

NEIGHBORHOOD 9: RESEARCH PARK



2007 Aerial View of the Research Park



Research Park Area Map

EXISTING CHARACTER

The Research Park neighborhood is a quickly emerging district along the outer periphery of the campus. The existing neighborhood infrastructure includes a combination of former K-12 educational buildings, University storage warehouses, athletic fields, support facilities, and the newly constructed Indiana University Data Center. The K-12 education buildings are single-story structures that were originally constructed in the mid 1960s and are now occupied by the University's information technology organization. The configuration of these structures does not adequately support the needs of the information technology organization, and the overall poor building conditions exacerbate this dysfunction.

The Research Park neighborhood is bounded by the SR 45/46 Bypass which further accentuates the Research Park's disconnection from the core campus. These high volume vehicular corridors segregate this area from the main campus and promote a sense of isolation and remoteness. Very few pedestrian connections exist across the SR 45/46 Bypass, further promoting this area's isolation.

EXISTING QUALITIES

- Low-rise 1-story structures surrounded by surface parking
- Many campus support and storage facilities and athletic fields
- Gently rolling topography that increases in steepness toward the northeast
- Antiquated building inventory of poor quality not suited for current uses



M. H. Wrubel Computing Center



Auxiliary Library Facility

DEVELOPMENT OPPORTUNITIES

The primary objective of this neighborhood is to house key facilities for the University's information technology organization and central infrastructure as well as facilities to support technology transfer and economic development.

The newly constructed Indiana University Data Center will anchor this neighborhood and provide a valuable technology resource for both public and private research efforts. New office and research structures are envisioned to surround the Data Center and define a public-private academic research community unique to the campus. Partnerships will be established with private technology organizations to leverage resources and foster the development of innovative new technologies.

The image of this new neighborhood is to be forward-thinking and representative of the cutting edge technology embodied in the Data Center and the groundbreaking research it enables. Buildings will be progressive and contemporary in style, but not faddish. Characteristics from the core campus will

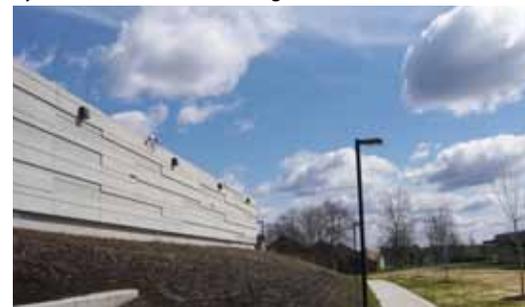
be emulated and inform the qualities of new structures and open spaces. These characteristics will include sustainably-focused landscape settings, sophisticated architectural compositions, and refined neutral color and material palettes.

New structures must establish a strong presence along the SR 45/46 Bypass and promote the unique identity of this neighborhood. Technology and building infrastructure will bridge across the SR 45/46 Bypass and develop the underutilized land adjacent to Tulip Tree Apartments. Delineation of a new campus edge along this primary vehicular corridor will define a new image for Indiana University and reinvent the gateway to the main campus along East Tenth Street. A renovation and repurposing of Tulip Tree Apartments to offices and research facilities will further reinforce the mission of this neighborhood.

The research and support infrastructure intended for the Research Park neighborhood should be innovative and unique, and promote academic



Cyber Infrastructure Building



Data Center



Proposed View of the Research Park

intellect and creative thought. The new community will be enhanced by new memorable open spaces, recreational opportunities, retail and dining amenities, and improved vehicular and pedestrian connections to the main campus. Public areas will be carefully configured to promote both social interaction spaces and individual reflection areas. Retail and dining amenities will be strategically located to maximize convenience and activate public space.

As the neighborhood evolves, future growth will continue north along the SR 45/46 Bypass. Building sites along this corridor will be developed as public-private partnerships and establish a new Indiana University Technology Corridor. Each of the partnership developments will likely require significant parking resources to support employees and staff. Efforts to utilize public transportation and minimize new parking facilities will be encouraged.

DEVELOPMENT OBJECTIVES

- Establish a vibrant new academic and research community.
- Define a strong presence and identity along the SR 45/46 Bypass.
- Anchor the eastern edge of campus and develop a new campus gateway.
- Foster innovation with public-private partnerships.
- Improve visual and physical connections to campus.

- Promote a technology corridor along the SR 45/46 Bypass.

BUILDING INITIATIVES

Cyber Infrastructure Building (CIB)

The CIB is an information technology office building planned for the prominent corner of the SR 45/45 Bypass and East Tenth Street. Construction of this building will establish the material palette and aesthetic sensibility intended for the Research Park neighborhood. This structure is a critical first step in the development of the neighborhood, as it will facilitate demolition of many of the existing structures and allow major development to progress.

Indiana University Innovation Center

The Indiana University Innovation Center is a flexible research laboratory facility currently under construction along East Tenth Street. This structure is a companion building to the CIB, and its design and character will also set the standard for future development.

Private Partner Buildings

Multiple new private partner buildings are identified for development. These structures will most likely house research and office functions for private organizations and may be constructed by independent developers. Development guidelines and design parameters must be carefully scrutinized for these projects to ensure quality design and appropriateness.

Gateway Building

The prominent open site in front of the Tulip Tree Apartments will be developed as a Research Park administrative building and visitor center. A prominent structure at this location will relate to both the existing Tulip Tree Apartments and the planned CIB and will define the eastern gateway to campus along East Tenth Street.

Tulip Tree Apartments Repurpose

Tulip Tree Apartments are currently undergoing moderate renovations. As the Research Park continues to develop, the Tulip Tree Apartments should be repurposed in the long term for office and mixed uses in support of the Research Park.

OPEN SPACE INITIATIVES

Open Spaces

New buildings will be organized along a central landscaped green that will define a recognizable open space hierarchy for the neighborhood. Building locations will be configured along the SR 45/46 Bypass to frame views into the neighborhood and feature the open spaces. Parking resources will be located adjacent to and behind structures to limit their presence and visibility from the bypass. The existing athletic fields will remain and continue to support intercollegiate and recreational activities.

The landscape character will support more forward-thinking environmentally sustainable strategies and include innovative stormwater management, porous pavement, and use of native plant material and stone. Mown turf grass should be minimized in favor of more sustainable native grasses, shrubs, and trees that are indigenous to the region's ecosystem.

Campus Connections

Establishing physical connections back to the main campus is a primary objective as the Research Park neighborhood develops. Pedestrian and bicycle connections will follow the proposed North Range Road extension north of East Tenth Street and cross the SR 45/46 Bypass at a controlled signalized street crossing. Reconfigured transit links will provide a more direct connection between the Research Park neighborhood and the core campus via East Tenth Street.

STREETSCAPE INITIATIVES

Enhancing the streetscape to create a better gateway and campus edge along East Tenth

Street at the SR 45/46 Bypass is a priority. Pedestrian links between the Research Park and the main academic campus should be reinforced through signalized crossings at the SR 45/56 Bypass. An enhanced pedestrian character can be expressed with streetscape elements, including street trees, sidewalks, campus lighting and banners, and landscape setbacks of deciduous trees, understory trees, shrubs, perennials and grasses.

INFRASTRUCTURE INITIATIVES

The Campus Master Plan proposes a major redevelopment of this neighborhood. Existing structures will be removed, and new facilities will be constructed over time. As such, the routing and relocation of existing infrastructure corridors will need to be evaluated and coordinated with future development.

Chilled Water System

Existing buildings in this neighborhood all have stand-alone cooling equipment. A satellite chilled plant capable of producing and distributing chilled water to this neighborhood

is the more efficient method to provide cooling energy. The proposed research buildings and expanded Data Center should incorporate heat recovery chillers.

Steam and Condensate System

Capacity and piping of the existing steam and condensate system is adequate. Piping replacements from the CHP to this neighborhood may become prohibitively expensive, making it more economical to construct a satellite heating plant to serve new buildings.

Electrical System

Indiana University circuits 203 and 211, and Duke Energy circuit 1230 are adequate to serve this neighborhood, including the Data Center expansion as designed. However, these circuits will not provide redundancy for the Data Center expansion. New circuits will be required for a large on-site standby generation capacity, and close coordination with Duke Energy will be necessary.

A land bank will be established for a future electric power and chilled water source that can potentially utilize heat from the Data Center and function as a sustainably-focused tri-generation plant.

Telecommunications System

The existing telecommunications system serves existing buildings that will be demolished over time. As a graphic, the illustrative plan for this neighborhood depicts the general placement and scale of future development; however, final building locations need to be coordinated with existing and future telecommunications service. A more detailed analysis will be required to determine the feasibility and potential relocation of existing telecommunications routing in conjunction with new construction. At all times, telecommunications and intra-network connectivity between this neighborhood and the main campus must be maintained.

Water System

The topography of this neighborhood is such that static water pressure is marginal at best. A

satellite pressure zone fed from two directions to provide adequate domestic and fire water pressure should be considered as development progresses.

Storm Sewer System

Storm sewer mains are old and undersized for anticipated future loads. Analysis is required to ensure that piping is sized correctly to serve this neighborhood. The storm sewer mains downstream of this neighborhood may also be undersized. Close coordination with the City Utilities Department is required prior to development. Infiltration facilities should be incorporated to increase the quality of the stormwater flowing further downstream. The existing buildings should also be analyzed to determine whether infiltration facilities can be incorporated as development around them occurs. Detention is not proposed due to constraints in available space.

Sanitary Sewer System

Sanitary sewer mains are old and undersized for anticipated future loads. Analysis is required

to ensure that piping is sized correctly to serve this neighborhood. The sanitary sewer mains downstream of this neighborhood are also undersized. Close coordination with the City Utilities Department is required once this area undergoes this transformation. Due to the significant reconfiguration of buildings, reconstruction of the sanitary system may be required.

ARCHITECTURAL GUIDELINES

The architecture of the Research Park must embody a contemporary spirit and promote an aesthetic that represents the innovative and creative research initiatives envisioned for this precinct. New structures must be progressive and forward thinking while emulating the elegant designs, material palette, and land planning principles exemplified in the core campus. Designs must embrace a sophisticated modern aesthetic that is emblematic of Indiana University's commitment to cutting edge research. The recently completed Indiana University Data Center and Innovation Center, and the yet to be constructed CIB set the standard for new construction and quality for this emerging neighborhood.

Construction of new facilities will define a new campus environment that must accommodate a diverse community comprised of university researchers, staff, and a private corporate workforce. Building designs must be configured to support a variety of large and intimate social spaces that encourage interaction and build community amongst these disparate groups. These spaces may be interior or exterior and may be activated by commercial retail establishments or dining facilities.

The Research Park's high visibility along the SR 45/46 Bypass will define a new public face for Indiana University. It is imperative

that the image conveyed by new structures is representative of the University's enduring values and its commitment to high-quality design and construction. Independently funded corporate partner buildings must maintain or exceed Indiana University's quality expectations

The material palette for the Research Park is to be progressive and durable, and derived from the enduring materials and neutral natural colors found on the core campus. Building façades may be rendered in precast concrete, or veneer brick with large expanses of glass or punched windows as appropriate for the building function. Indiana limestone accents and trim should be incorporated into the building design to accent primary building entries, façade embellishments, and site walls. Innovative and environmentally sustainable building materials that are durable and conventionally maintained are encouraged. Façade materials and architectural details should be configured to convey refinement and sophistication similar to the historic structures found on the core campus.



Partner Building Prototype



Pedestrian Corridor Prototype



Community Open Space Prototype



Partner Building Prototype

Objectives

- Embrace a sophisticated aesthetic emblematic of Indiana University's enduring values and its progressive research initiatives.
- Promote an architectural character that conveys innovation and intellectual creativity
- Emulate the land planning principles and architectural design sensibility exemplified on the core campus
- Continue Indiana University's unique landscaping approach

Primary Materials

- Façades: Precast concrete, metal panel, limestone accents
- Roof Shapes: Flat roofs with appropriate architectural roof shapes
- Glazing: Clear low E with aluminum framing



Indiana University Innovation Center



Proposed View of the Research Park



Research Park Demolition Plan

■ Buildings Recommended for Demolition

KEY

- Existing Building
- Building Opportunity
- Parking Opportunity
- ✱ Gateway Opportunity

BUILDING AND RENOVATION INITIATIVES

- 01 Cyber Infrastructure Building
- 02 Innovation Center
- 03 Lilly Auxiliary Library Facility Expansion
- 04 Gateway Building
- 05 Private Partner or University Research Building
- 06 Data Center Expansion
- 07 Tulip Tree Apartments Repurpose
- 08 Gathering Space

OPEN SPACE INITIATIVES

- 09 New Campus Green Space
- 10 Existing Recreation Fields

STREETSCAPE INITIATIVES

- 11 East Tenth Street Streetscape Enhancements
- 12 SR 45/46 Bypass Streetscape Enhancements

INFRASTRUCTURE INITIATIVES

- 13 New Cooling/Heating Service Required
- 14 New Steam and Chilled Water Plant
- 15 Possible New Satellite Water Pressure Zone
- 16 New Storm and Sanitary Lines Required
- 17 New Electrical Utility Source - New Duke Energy Substation or Co-Generation Plant
- 18 Possible Duct Bank Relocation to Serve New Development



Research Park Plan