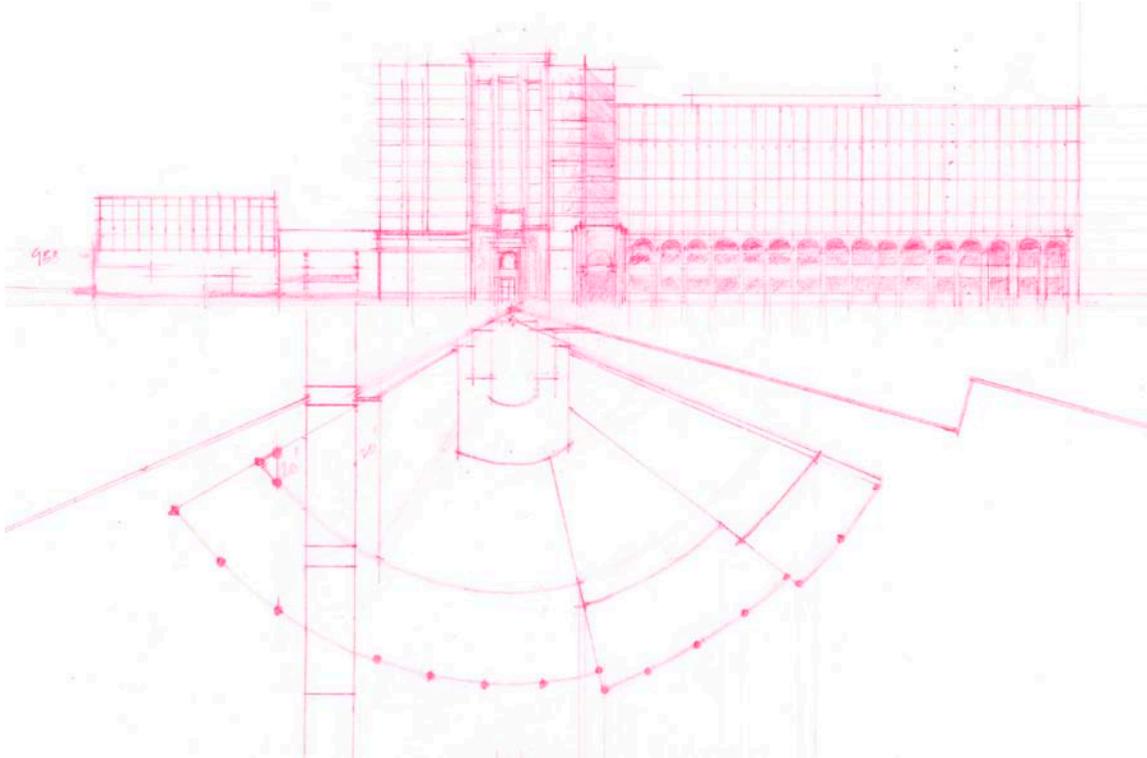


## Buildings



*Figure 5.1: Composite Concept Plan/Elevation – Environmental Life Sciences Center: Riparian Center, Research Lab - Office & Conservatory Buildings*

### **Environmental Life Sciences Center**

The centerpiece of the development is the Environmental Life Sciences Center, comprised of a riparian center, research lab and offices, and a conservatory. An adjunct to the development is a separate research conservatory at the north end of the site.

### **Riparian Center**

The Riparian Center's primary function is research and education. It will serve as a center for research in river ecology, animal habitat and plant biodiversity, specifically for the Roanoke River Valley; and, it will serve as an education and training center for environmental study, teaching, and events that highlight the river and its nature. The Center will house research and demonstration laboratories, including a field station with a fishery, permanent interactive displays, a temporary exhibit space and classrooms.

### **Conservatory**

The Conservatory was originally conceived to house a rainforest environment and serve as an adjunct to the Research and Technology Center. The Conservatory will be open to the public and will highlight the role rainforests have in the development of new medicines. It will become a central destination for the public, allowing access to an area of the city which will be predominantly used by people in institutional fields.

**Research Lab & Offices**

The bulk of the main building is programmed for research and development with laboratory and supporting institutional/commercial use offices. It houses seven floors of research laboratory, approximately 23,000 gross square feet per floor; and six floors of office space at approximately 30,000 net leasable square feet per floor. It also contains a four-story parking garage with private access to the offices and laboratory levels.

The research lab and offices are meant to be the primary revenue source, with the Conservatory and Riparian Center generating some income but otherwise supported by the former along with donations from visitors and support from local and national groups.

**Public Area****Entry**

The main building access is located on Williamson Road. An emphasis has been placed on the separate public access to both the Riparian Center and Conservatory. This serves as a security measure: the entry, circulation and commons area leading to the Conservatory and Riparian Center provide security for the public by separating them from the more private activity of the research laboratory and office areas. A large entry hall has been provided for groups to gather after disembarking from buses at the front entrance or before boarding their buses at the end of their visit. There is a large space at each intervening level for groups to gather en route to or from the commons area at the third level. A separate automobile drop-off/entry is provided at the first garage level and an entry is provided at the second and third levels of the garage.

**Commons**

A commons at the third level serves as the central gathering area and main entrance to the Conservatory and Riparian Center. This level is intended to serve the public with a small retail café consisting of food service, bookstore/gift shop, seating area and restrooms.

**Crossings**

Separate pedestrian bridges are provided for the Conservatory and the Riparian Center. The Conservatory bridge runs from the third level commons area across Walnut Avenue to the Conservatory building. The Riparian Center bridge begins one level up from the commons area, crossing the railroad and connecting at the fourth level of the Center. This access scheme provides connection to all three parcels and can be extended to the north parcel in a similar manner.

**Accessibility & Emergency Services**

A service roadway around the Environmental Life Sciences building, from Williamson Road to Walnut Avenue, provides access for fire and medical equipment and deliveries. A separate roadway running from South Jefferson Avenue at the Memorial parking structure and along the railway provides emergency services and delivery access to the Riparian Center. It also serves as a direct route for small buses, providing accessible transportation to the Center. The roadway will require rebuilding of a section along the river embankment, creating a more gradual curve in the river, structural support, branch stream management controls and the necessary right-of-way for the service road.

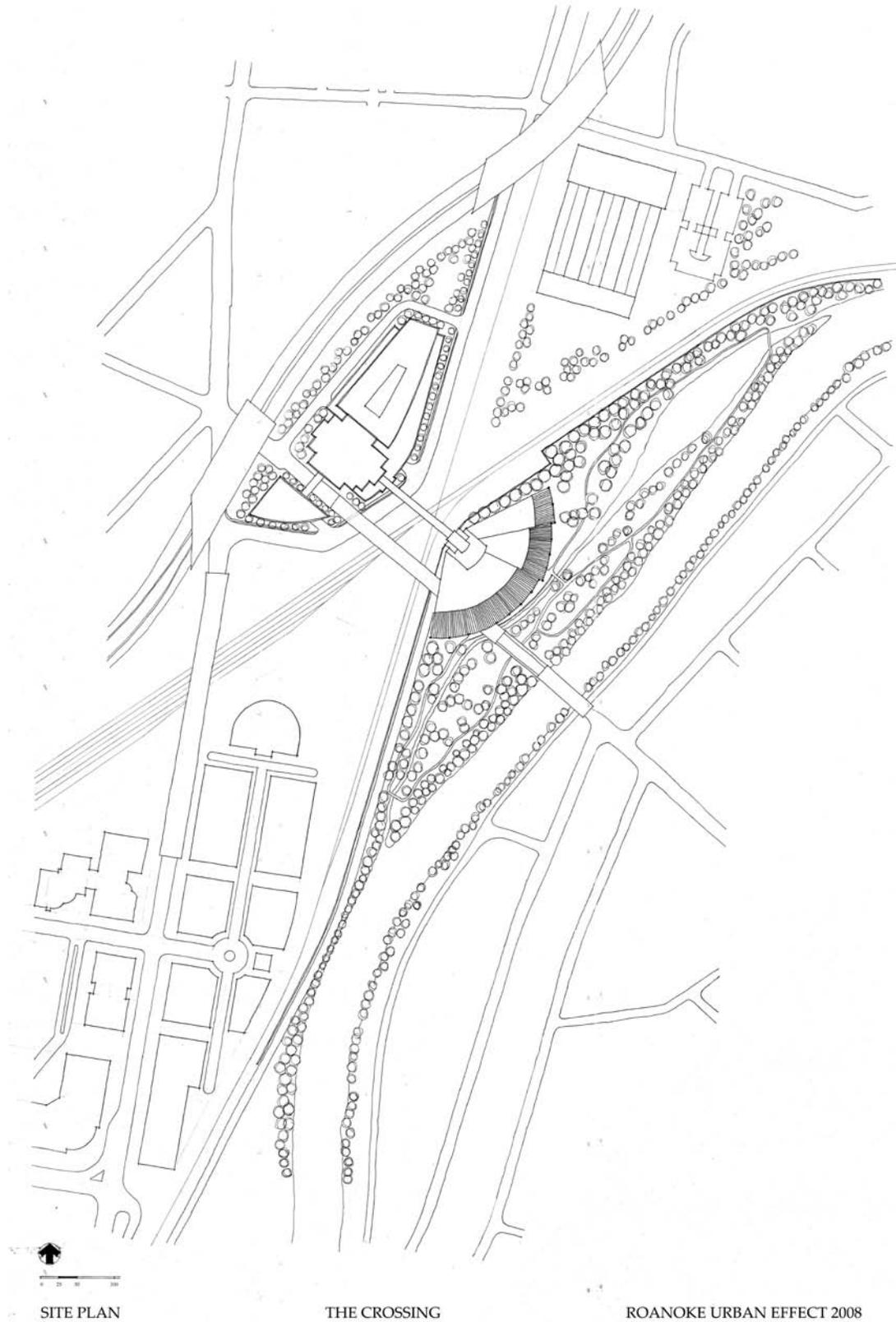


Figure 5.2: Site Plan, The Crossing

Ground / First Floor

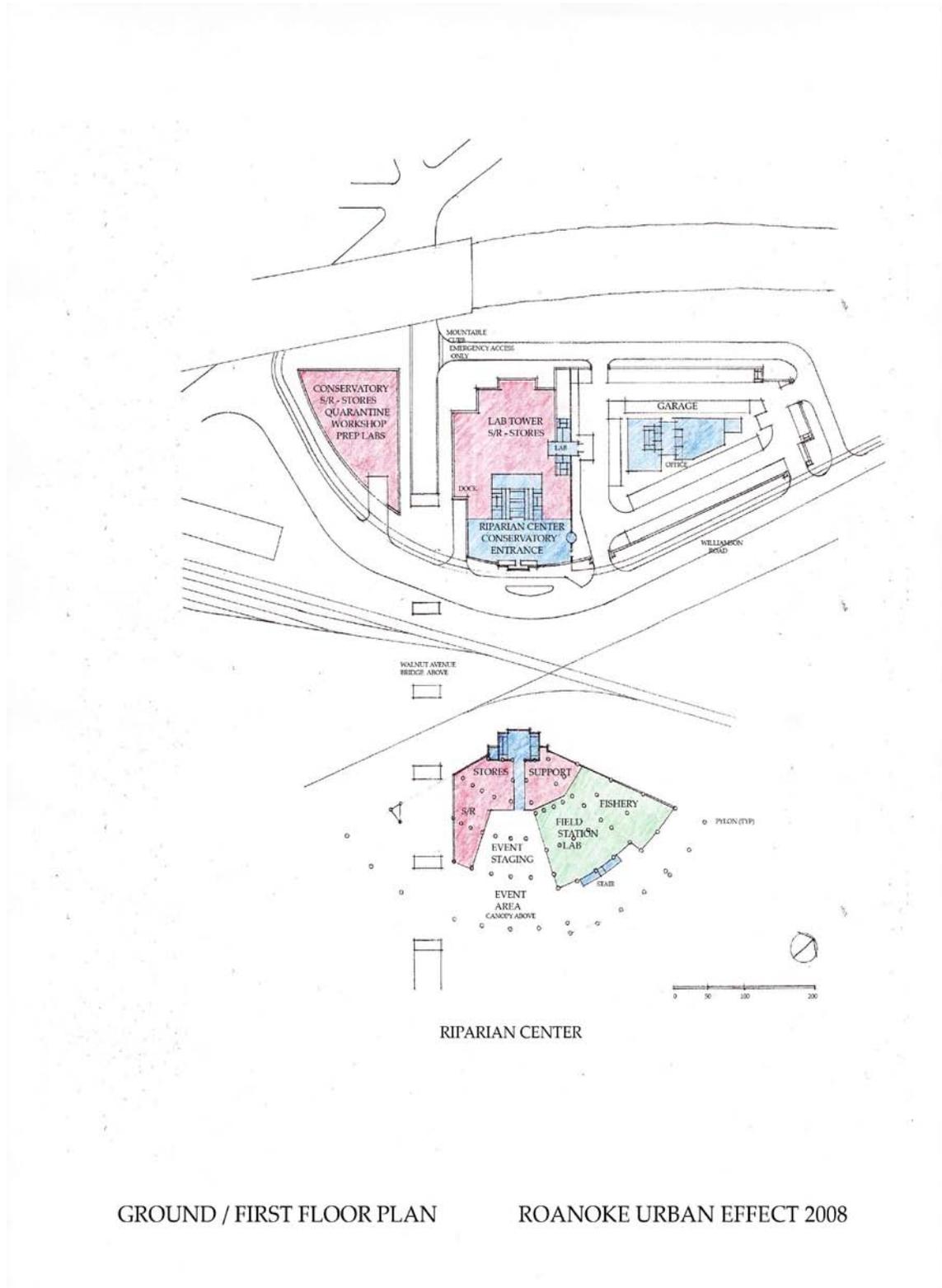


Figure 5.3: Ground/First Floor Plan: Environmental Life Sciences Complex

The ground floor plans for the buildings are set to meet the grade of each site, from the lowest elevation at the Riparian Center to the highest elevation at the Conservatory. The distances between the upper levels of each building differ until they coordinate at the third level for the environmental life sciences building and conservatory; and, at the fourth level for the environmental life sciences building and Riparian Center. This variance allows for minimum fill at each site.

The Riparian Center ground floor serves temporary functions due to limitations on building by the zoning and building codes. Shipping and receiving, staging, temporary stores, and event areas do not house permanent fixtures. There is a field station that will serve as a covered area for field demonstrations. This area will have permanent seating. A fish hatchery will also be built at this level, consisting of steel tanks for the hatching, breeding, study and release of native fish. The tanks will be permanent with all supporting mechanical and electrical services provided from above in the ceiling.

The Center is built on foundation piers that extend above ground and the flood stage level to support the main floor (second floor) of the building. The ground level will have structural walls that will span from pier to pier to provide enclosure along the railroad frontage.

The main building is also built upon piers but with customary construction above grade. This level is also comprised of temporary space with the exception of the public and private entries that house escalators and elevators. The bulk of the space is parking, with the public entry and shipping/receiving, staging and temporary storage making up the remainder of the space.

The Conservatory's ground level is also comprised of shipping/receiving and staging areas, but in addition it contains a quarantine area, prep lab and workshop for maintenance of the building and exhibits.

### **Second Floor**

The second floor serves as the main public activity and exhibit space for the Riparian Center. It is comprised of the rotating exhibit space, an interactive exhibit area and classrooms with supporting public and mechanical spaces at the rear of the building. The interactive area will contain exhibits that present the Roanoke River Valley and its inherent value to the City of Roanoke and the region with an emphasis on riparian corridor management, ecology and habitat. A two-story space, it will serve as an educational area for children and adults, offering exhibits and classes as well as provide community space for meetings and workshops on environmental issues affecting the region.

The second floor of the Environmental Life Sciences Building is dedicated to public circulation, parking and space for storage or mechanical equipment.

The second level of the Conservatory contains earth for the plants in the rainforest exhibit above.

Second Floor

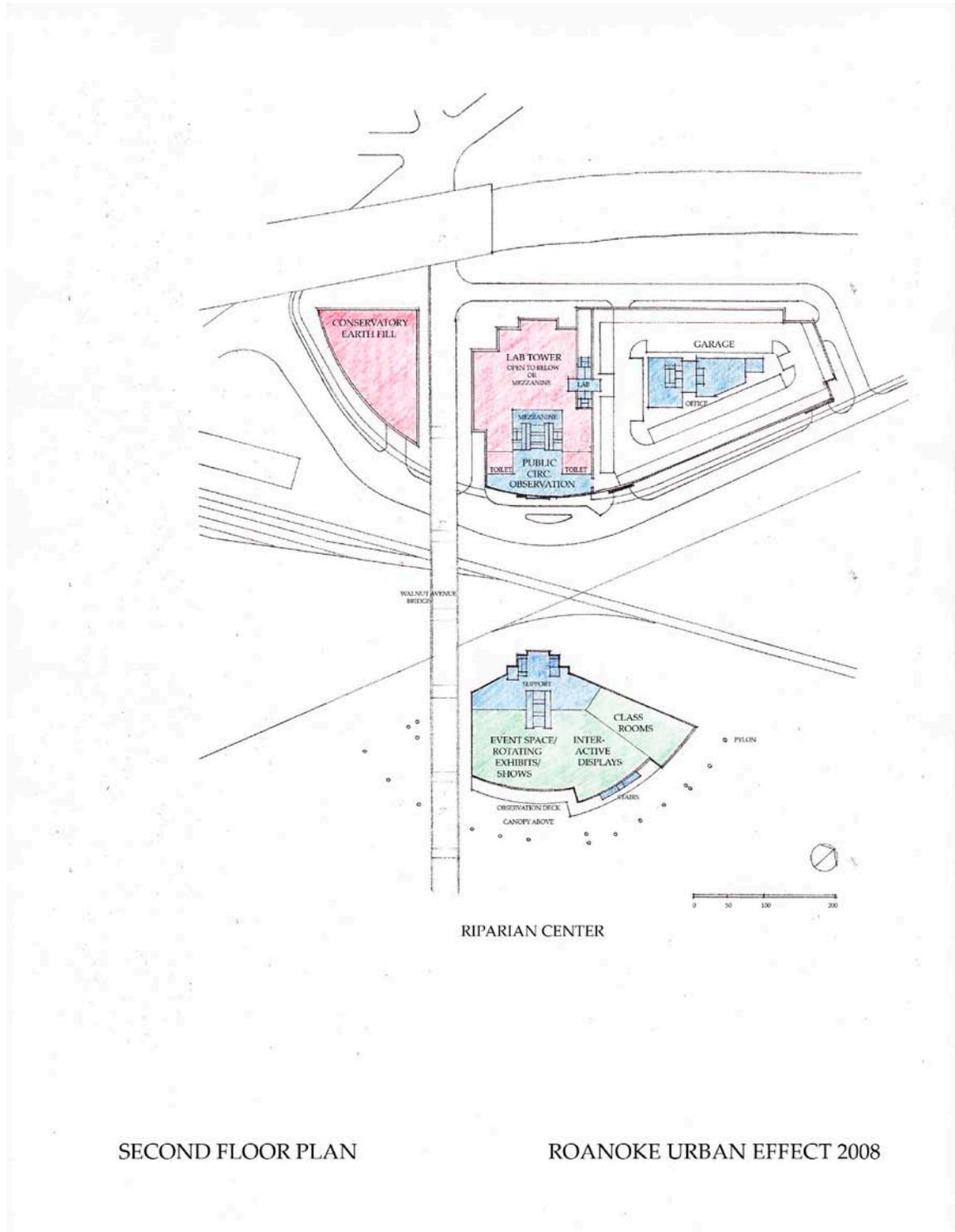
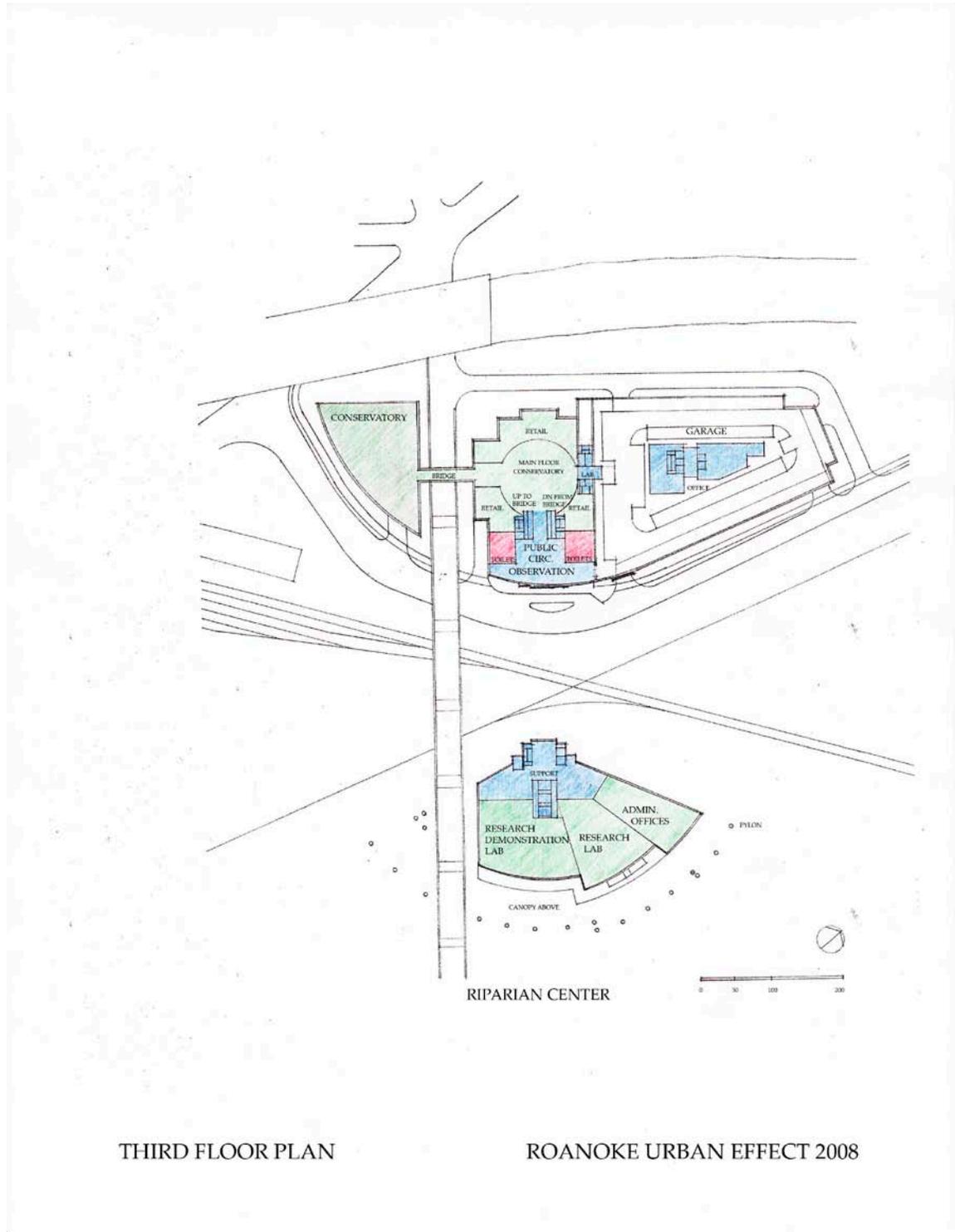


Figure 5.4: Second Floor Plan: Environmental Life Sciences Complex

Third Floor



THIRD FLOOR PLAN

ROANOKE URBAN EFFECT 2008

Figure 5.5: Third Floor Plan: Environmental Life Sciences Complex

**Third Floor**

The third floor of the Riparian Center contains a research demonstration lab – an area for resident researchers to make presentations using a teaching laboratory. It is located adjacent to the main laboratory. This level also houses the administrative area.

The third floor of the Environmental Life Sciences Building is the locus of the circulation and entries to the Conservatory and Riparian Center. The escalators from the main entrance lobby deliver people to this hall, from which they may proceed on to the Conservatory bridge, also at this level, or up a set of escalators to the fourth floor bridge and on to the Riparian Center. The commons area also contains a small café with a seating area and a bookstore/gift shop, the latter providing retail space for both the Riparian Center and Conservatory in one central location. There is space for a visitor booth, providing information, security and a meeting point.

The third floor also serves as parking for the office building. There is a public access to the commons area at this level.

The Conservatory is approximately 15,000 gross square feet of space for a rainforest exhibit, a microcosm of the world's rainforests. The environment will serve as a base for research and education, highlighting the role these forests have taken in the development of new medicine and the discovery of new viruses. It will provide a tangible link to the research within the Environmental Life Sciences Building through large and small exhibits.

**Fourth Floor**

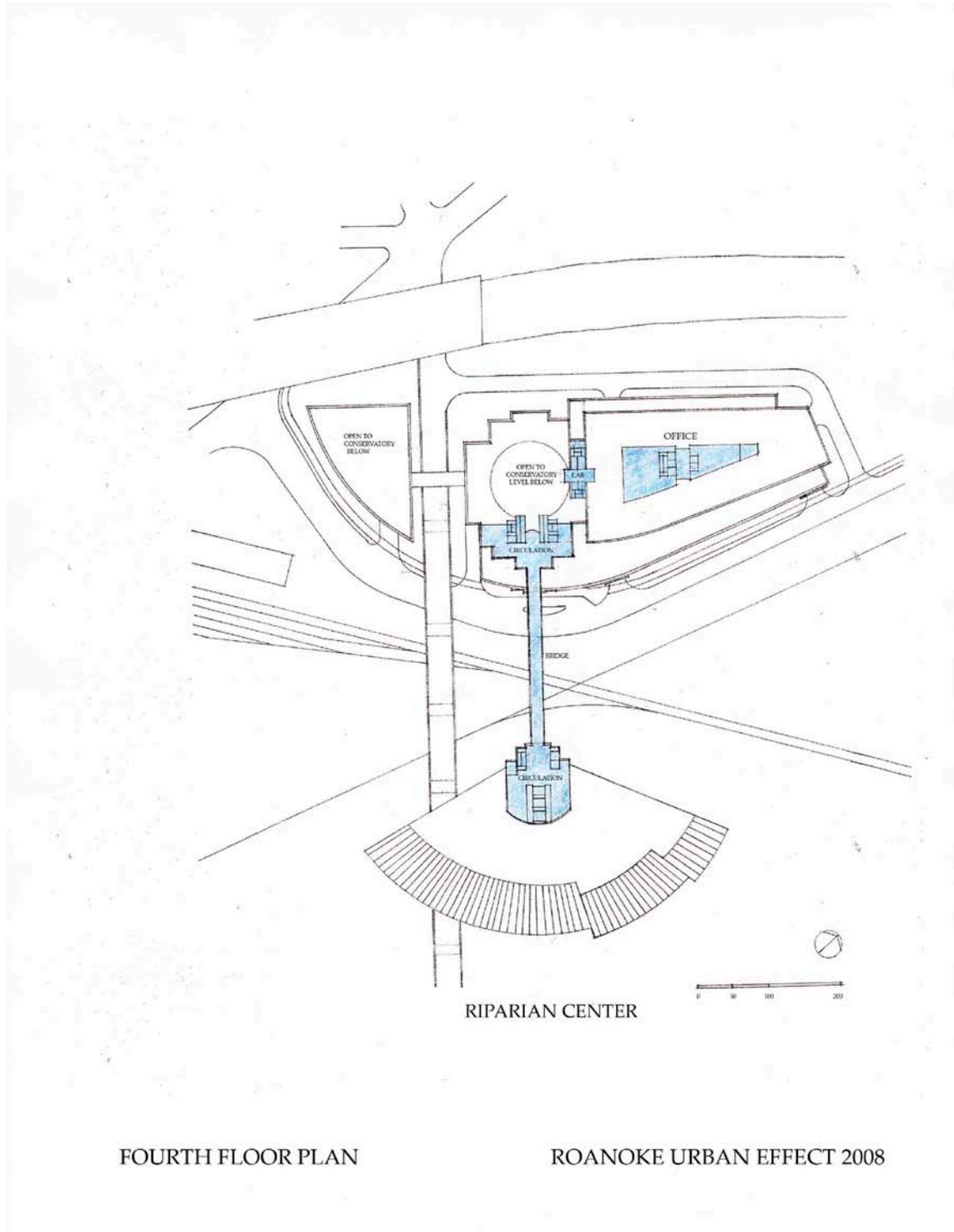
The fourth floor of the Riparian Center is dedicated to circulation and mechanical services. This is the level of the pedestrian bridge that crosses the railroad yard between the Riparian Center and the Environmental Life Sciences Building. Upon arriving at the Riparian Center, visitors will descend two levels to the second floor on escalators, bypassing the third floor labs and offices.

The fourth floor of the Environmental Life Sciences Building is an open space above the commons area at the third level and houses escalators that transport visitors from the commons to the bridge over the railroad crossing. A portion of this level, adjacent to the escalators, will be roof that is accessible to the public as an observation point to view The Crossing, Mill Mountain, Riverside, Memorial Hospital, and beyond. The pedestrian bridge will allow visitors to view the rail yards and points north and south before entering the Riparian Center where they will see a framed view of Mill Mountain.

The fourth floor of the Environmental Life Sciences Building also serves as the first level of office space above the parking structure.

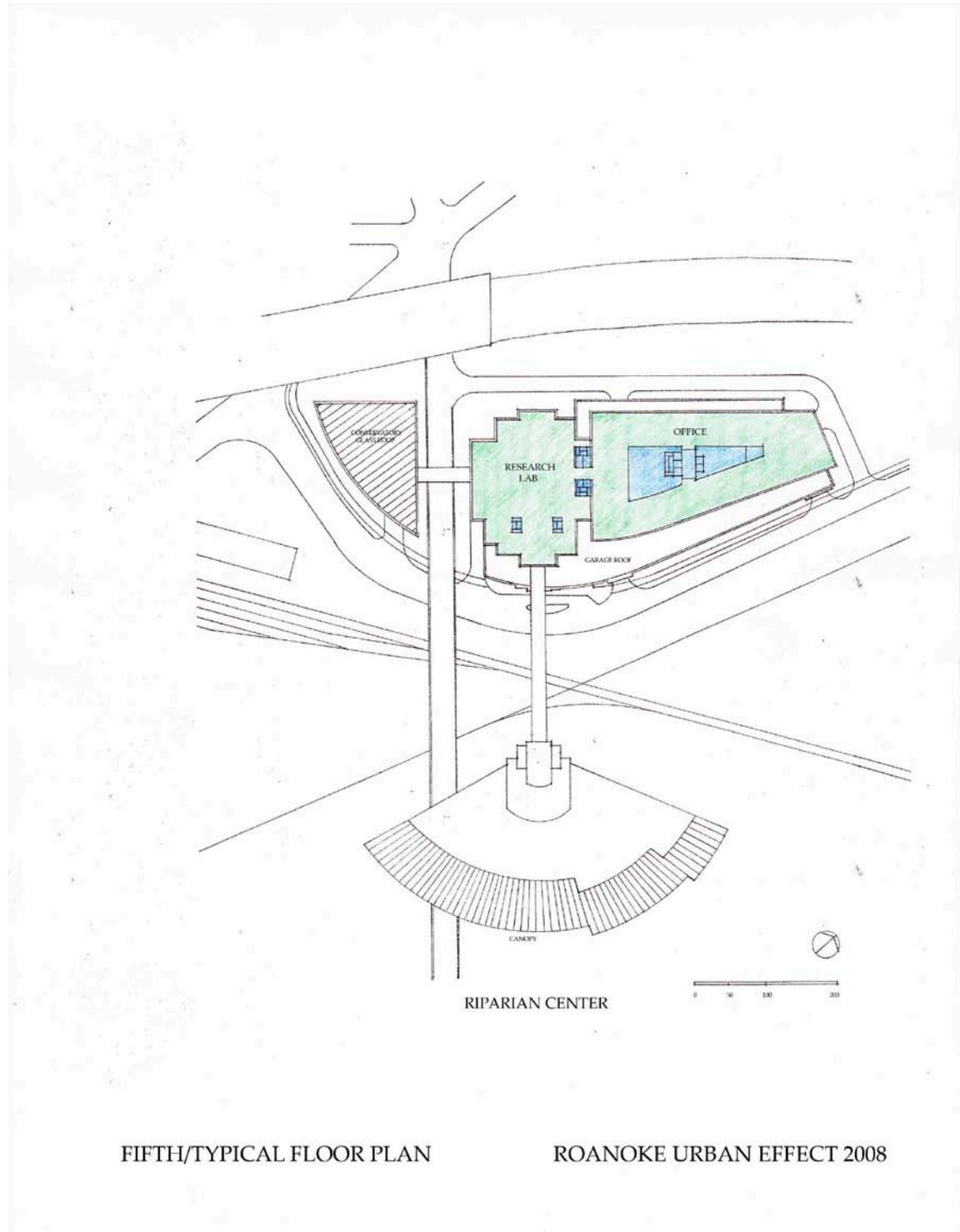
The area above the third floor of the Conservatory is open space.

**Fourth Floor**



*Figure 5.6: Fourth Floor Plan: Environmental Life Sciences Complex*

**Fifth Floor**

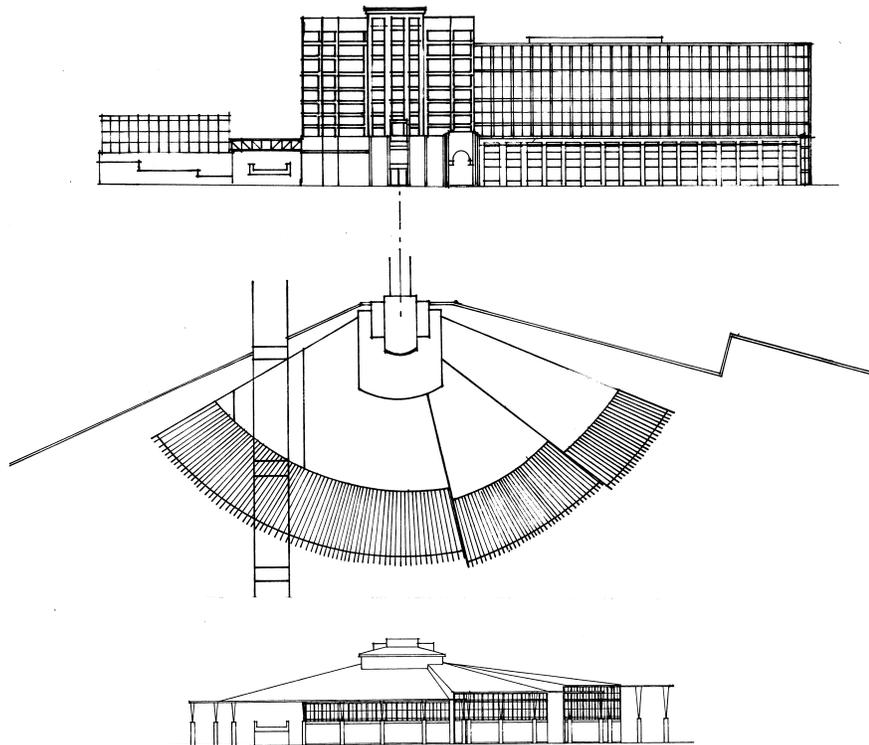


*Figure 5.7: Fifth Floor Plan: Environmental Life Sciences Complex*

**Fifth Floor**

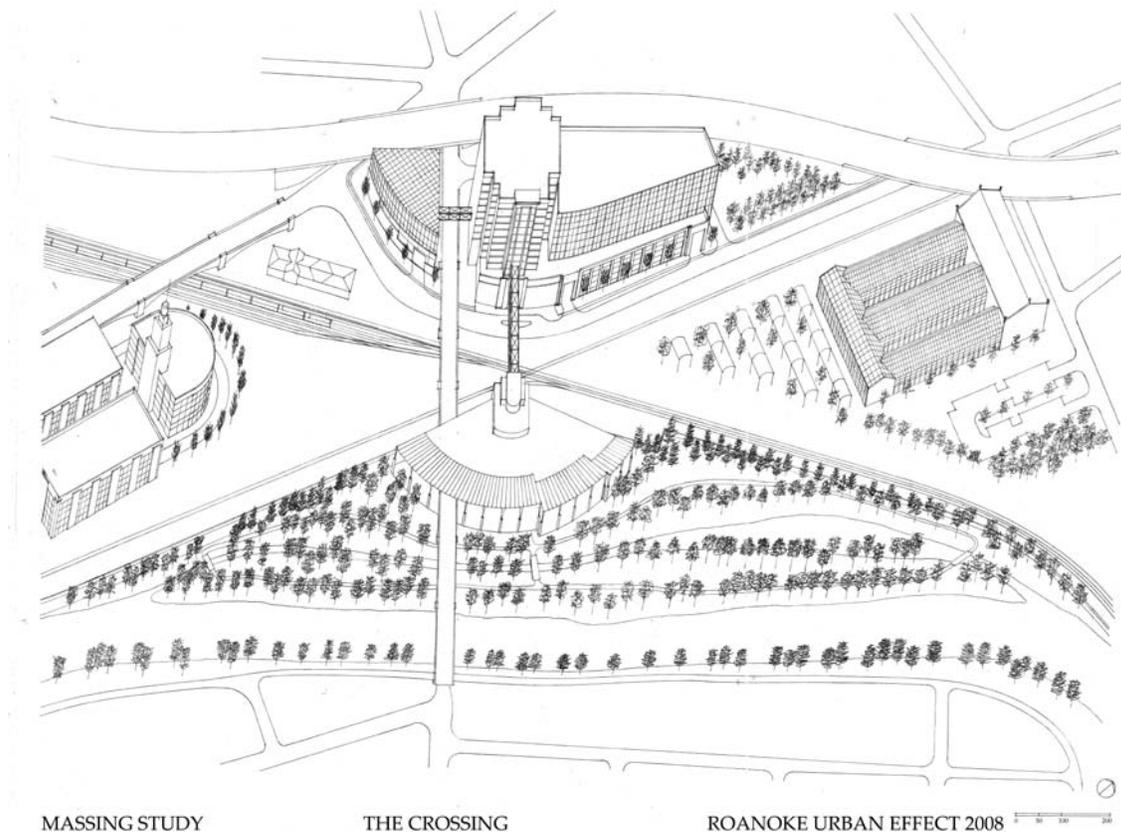
The fifth floor of the Riparian Center is the roof. It is significant in that it extends over Walnut Avenue, encompassing the bridge and providing a link between the north and south sections of the Riparian Center site, and placing an emphasis on the importance of Walnut Avenue as a gateway to Mill Mountain and the region beyond. A canopy also comprises a major portion of the roof, providing shading for the building and outdoor deck at the second story, and as a transition to the outdoors.

The fifth floor of the Environmental Life Sciences Building is the first level of the laboratory tower.



*Figure 5.8: Preliminary Concept Study: Environmental Life Sciences Complex*

## Building Massing



**Figure 5.9:** *Orthogonal View: Environmental Life Sciences Complex*

The above view shows the Environmental Life Sciences Complex in the context of The Crossing. The complex is at the center of the drawing. The laboratory and office towers are dominant in this view. The Conservatory is to the left of both the Sciences Center and Walnut Avenue. The Riparian Center is set just within the east parcel surrounded by trees, a small stream, wetlands and the Roanoke River beyond.

The building north of The Crossing is a larger conservatory. This could serve dual purposes: research and development to augment the Conservatory ecology; or, a hydroponics facility for growing produce during the winter. The building is fronted by a more traditional structure that serves as office and retail/commerce at the street. The conservatory is housed in three separate wings that are capped by an east/west connector. Its layout is predicated on former train assembly buildings.

The park area to the south has been designated as appropriate for a public space. The trellises are meant to reinforce the stacking of train cars in the railyard.

The office complex to the south of The Crossing is a part of the institutional use presently under development, an extension of the Riverside complex to the west of the site.