
- extension of service life of generators by protecting equipment from the weather
- greater reliability and less service interruption
- sustainability – less energy, less equipment manufacture, less shipping, less replacement over time
- redundancy of service

**Site Telecommunications**

As a result of grading, impacts of new buildings, and deterioration of existing duct banks, it is likely that most telecommunication distribution throughout the District will be replaced with new service. Site distribution into and out of an existing manhole near the southeast corner of Norton House will remain undisturbed. Existing empty duct banks primarily south of Lane Avenue will be used for the proposed new District Plan.

**Existing Duct Banks**

One existing telecommunications duct bank enters the District from the south, crossing Woodruff Avenue. It will be relocated to allow for new construction. A second duct bank is also in place along the north portion of the area south of Lane Avenue. All conduits are empty.

**New Duct Banks**

New duct banks will interconnect new or existing manholes, but will not be installed under or through existing or new buildings. With proper separation, new duct banks may follow the same paths as existing duct banks.

**Telecommunications Cabling within New Duct Banks**

New cabling to serve new buildings and to re-feed existing buildings will consist of fiber optic backbone cabling for data services, multi-pair copper backbone cabling for voice services, and coaxial backbone cabling for cable television services. The multi-pair copper backbone cabling will be used for analog phone connections required by code (fire alarm, elevator, etc.), some select residence hall rooms, and various staff phones. The coaxial backbone may not be needed if the University decides to utilize IP-TV technology for cable television service.
Security

Site Emergency Phones Pedestrian safety/security telephone capacity will consist of free-standing and building-mounted emergency telephone stations. Some of the stations may include the integration of security cameras that, upon activation of the station, display an image from the camera at a central security monitoring station.

Crime Prevention Crime Prevention Through Environmental Design (CPTED) is a University-generated program that represents the process, procedures, and policies of Ohio State. The North Residential District will be subject to a CPTED review by a multi-disciplinary team including architects, security professionals, and input from students. The team will be charged with implementing the philosophy of CPTED.

The basic principles of CPTED, which take into account the structural elements that are already going to be a part of the new facilities, include:

- Natural Access Control to make it readily apparent where desired users of a space enter and exit, and where unwanted users do not belong. Access to amenities is clearly defined for residents and visitors.

- Natural Surveillance to afford normal users of the space an opportunity to see who is in their surroundings and eliminates places of concealment by effective placement of windows and landscaping.

- Territoriality to help clearly define when one is in a public space and when one enters private space controlled by residents and their invited guests. This empowers users to take ownership of the space.

When these three elements are utilized and enhanced with adequate lighting and clear wayfinding and signage, the environment is aesthetically pleasing while sending a psychological message that it is “defensible” space. This helps residents care about what is happening in their community, and, as a result, empowers them to prevent and report crime within the District.

In addition, the District will implement President Gee’s Traffic Safety Task Force short-term recommendations and embrace the long-term recommendations to create a campus culture that is respectful and accommodating of all modes of transportation.

Traffic

The University will prepare appropriate traffic and pedestrian safety studies for all surrounding roads and intersections to minimize pedestrian-vehicle conflicts, particularly at bus stops and key intersections. Passenger vehicle and service and emergency vehicle circulation patterns, geometries, and volumes will change to accommodate the District Plan. Parking capacities will be reduced and relocated to new service courts. On-street parking will be eliminated. Pedestrian traffic will be significantly increased with the addition of more than 3,000 new District residents.
SUSTAINABILITY

Philosophy for the North Residential District:
“Sustainability planning at Ohio State should aim not just to reduce the University’s operational footprint, but also to increase human capacity for understanding... so that we can act as stewards of our collective destiny.”
—Sustainability Planning at Ohio State: Beyond the Physical Campus

All new construction projects will be designed on the basis of Ohio State’s Policy 3.10 Green Build and Energy, will achieve LEED Silver certification from the USGBC at a minimum, and seek to achieve four basic goals:

- Buildings must be safe and healthy for their residents, visitors, and neighbors. Each structure should ensure healthy air quality and must not emit toxins and waste that may have an adverse effect on residents or the surrounding community.

- Buildings must be resource-efficient and economically sustainable.

- Buildings must be flexible and adaptable. Robust buildings that subscribe to the principles of “long life – loose fit” will have the capacity to be retrofit to accommodate evolving future program needs.

- Buildings must be durable and maintainable. Different parts of a building have different life spans: structural systems may have a service life that exceeds 50 years and mechanical systems 20-30 years, while IT systems will be obsolete in five years or less. Building and systems design should recognize this dynamic, so that systems can be replaced as needs warrant. All systems must be maintained as required to achieve top performance and energy efficiency.
CONCEPTUAL RENDERING OF TOWN SQUARE RECREATION/FITNESS BUILDING
Building Form and Arrangement

Building form, massing, orientation, and arrangement have been considered to create a District Plan that achieves all of Ohio State’s goals, including sustainability. The massing and orientation of buildings are sensitive to solar exposure and wind patterns. Recognizing that the various building types have different load profiles—housing tends to be driven by envelope loads while other building types such as the recreation center will be more sensitive to ventilation and internal loads—buildings have been arranged to maximize opportunities for passive solar where appropriate. While all residential buildings cannot be configured on an east-west axis, approximately 60% of proposed new construction is oriented in this configuration.

Shading of west and south façades is important and presents opportunities to develop shading strategies as design elements, especially for the more prominent buildings or larger glazed portions.

Outdoor gathering spaces will also be oriented toward the afternoon sun to maximize their use in spring and fall, when the majority of the students are on campus enjoying outdoor activities.

Taller buildings will be located strategically to limit shading, maximize daylight penetration at the ground level, and provide a windbreak from cold winter winds predominantly from the north and west of the District.

Building façades will be appropriately glazed, typically with approximately 30% window-to-wall ratio in the residential elements, to provide the best combination of thermal performance and daylighting.
**Site Design**

Selected areas within the District will capture and treat rainwater directly through rain gardens and other landscape measures. These areas will also provide an educational function and potential research, allowing residents of the District a better sense of connection to natural water cycles.

Open space in the District will be a combination of paving and green spaces. Vegetation will be selected for maintenance and durability while minimizing the need for irrigation. Careful efforts will be made to separate vehicles and pedestrians to provide an environment conducive to an active lifestyle with space for walking as well as bicycles where appropriate.

In a few selected areas, green vegetated roofs are proposed, especially on the low roofs of the dining facility that will be visible and partially usable. These might even include an herb garden directly supporting dining facilities.

**Materials**

As each building is designed, the use of recycled, salvaged, local, and other environmentally preferable materials will be employed. Each building must meet or exceed Ohio State policies for recycling of construction and demolition waste to reduce impact.

In addition to reducing the environmental impact of disposal of materials from construction and demolition, the District Plan recommends that buildings and site improvements be designed to meet the University’s 90% landfill diversion goal. It is also recommended that appropriate infrastructure for the collection of organic and inorganic recyclables, in addition to other materials streams, be an element of the design.

**Daylight and Resident Comfort**

All spaces should be suffused with natural daylight that is modulated when rooms are facing south or west to avoid harsh glare. For thermal comfort, each room should have natural ventilation as well as the opportunity to individually control HVAC systems within prescribed limits. Finish materials should be natural, durable, and inert, with low-VOC and high life-cycle values. Natural daylighting may eliminate most of the need for daytime electrical lighting, but the design of lighting used in the evening hours should be soft and welcoming, providing a sense of security and comfort for residents and visitors. Where applicable, occupancy and lumen sensors should be installed to control lighting and HVAC in appropriate applications.
**Storm Water**

- In active recreation areas and green spaces, lawn panels will be underlain by a bed of pervious soils, sand, or other media that increases surface infiltration and soil moisture retention beyond that of the native soils.

- In passive recreation areas, there may be the potential for rain gardens to capture runoff, reduce storm water velocity, and promote infiltration and evapo-transpiration.

- The use of rain barrels to capture and store rooftop drainage should be explored for future irrigation of community gardens, if gardens are made a part of the Plan.

- Soft planting verges adjacent to Lane Avenue and North High Street will intercept and clarify sheet flows.

- Permeable pavers and pavements will reduce storm water runoff and provide additional opportunities for filtering and infiltration.

**Water Use**

Buildings will be individually metered for water consumption.

- Plumbing systems will utilize fixtures that conserve water usage and can be readily maintained. Examples of these systems could include dual-flush toilets, low-flow showers, and faucet-flow reduction devices.

- Building designs will consider rainwater collection systems to collect water from drains, downspouts, and air conditioning condensation to be used for irrigation.

- Based upon the outcome of further evaluation, buildings may be equipped with a graywater collection system to collect water from shower and sink usage for toilet flushing.
Mechanical Systems and Energy

The distribution systems options for the District for heating and domestic hot water include a network of mini-plants, each designed to serve a limited number of buildings. This would allow the greater efficiencies of centralized systems while accommodating a phased building approach and limiting site distribution infrastructure. High-efficiency equipment will be selected—simple, maintainable systems with state-of-the-art automation and controls.

Options for energy-efficient chilled water supply include service from the ERCWP along with schemes for mini-plants, stand-alone systems, or combinations of all options to achieve the greatest efficiencies and operation. Load reduction strategies come before efficiency. Site energy targets (known as an Energy Utilization Index) were established for each building type in the District in terms of kbtu/sf/year.

Special attention will be paid to lighting design, both interior and exterior. LED and other advanced technologies will be used where appropriate.

Metering of each building system is recommended (smart meters incorporated into the Buckeye Footprint systems are already in place). Pending fund availability and further cost/benefit analysis, some buildings may incorporate sub-metering of end uses, including HVAC process water and, if included in the District, irrigation, to allow measurement and verification of energy consumption. This can also be tied into educational displays or tracked for research.

If solar panels are included based upon the outcome of future study, solar water heaters may be incorporated into the domestic hot water system to support a portion of the domestic water heating.
Transportation

Ample bicycle accommodations will be provided district-wide, including safe pathways and parking areas. Both covered and uncovered bicycle parking options, as well as repair stations, should be explored during design.

Car-sharing (currently provided by Hertz on Demand) will be encouraged. Dedicated parking spaces for car-sharing that may include electric vehicles have been incorporated into the District Plan.

The current CABS bus route and bus stops will be reviewed to capture the students at high activity areas and encourage ridership.

Living and Learning Community

As the District is further developed during subsequent phases, high-profile locations may be identified to illustrate technologies operating within the District. Signage and message boards may display explanations of systems and strategies, along with real-time information describing energy and water use, and potentially other metrics such as recycling rates, etc. In this way, District occupants can become aware of the sustainability lessons demonstrated by the planning and design strategies of the District site and its buildings.
This is about building an ability for our students to make a difference in the world, to create an opportunity for each of them to contribute to their societies, to think about what they will bring with them when they go back into small communities, into farms, into large cities, and begin careers in different lines of work. They will have had an experience that only Ohio State can provide.

Dr. E. Gordon Gee
President, The Ohio State University
GOALS FOR IMPLEMENTATION

The North Residential District Plan will be implemented in continuous and coordinated phases of design and construction in order to achieve completion and occupancy in the summers of 2015 and 2016. Phasing will minimize the net loss of beds resulting from the demolition of certain existing District buildings. Sequencing of phases and sub-phases will be organized by Ohio State and its construction managers to assure safe and uninterrupted residency for the students currently living within the District. Continuous operation of support facilities such as dining, social, meeting, and recreation spaces will be assured until such time as their replacement facilities are complete.

Goals for the implementation approach include:

- assurance of the safety of students, faculty, staff, and visitors during construction periods, and formulation of an appropriate construction logistics plan by the University’s construction manager
- minimization of disruption to the ongoing student living functions and activities of the District
- maintenance of appropriate access to all occupied buildings for emergency vehicles, visitors, and service vehicles, as well as activities associated with move-in/move-out days
- scheduling of construction phasing so that amenities are delivered to maintain an appropriate balance between student needs and available facilities
- installation of new utilities infrastructure while keeping existing services in operation for occupied buildings
- achievement of a level of completeness in landscape at the end of each phase
- maintenance of ADA accessibility through and among all buildings
- separation of construction traffic from roads as much as possible
- scheduling of daily deliveries and construction work time to reduce impact on residents in the District
BUILDING SEQUENCING DIAGRAM AS OF NOVEMBER 2, 2012

- 2015
- 2016
IMPLEMENTATION APPROACH TO PHASING

The suggested phasing of the Plan incorporates a comprehensive approach to the many components involved. Key considerations include:

- Safety of students, faculty, staff, and visitors during construction periods
- Commencement of construction of utility relocations, new infrastructure, and enabling construction prior to the commencement of new building construction
- Removal of Curl Drive in its entirety, coordinated with the construction of new temporary and permanent access points (curb cuts) to service areas
- Partial demolition of Scott House to allow for the removal of portions of the existing building that conflict with new building construction, while allowing existing boiler and electrical switch gear situated in Scott to remain functional until replacement facilities are complete and operational
- Coordination of the demolition of Royer—which provides heating and domestic hot water as well as electrical power to certain existing buildings—to allow for boiler replacement facilities to be constructed and complete prior to Royer removal. Operations staff and shops will be relocated out of Royer as well.
- Demolition of all three commons buildings—North, Royer, Raney—after the replacements for each building’s program elements have been built or otherwise made available
- Demolition of three other low-rise buildings—Nosker, Blackburn, Haverfield—in a sequence that schedules demolition as late as possible to reduce the net loss of bed capacity in the District
- Identification of sites for early phases of new construction to minimize the need for early demolition and loss of existing bed capacity and support facilities
- To the extent possible, installation of final site treatments in the immediate area around each building as buildings are completed. However, final installation of surface treatments to the Oak Walk, Town Square, and other large open spaces will occur in the final phase to avoid the risk of damage to paving and planting due to ongoing construction activities.
- Achievement of a level of completeness in landscape as much as possible at the end of each phase.
SEQUENCING OF DESIGN AND CONSTRUCTION

This conceptual schedule is based on information described in the District Plan and other considerations known as of November 2, 2012. A more detailed schedule is anticipated to be formulated once a construction manager becomes engaged. Although the North Residential District Plan refers to phases, it is anticipated that actual design and construction will be sequenced in a continuous, uninterrupted progression to facilitate the completion of major portions of the North Residential District Plan as described.

The construction manager will develop—with Ohio State—detailed logistics plans to separate clusters of buildings from the construction areas, and create safe pathways for student pedestrian and bicycle traffic to occur at every stage of the process, as well as for vehicular traffic (emergency, service, trash, deliveries, visitors, etc).

Design start points are determined by the need for sufficient design, bidding, and construction time to allow for an orderly progression of the project schedule. Improvements to Jesse Owens North and Neilwood Gables will be scheduled separately.

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<td>Bed Count Reconciliation</td>
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<td>Project Team Kick-Off Work Session</td>
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<tr>
<td>Determine Materials and Assemblies</td>
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<td>Determine Specialties</td>
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(1) Verify Bed Capacities (November 2012)  (2) Project Team Kick-OH (November 2012)

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<td>Scott - Partial Demolition</td>
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<td>Blackburn &amp; Jones Pool</td>
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<td>Raney</td>
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<td>Apartments</td>
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(3) Potential Early Demolition Blackburn & Jones Pool (June 2013)  (4) Potential Early Demolition Nosker & Haverfield (June 2014)
### Phase One

**2,518 Beds**

- **Utility Relocations for J, H, I**
- **Utility Relocations Other**
- **Utility Mains**
- **Utility Laterals**
- **Grading & Drainage**
- **Finish Grading & Landscape**
- **Building A**
- **Building B**
- **Building C**
- **Building H**
- **Building I**
- **Building J**
- **Building F**
- **Building G**
- **New Commissary Loc. Renovation**

### Phase Two

**1,357 Beds**

- **Utility Laterals**
- **Grading & Drainage**
- **Finish Grading & Landscape**
- **Building D**
- **Building E**
- **Building K**
- **Building L**
- **Building M**
- **Drackett & Taylor Additions**
- **Jones Addition**
- **Commissioning TBD**

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(5) Replacement of boiler plant & electrical equipment required prior to demolition of Scott, Royer, and commencement of Phase Two Construction

(6) Replacement of dining facility required prior to demolition of North Commons
PERMITTING

Implementation of the North Residential District Plan will require a broad range of permits from various authorities. The list below represents the planning/design team’s most complete understanding, at the time of this writing, of the permits required. In general, the State of Ohio is responsible for granting permits for building construction. The City of Columbus and the University are responsible for those project components that affect City streets or rights-of-way. The State of Ohio and the City also generally have jurisdiction over storm water management, and the City has jurisdiction over selected utilities that traverse the District. As the project moves from planning into design, Ohio State and the respective design teams should confirm permits that might be required.

ANTICIPATED PERMITS

- Drawer E Plan approval permit for the work in the City right-of-way, including curb cuts and/or work that otherwise impacts North High Street and Lane Avenue
- City Transportation Division traffic study approval is likely to be required for adding/removing drives (including curb cuts), intersections, and traffic signal impacts
- City of Columbus plan approval permit for the work on City- and University-owned sanitary sewers
- City of Columbus plan approval permit for all public and private storm sewer work
- Ohio EPA Storm Water General Permit/NOI
- Ohio EPA Permit to Install (PTI) for sanitary sewers
- Ohio EPA PTI for new water distribution
- Columbus Site Compliance Plan approval permit to confirm site layout, zoning requirements, fire truck, and emergency vehicle access, etc.
- Coordination with Columbia Gas (may not require a permit)
- Building and demolition permits through Industrial Compliance
- High-voltage power distribution permits through Industrial Compliance
- The current assumption is that boilers, generators, underground storage tanks, etc. will be part of a building permit package.
- Ohio EPA Phase 1 Environmental Site Assessment may be necessary for existing underground storage tanks that need removal.

Because Ohio State has jurisdiction with respect to the distribution of medium-voltage power and chilled water, it is anticipated that permits will not be required.
IMPLEMENTATION BUDGET

Following is a summary of Total Project Costs (TPC) anticipated for the implementation of the North Residential District Plan. The TPC includes trade costs, construction manager costs and mark-ups, and Ohio State soft costs. The TPC has been estimated on the basis of details described within this Plan, applicable building codes and zoning ordinances, and other considerations known as of November 2, 2012. It is also based on other data relative to recent similar development projects in the Columbus, Ohio, area and on the Ohio State campus, and calculations made directly from planning and design documents.

All TPC estimates include the costs associated with buildings in each of the categories outlined in the accompanying table and their respective proportion of general development costs such as utility infrastructure, grading, drainage, and landscape improvements.

The TPC includes the anticipated costs for all project elements as described in the District Plan unless otherwise noted as an option, alternative, or potential feature.

This budget is based on certain systems and materials that may be at variance with Ohio State’s Building Design Standards (BDS). Subsequent design phases will evaluate the cost benefits for items at variance with the BDS and will determine a process to adopt those deemed to be appropriate.

Infrastructure and site TPC are estimated to be $51,000,000. These costs are apportioned to the categories in the chart and included in the estimated TPC.

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<th>ESTIMATED TOTAL PROJECT COSTS</th>
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<td>Dining</td>
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<tr>
<td>Recreation</td>
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<tr>
<td><strong>Total Project Cost</strong></td>
<td><strong>$396,000,000</strong></td>
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ACKNOWLEDGEMENTS

The Ohio State University

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Stephen Myers, Fellowship with Dr. Gee
Susanne Naylor-Claus, Office of the Chief Information Officer
Michael Papadakis, VP of Financial Services and Treasurer
Ross Parkman, Director of Utilities
Molly Ranz-Calhoun, Student Life, Facilities
Ronald A. Ratner, Board Member (chair)
Lynn Readey, AVP of Facilities Ops, Development and Head of FOD
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Don Stenta, Student Life, Recreational Sports
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