

densities for a particular area. The Master Plan follows the guidance of the 2008 Framework Plan and the District's Comprehensive Plan to set maximum building heights across the East Campus. Figure 2.17, the Building Heights Map, depicts recommended maximum building heights as expressed in the number of stories. As height is measured from the grade of the street frontage, development along the 13th Street ravine may achieve additional stories below the street frontage by building into the topography. Figure 2.17 illustrates the maximum height limits for rentable floor area; modest increases in height may be allowed for architectural features or penthouses, to be determined by future zoning for the East Campus.

BUILDING MASSING

There are areas on the site where new development must sensitively address the adjacent context. Setbacks and recommended build-to lines (RBL) are tools that can be used to control building massing and form. Façade setbacks can shape overall building massing by reducing the bulk of the building, increasing penetration of light and air, and providing opportunities for visual interest and architectural expression. The architecture guidelines in chapter three discuss the East Campus building massing in greater detail.

A recommended build-to line establishes a common line for building façades at the edge of a street or an open space. Collectively, the proposed RBLs provide a

mechanism to ensure future buildings will cohesively frame a well-defined and recognizable structure of quality streets and open spaces, or a public realm. A system of RBLs for the Saint Elizabeths East Campus can be found in the Regulating Plan in Chapter 4.

In conjunction with maximum building heights, tapers, setbacks, and other architectural features are integrated into the Master Plan to achieve harmonious relationships among buildings. While the Design Guidelines in Chapter 3 provide sector and parcel -specific guidance, the principles below apply across the site.

- » Transition heights of new development down to adjacent historic structures or the existing houses of the Congress Heights neighborhood;
- » Step back the building height as appropriate when building is adjacent to a historic structure in order to create a gradual transition of building height.
- » Allow for exceptions to the build-to lines such as canopies, recesses, niches, ornamental projections, entrance bays, or other articulations of the façade
- » Encourage the inclusion of courtyards, plazas, recessed entrances, or recesses in building elevations to break down massing.

PUBLIC REALM

The Master Plan envisions a diverse, vibrant, and pedestrian-friendly public realm, with well-defined streets and high-quality open spaces. The public realm within the East Campus will consist of three principal elements: the street network, public open spaces (quads, squares, and parks), and public art. These elements are defined and framed along their edges by the building façades.

STREET FRONTAGE

The pedestrian experience is completely shaped by the character and program of the streetscape. The zone between the roadway curb and the building face, called frontage, will incorporate a number of program elements, which will vary based on the building frontage types.

In the Master Plan, frontage types fall into the basic categories of retail/commercial and civic/residential uses. The preferred urban frontage types are retail and residential uses, and since their respective characters are easily contrasted, a clear character may emerge for each street type.

Retail street frontage is an indispensable component of any active neighborhood. The Master Plan provides several retail-oriented, open spaces intended as neighborhood activity centers at MLK Avenue and Cypress Street and at the Metrorail station. These plazas should be intensely programmed to promote retail experiences and social interaction. Varied program elements can be employed to achieve the desired effect. Café and restaurant seating zones can be integrated into the spaces; retail kiosks with merchandise, food, and beverage, and other services

can be provided; and features such as ice skating rinks, game boards, interactive fountains, and movable seating can be incorporated to promote the plaza as a destination.

Figure 2.15 shows the network of retail frontages. It distinguishes those frontages required to provide retail versus those where retail or other street-activating uses are encouraged. The basis of this approach is to identify the priority areas for ground-floor storefronts without over-prescribing an amount of retail that is not supported by market demand.

Residential streets, on the other hand, are typically lower intensity environments, with landscaping often placed between the sidewalk and the building face. Non-retail commercial frontage is generally similar to retail frontage, but lacks the vitality and character of an active shopping area. Civic frontage can be similar to commercial frontage, but with landscaped areas and plazas that create engaging places for people to gather.

In addition to retail and neighborhood street frontage, this plan also identifies a third category to accommodate the special condition along Pecan Street where there will be a drop-off/pickup area for the Federal Emergency Management Agency (FEMA) and West Campus employees. This portion of Pecan Street will be mostly paved with seating and shelters to make it comfortable for the waiting passengers. Because of the large amount of pedestrian traffic contained in this area, it is suggested that tree pits with low tree fences be used in order to protect the tree roots from soil compaction.

Street Frontage Principles



- » Focus retail into clusters at destination retail locations; prioritize activating retail uses (general merchandise, apparel and accessories, service, and food and beverage establishments) over storefronts filled with offices, professional services, and other uses inconsistent with a dynamic pedestrian experience.
- » Coordinate development of planned open spaces on the campus with adjacent retail uses to ensure a vibrant mix of uses that generates activity at multiple periods during the day and evening.
- » Compose retail building fronts in a manner that encourages active streetscape environments.
- » Incorporate lobbies, entrances, and other elements into storefronts, while maintaining a predominantly retail character.
- » Retain or implement these design recommendations even in high security environs; trees, landscaping and hardened street furniture are preferred over barriers and bollards.

Public Sidewalks

A sidewalk describes the configuration of the sidewalk, landscaping, and street furnishings in the area between the street curb and the build-to line.

Sidewalk Components

The components of the public sidewalks are labeled in the illustrations that follow, indicating:

- » **Sidewalk Clear Zone:** This area is intended to provide unobstructed passage for pedestrians along a sidewalk. The provided range of dimensions is based on the overall sidewalk width



Figure 2.18: Retail sidewalks have wide paving areas to accommodate outdoor seating and pedestrian movement.



Figure 2.19: Residential sidewalks tend to be narrower than retail sidewalks and allow for trees and plantings.

and frontage type.

- » **Street Tree and Furnishing Zone:** This zone is immediately adjacent to the curb and is defined primarily by street trees contained in tree pits or planting strips; it may include furnishings, such as lampposts, benches, trash receptacles, planters, and similar street furnishings. On some commercial frontages, this area may be integrated into a café zone, described below.
- » **Café/Shy Zone:** This area only occurs on retail frontages. In addition to café seating in front of restaurants and cafés, this realm can be used for outdoor retail display and other retail-related activities. In the absence of such uses, the zone can be furnished with benches, planters, and other items consistent with a retail environment. It may be located adjacent to the building frontage or integrated with the Street Tree and Furnishing Zone, in which case the Café/Shy Zone should be no less than the required width of the Street Tree and Furnishing Zone. The position of the Café/Shy Zone should be the same for all businesses along a block frontage.
- » **Non-Retail Street Shy Zone:** This zone only occurs on non-retail frontages and is intended primarily as a landscape buffer between the building face and the sidewalk. Landscaping elements may include yards, raised planters, and continuous planting beds.

Sidewalk Material Standards

All street furniture standards for the East Campus will comply with the District's "Public Realm Design Manual," DDOT standards, or any approved standard which subsequently replaces this document.

- » **Paving Materials:** Paved surfaces may consist of special paving, untreated poured concrete, or some combination of these surfaces. However, for the portion of the sidewalk comprising the Clear Zone, the treatment shall be concrete or stamped concrete. Additionally, the choice and installation of paving materials must comply with Americans with Disabilities Act (ADA) requirements.
- » **Tree Pits:** These recesses should be large enough to allow water and air to enter the roots of the tree. It is important to restrict pedestrian foot traffic from soil compaction around the tree. Tree pits can be protected with low fencing around their perimeter where heavy pedestrian traffic is expected. A tree's viability and vitality is directly correlated to the volume of soil in which its tree roots can seek water and nutrients. Consider expanding the soil volume for each tree by utilizing techniques such as Silva Cells and porous pavement over engineered soil.
- » **Tree Pit Landscaping:** Vegetation may include flowering plants and shrubs, but no plants with thorns or other sharp protrusions. Plants should be maintained below a height of 30 inches for safety and visibility.
- » **Continuous Planting Strip:** Should be used on frontages with lower intensity of uses and where there is no adjacent on-street parking. Other components of the public sidewalk frontage are the same regardless of sidewalk width or frontage type. They include the following:
 - » **Tree Spacing:** 40 feet on center is typical.
 - » **Light Fixture Spacing:** To meet the District's lighting standards, the fixtures generally should be centered between trees.



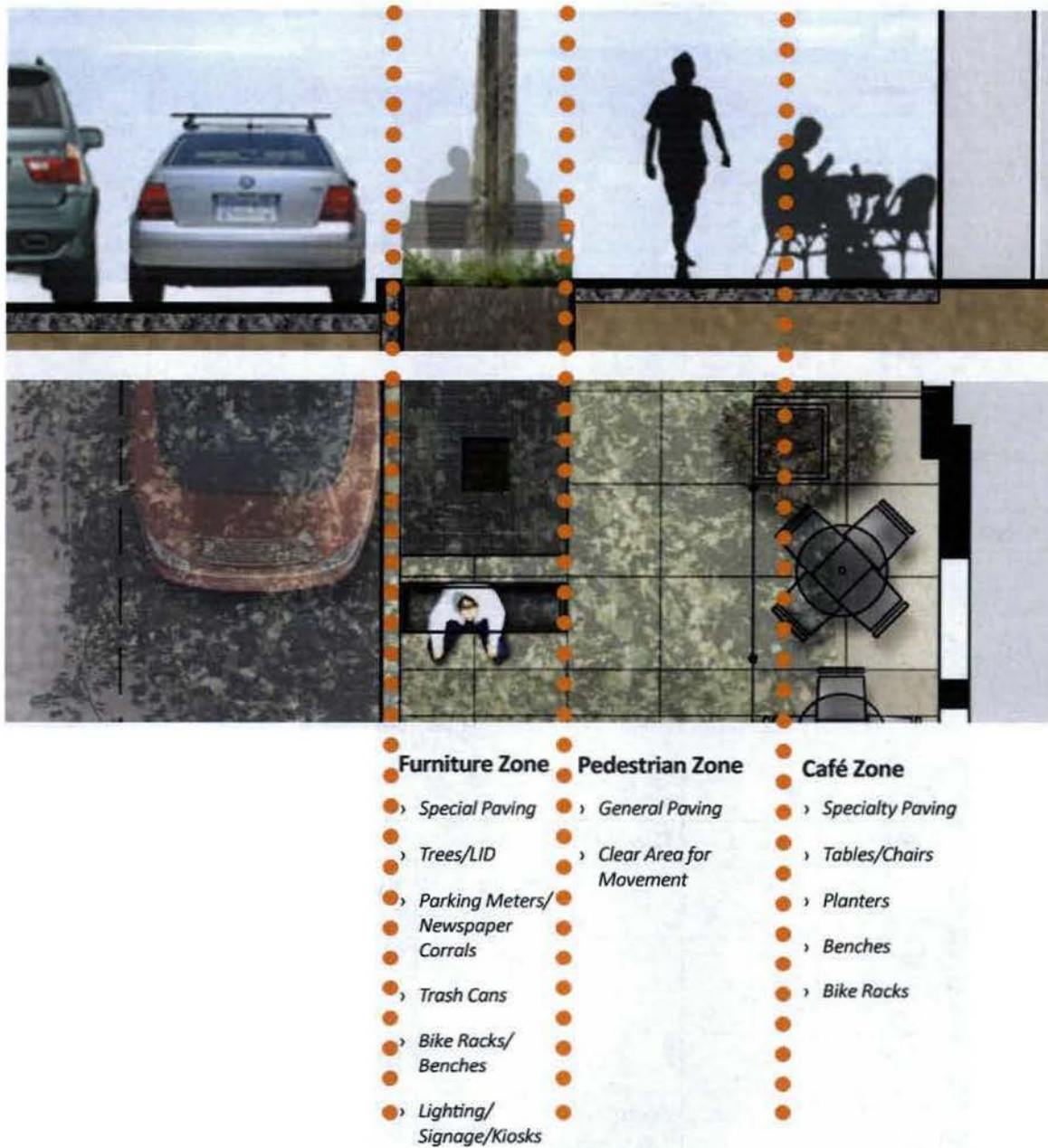
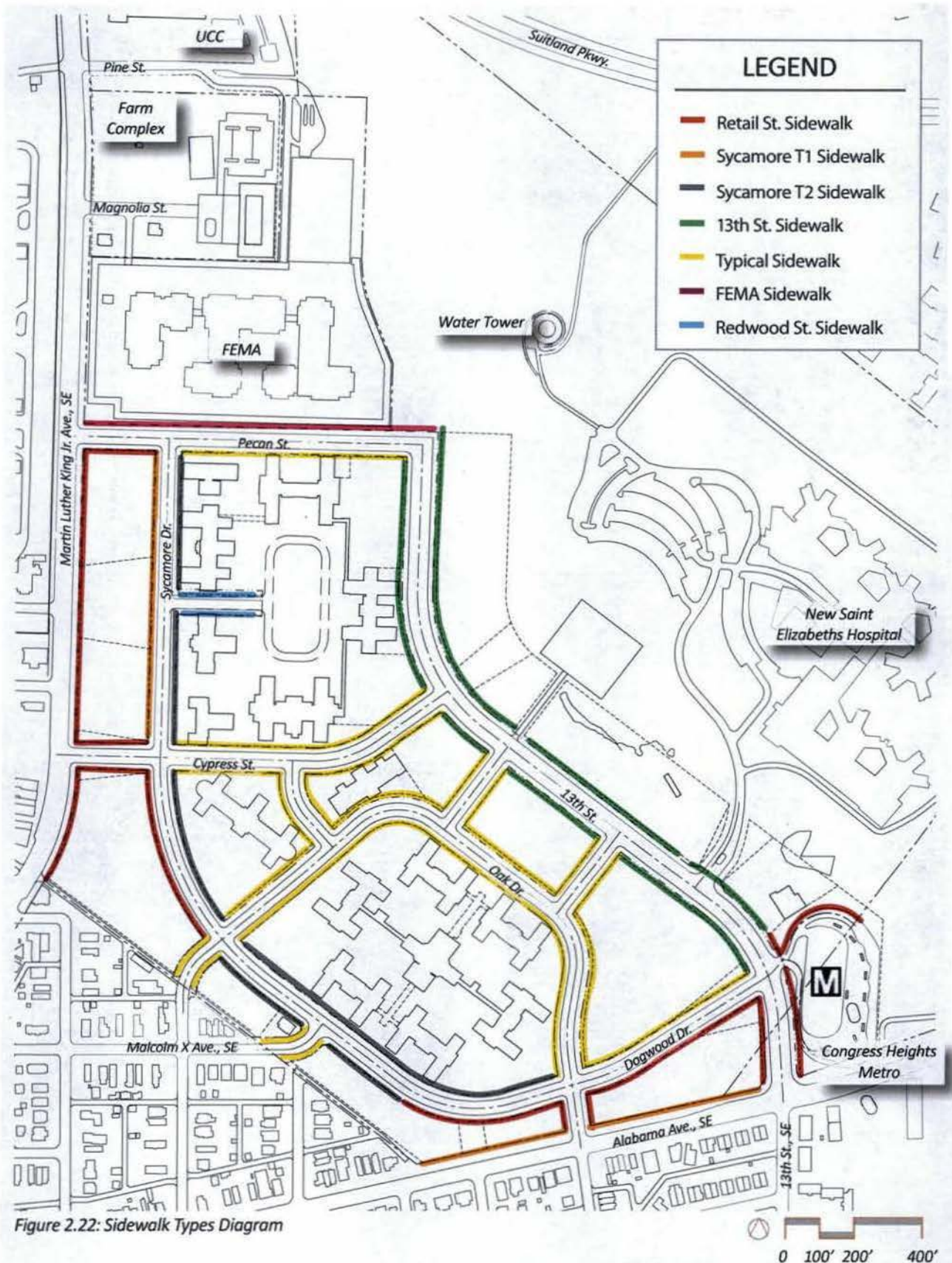


Figure 2.20: Sidewalk Composition - Certain furniture elements are best regulated to specific locations on the sidewalk.

	Retail Street	Sycamore 1	Sycamore 2	13th Street	Typical	Pecan (FEMA Drop-off)	Redwood
Behind the Curb	17.5 feet	10 feet	10 feet	10 feet	8 feet	10 feet	6 feet
Sidewalk Clear Zone	6 feet	6 feet	6 feet	6 feet	6 feet	6 feet	6 feet
Street Tree and Furnishing Zone	6 feet	NA	NA	NA	NA	NA	NA
Café/Shy Zone	8 feet	NA	NA	NA	NA	NA	NA
Preferred Paving Materials	Brick, Pavers, Stone	Brick, Pavers, Stone	Brick, Pavers, Stone	Brick, Pavers, Stone	Brick, Pavers, Stone	Brick, Pavers, Stone	Brick, Pavers, Stone
Tree Pit Size/ Tree Strip Width	5 ft x 8 ft	6 feet wide	6 feet wide	5 feet wide	6 feet wide	5 ft x 8 ft	4 feet wide
Tree Treatment	Tree Pit with Tree Fence	Planting Strip	Planting Strip	Planting Strip	Planting Strip	Tree Pit with Flush Tree Grate	Planting Strip
Tree Pit Landscaping	Low Plantings	Lawn	Lawn	Lawn	Lawn	NA	Lawn
Tree Spacing	40 feet	40 feet	40 feet	40 feet	40 feet	40 feet	40 feet
Stormwater Strategy	Retention under Tree	Retention under Tree	Retention under Tree	Retention under Tree	Retention under Tree	Retention under Tree	Retention under Tree

Figure 2.21: Sidewalk Types Table



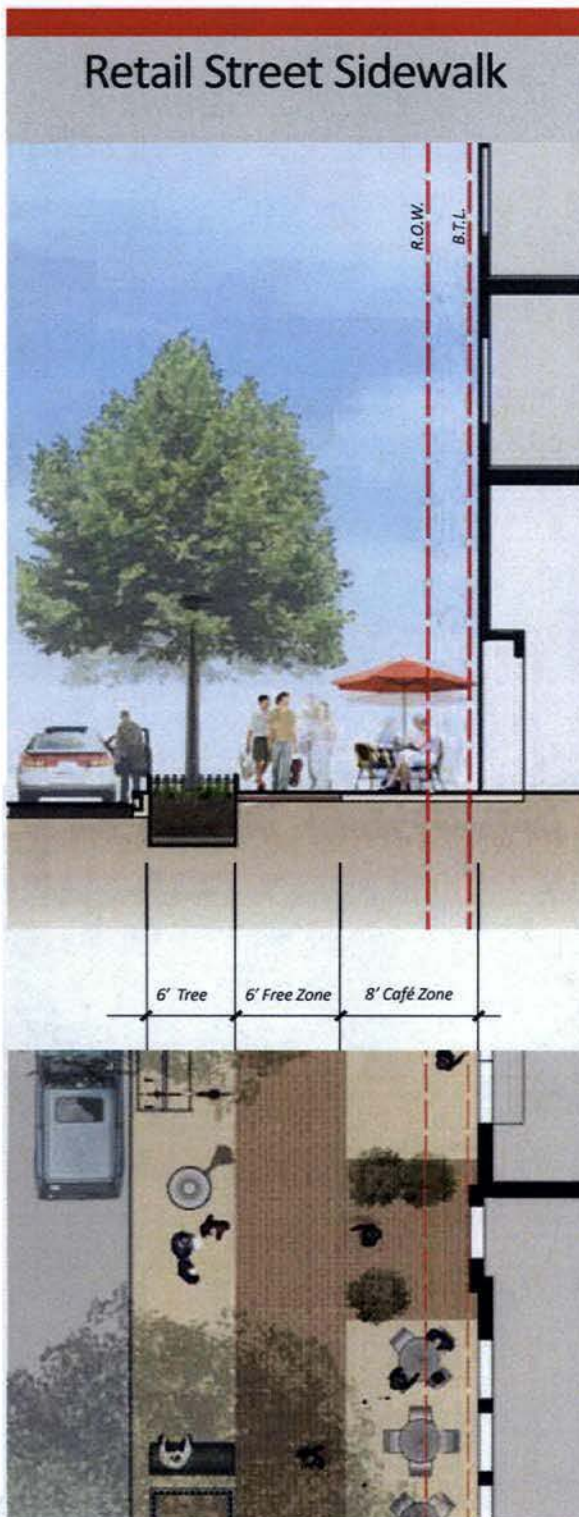


Figure 2.23A: Sidewalk Section



Figure 2.23B: Sidewalk Section

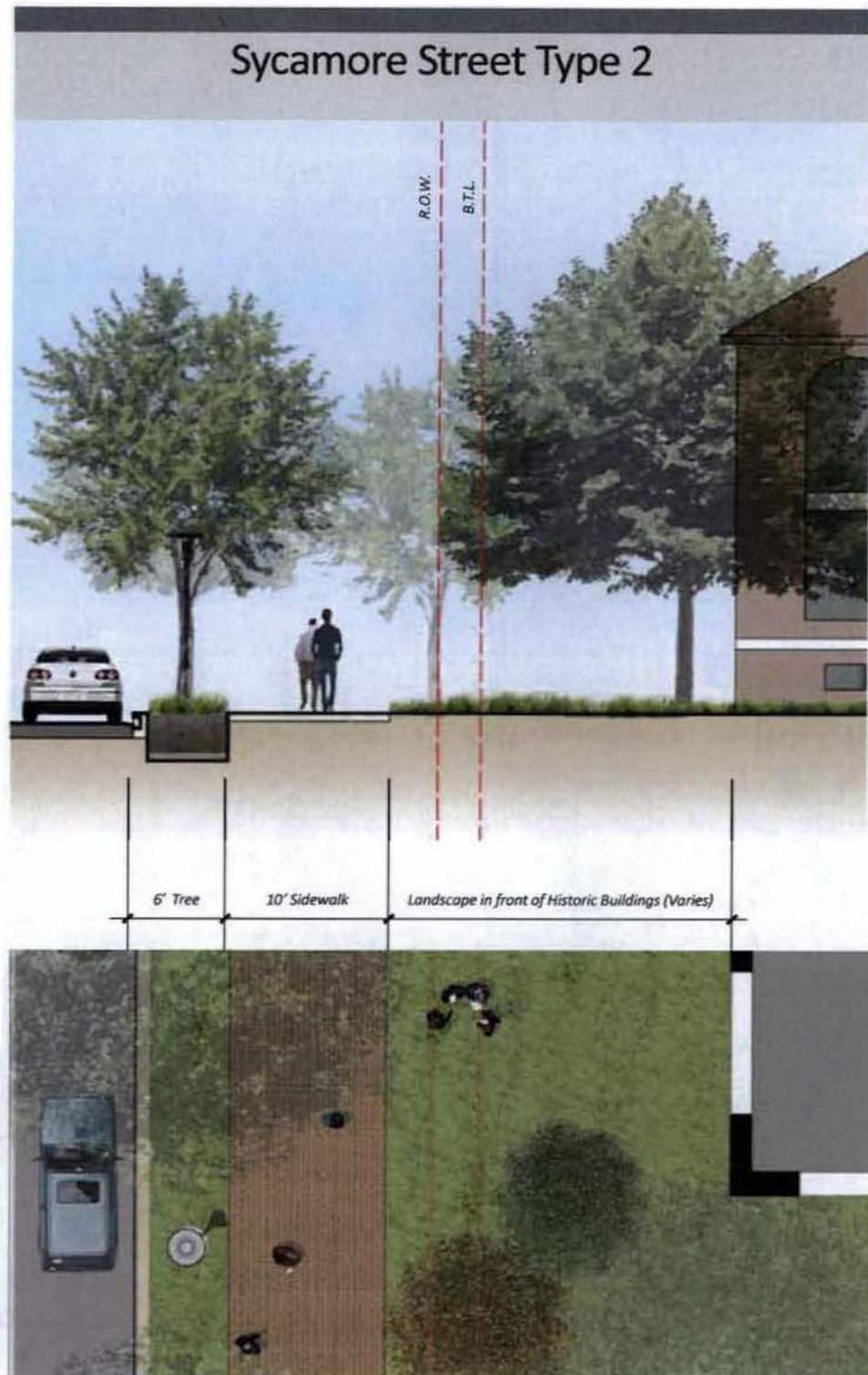


Figure 2.23C: Sidewalk Section

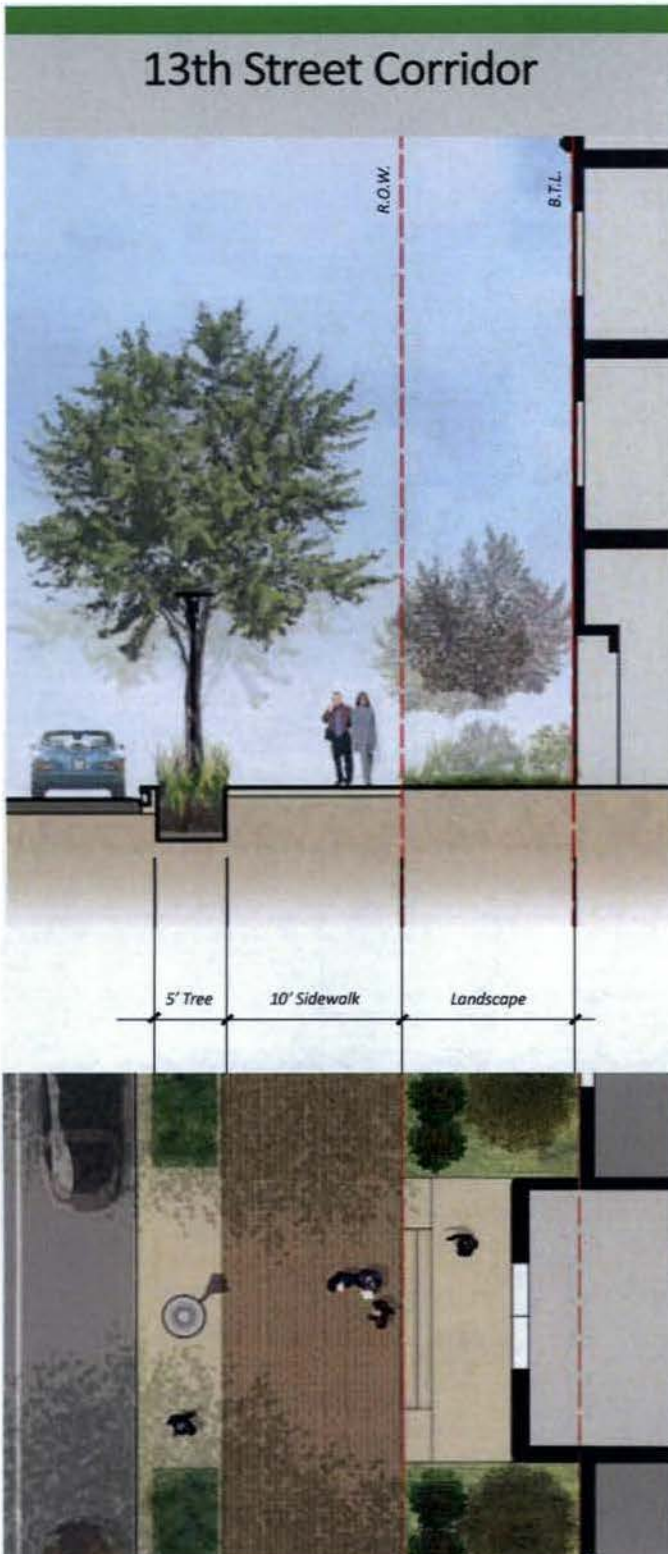


Figure 2.23D: Sidewalk Section

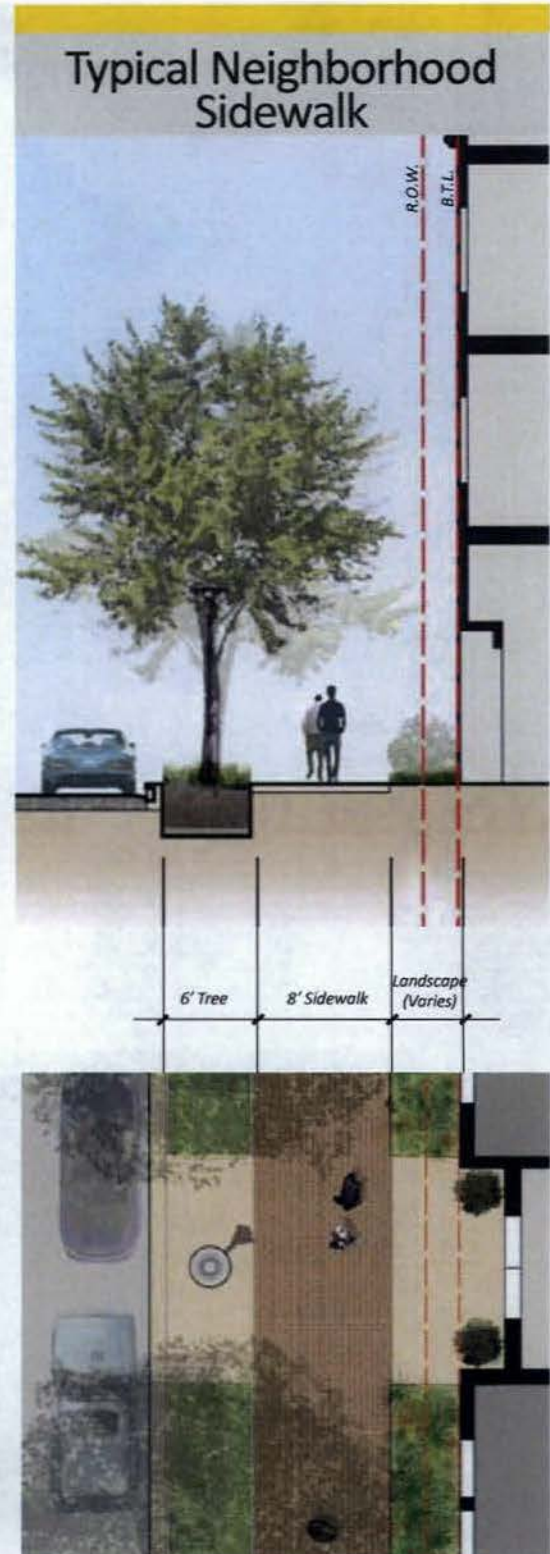


Figure 2.23E: Sidewalk Section

Pecan St. at FEMA Drop-off



Figure 2.23F: Sidewalk Section

Redwood Street

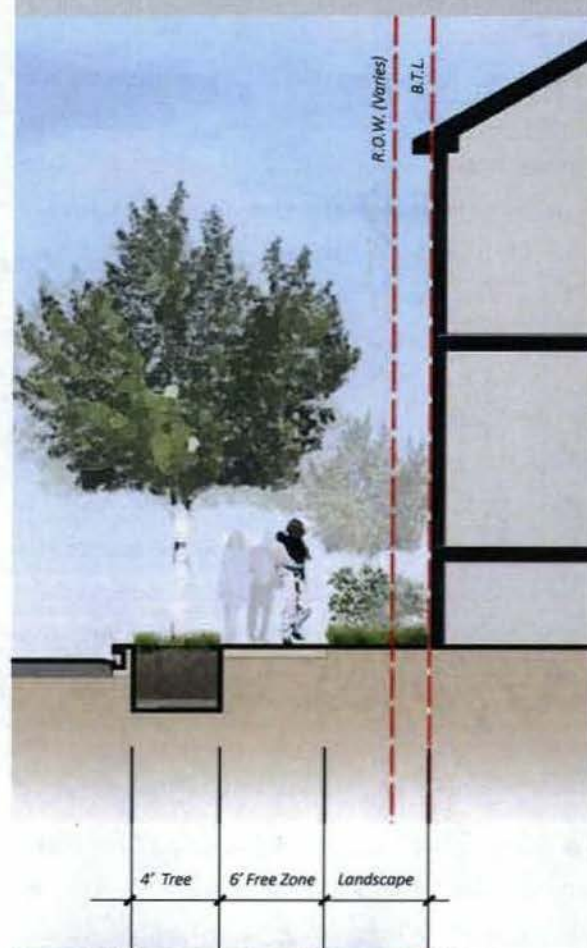


Figure 2.23G: Sidewalk Section

OPEN SPACE

Public open spaces in urban areas assume many forms, such as plazas, parks, squares, and greenways. These spaces can differ substantially in type, particularly with respect to programming, character, size, landscaping, and uses. When planned as a system, public open spaces should provide a range of activities and programming to meet the needs and interests of the community. A well-designed system will appeal to people of all ages and encourage social gatherings.

The intent of the Master Plan is to create well-designed, high quality public open spaces that will contribute significantly to the quality of life in Congress Heights as the East Campus grows in the future. The Master Plan calls for the creation of a linear network of open spaces that is connected visually through the historic core of the campus. This network consists of street-facing parks and plazas that are fully public and accessible to all.

The Master Plan focuses on improving the quality and utilization of public open space, whether new or proposed, by increasing accessibility, visibility, programming, and appearance. Recommended build-to lines are also established to define the proposed open spaces that will have limited flexibility in location and orientation, and are illustrated to represent the approximate demarcation between the public open space and sidewalk. The following principles were developed to achieve the stated goals for open space on the East Campus:

Open Space Principles

- » Ensure open spaces are accessible, usable, and designed to be safe and secure.

- » Distinguish effectively between private and public spaces by reinforcing a strong sense of openness and accessibility in those spaces planned for public use.
- » Provide new development areas with high-quality landscape features, using a blend of plant species found on the site and new types of vegetation.
- » Locate more usable spaces, such as retail plazas, civic parks, and recreational parks, with direct access to the street; office plazas, landscaped medians, and landscaped street setbacks are less desirable.
- » Encourage and expand opportunities for festivals, concerts, farmers markets, and other activating and programmed uses.
- » Special art features could be incorporated into the landscape and architecture of the parks on the East Campus. Artistic lighting should highlight the park during the evenings. Sustainable features for each park can include:
 - » Consider using CPTED (Crime Prevention Through Environmental Design) principles to guide the design of each park;
 - » Wind turbines and/or solar panels could be used in artistic ways to educate visitors and to supply power for park events;
 - » Low Impact Design (LID) features could include pervious paving, water filtration gardens, and cisterns within parks and their adjacent buildings to capture rainwater for park irrigation.

Additional guidance of the design principles for



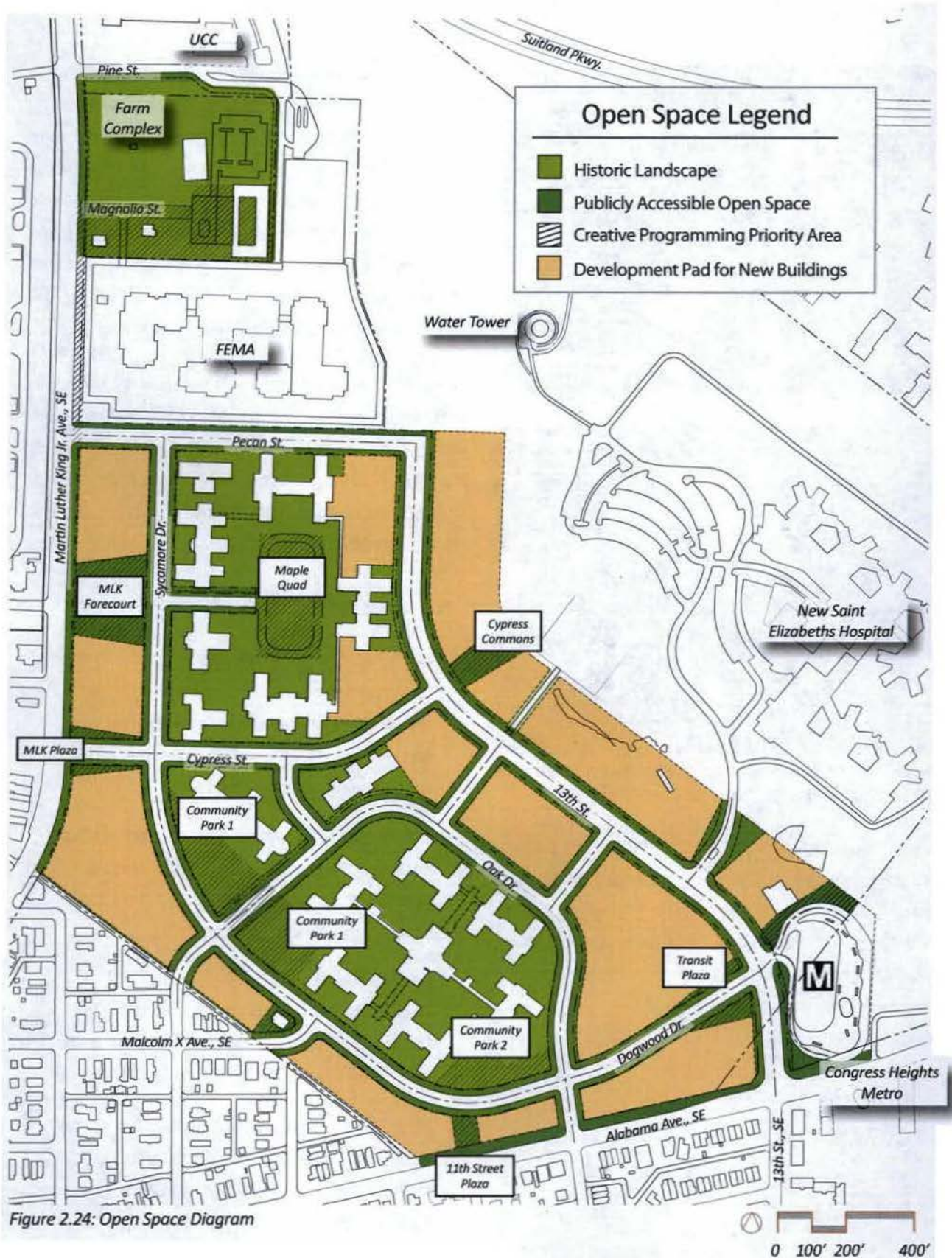




Figure 2.25: Art programs in the District range from singular art installations to larger “art walks.”

specific open space areas is included in the Sector Design Guidelines in Chapter Three. As the Master Plan is implemented, the design of the proposed landscapes will be refined with continued planning and management efforts in order to better define their functional and spatial potential.

PUBLIC ART AND CREATIVE PROGRAMMING

Public art should be an integral part of the design

and construction of the public realm throughout the campus. It can be an effective tool for marking the entry points into the East Campus and significant places or structures. Key sites throughout the campus should be prioritized as public art sites; these include the two neighborhood centers at MLK Avenue and the Congress Heights Metrorail station, the forecourt within Parcel 3, the green space in front of Building 100 on Parcel 8, and the Maple Quad green space.

In addition to public art, it will be essential for public spaces to have creative programming that activates and draws people into the campus, especially during the initial phases of development. These temporary or interim uses could include a farmers market, food or restaurant uses, pop-up retail, or recreational activities.

Public Art and Creative Programming Principles

- » Public art themes should explore both the historic features of the Saint Elizabeths hospital and the cultural heritage of the Congress Heights community. They should be developed based on the following principles:
- » Initiate a campus-wide public art program that ensures active community participation, use of local artists, and involvement of the District Commission of Arts and Humanities.
- » Coordinate public art with the historic preservation mitigation measures calling for signage, heritage trail markers, and other public realm elements to avoid duplication.
- » Develop creative programming and temporary uses in coordination with community stakeholders and organizations, such as Congress Heights Main Street.

PARKING

In the past few years there has been substantial transportation planning completed for the area around Saint Elizabeths associated with the federal government's action on the West Campus and the Environmental Assessment (EA) for the East Campus transportation network. The Master Plan seeks to balance the need to provide sufficient parking to support development on the East Campus with the outcomes of this analysis that note the existing and future traffic constraints of the transportation network in Ward 8. The demands on the transportation network are growing as new development, principally the Department of Homeland Security's (DHS) consolidation, emerges and the Ward continues to grow. Major investment in interstate interchanges at I-295 and the access road to the campus along Shepherd Parkway are proposed to support the DHS consolidation. Further, DHS has taken an aggressive approach to managing the travel demand by capping the number of parking spaces on site. These positive efforts help to ensure that there is capacity within the transportation network to support additional mixed use development and community amenities desired by residents at sites like Saint Elizabeths East, Barry Farm, Poplar Point, and other locations in the Ward. In recognition of this complex situation, the Master Plan makes the following parking recommendations:

- » **Parking Target:** Given current assumptions, parking on the East Campus should be targeted at 4,800 parking spaces in above or below ground garages. This target does not include any parking associated with the Federal Emergency Management Agency, existing surface parking lots, historic structures, and any facilities associated with existing DC government or

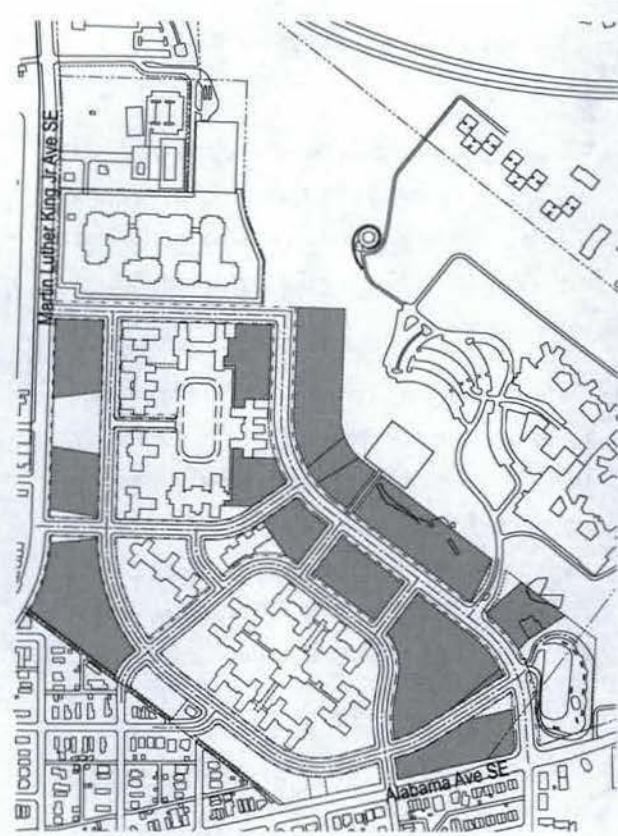


Figure 2.26: Structured Parking Diagram

Structured Parking Areas

■ Permitted Structured Parking Areas

Washington Metropolitan Transit Authority facilities.

- » **Phased Approach:** Market driven parking counts are supported in the initial phases of development due to the emerging market conditions that may make attracting tenants challenging without sufficient parking.
- » **On Street Parking Opportunity:** The site's new roads could create up to 750 new on street parking spaces at full build out, which should be considered in developing a parking strategy for each development site, especially where ground floor retail is located and on street parking can meet the parking needs associated with brief retail trips.
- » **Shared Parking:** Shared parking is encouraged wherever it is feasible to maximize efficiency within each development pad/garage site. Consideration should be given to a management structure of shared parking system.
- » **Transportation Demand Management Strategies (TDM):** Development proposals should employ rigorous TDM policies for in the short and long term. TDM measures are outlined in the Transportation Environmental Assessment and include transit subsidies for workers, car sharing programs, and bicycling facilities.
- » **Structured Parking:** parking should be provided primarily in below-grade or in above-grade wrapped parking structures. Generally, below grade structured parking is the preferred treatment for any new off-street parking associated with development. Above ground parking structures should be wrapped with buildings so that streets are framed with active uses and garaged are screened.



SERVICE AND LOADING

In order to preserve the vibrant street life and historic character of the campus, the Master Plan limits service entrances and garage doors on or near important streets. Ideally, these elements would be located on alleys or on other centralized courts or areas within the block where consolidated service and loading is provided for a building or multiple buildings.

Where circumstances do not permit such access to an alley or consolidated area, Figure 2.27 identifies segments of street frontage within the Master Plan where these functions would be encouraged.

Parking & Loading Principles

- » Prioritize below-grade parking and ensure above-grade parking is lined with spaces for active uses or treated with enhanced architectural façades on public streets, or in instances where the garage façade can be viewed from a major street.
- » Discourage loading and service entrances along Dogwood Street, 13th Street, MLK Avenue, and along the CT Village oval.
- » Minimize the width of service or garage entrances on street frontages and make use of architectural treatments, such as specialty doors and gates, to mitigate the visual impact.
- » Locate access points requiring a curb cut a sufficient distance from any street intersection so as not to disrupt traffic flow and to minimize potential conflicts with bus stops, Metrorail stations, and other public transit networks.

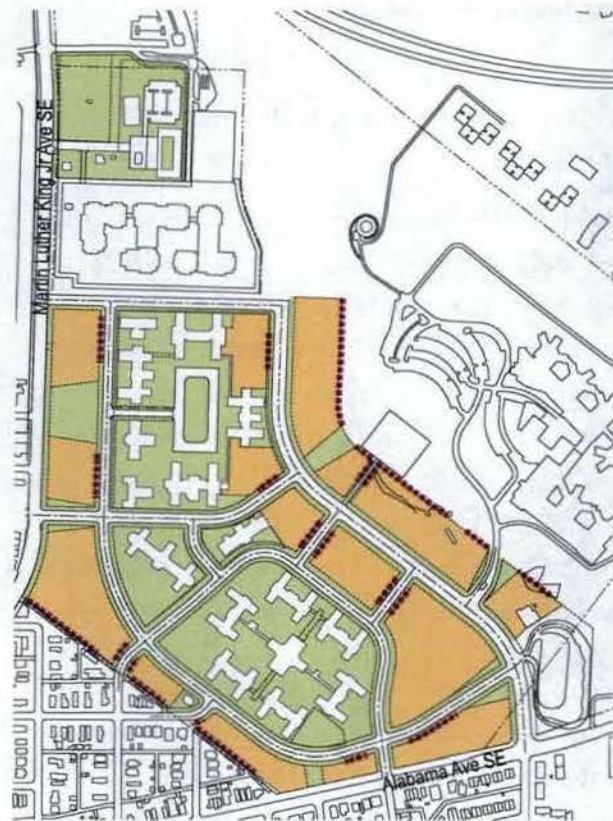


Figure 2.27: Parcel Access Diagram

Loading and Parking Access

- Preferred Loading and Parking Access
- Development Pad for New Buildings
- Public Realm

THE ENVIRONMENT AND SUSTAINABILITY

SUSTAINABLE VISION FOR THE EAST CAMPUS

As our city and region continues to change over the next decade, development at Saint Elizabeths can lead the way in creating our sustainable future city. The basic goals of sustainable design are to reduce consumption of non-renewable resources, minimize waste, and create healthy, productive environments. Walkable neighborhoods, community parks and amenities, housing choices, jobs close to homes, and multiple transportation alternatives will contribute to the sustainability of the Saint Elizabeths East Campus Master Plan.

In addition to these assets, sustainable development on the campus will be achieved by applying low impact development (LID) techniques to new development, designing resource-efficient infrastructure systems, selecting energy efficient materials for new construction, and concentrating compatible land uses so they are multi-modal and pedestrian-friendly. The East Campus will facilitate a number of sustainability principles such as providing an active mix of compact live, work, and play programs in close proximity to enhance neighborhood quality, convenience, and health. These opportunities will create landscapes and ecosystems that are restorative, visually appealing, and enhance community character, while being accessible and ecologically sound.

Sustainability Principles: A Framework for Decision Making

Based on research and best practices, sustainability

principles have been developed for the East Campus to provide guidance for development that is healthy, environmentally sound, and enhance neighborhood quality. The result of these principles will create a strong sense of community, high quality of life for residents of all ages and abilities by providing a healthy and environmentally safe neighborhood and public spaces. This framework sets a high-level vision for this Master Plan to achieve both the desires of the community and stakeholders, while upholding the sustainability standards of the District. The Sustainability Framework highlights opportunities across six themes as follows:

- » Infrastructure
- » Energy Use and Generation
- » Water Use and Reuse
- » Materials and Waste
- » Habitat and Biodiversity
- » Greenhouse Gas Emissions

INFRASTRUCTURE

The site-wide design principles presented within this section are intended to create a cohesive and ordered building pattern at Saint Elizabeths East Campus. Existing and future residents expect that current planning and redevelopment will provide environmentally positive amenities and services that reinforce the range of desirable activities located in



other parts of the City. Each individual project is a part of the Master Plan, and as such, should contribute to the assets of this community as a whole.

Site-wide Infrastructure Principles

- » Develop infrastructure systems to maximize the efficient use of utilities and resources.
- » Ensure new and renovated infrastructure maximizes energy efficiency while enhancing opportunities for the use of renewable energy sources.
- » Reduce stormwater run-off through low-impact development principles and techniques that enhance the green and open space of the campus.
- » Develop buildings in close proximity to existing infrastructure with adequate capacity to accommodate these new projects.
- » Treat each individual project as a part of a whole, so the East Campus contributes to the quality of the surrounding community as a whole.

ENERGY USE AND GENERATION

Mixed-use development on the East Campus will require abundant energy to heat, cool, and power the numerous buildings. However, by taking advantage of centralized systems and renewable technologies, this energy demand can be reduced, energy efficiency can be improved, and any potential contribution to

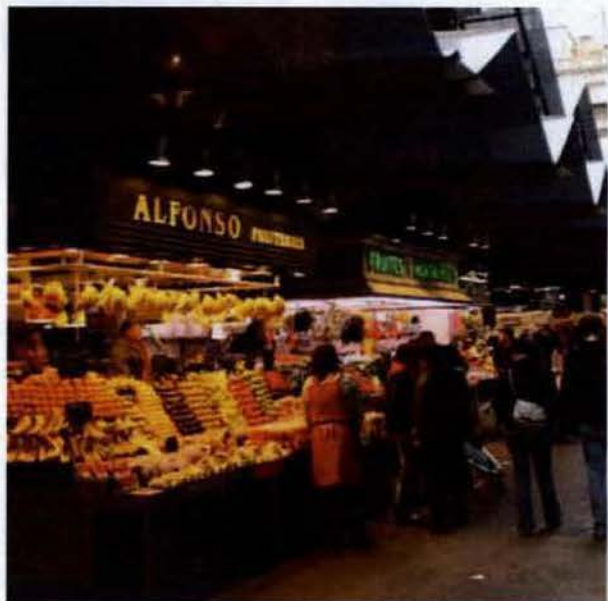


Figure 2.28: Bike lanes and farmer's markets adds to an improved quality of life for District residents.



Figure 2.29: Eight Framework opportunities for new development on the East Campus.

climate change can be mitigated. The campus's large scale and diversity of uses provide many opportunities to apply sustainable practices to reduce the need for environmentally damaging fossil fuels. The energy principles seek to reduce energy demand, improve energy efficiency, create sustainable energy supply and mitigate contribution to climate change.

Energy in Buildings

All buildings, including renovation of existing structures, will be designed to achieve high levels of energy efficiency and meet the equivalent of the US Green Building Council's LEED Silver standard or greater. Building specific strategies will be integrated at the time of design, but the site offers opportunities for ground source heat pumps and passive design strategies. The campus also provides opportunities for integrating renewable energy, specifically, solar thermal for hot water and photovoltaics for electricity. The economics of these technologies should be closely examined at the time of building design, but all buildings should be designed to accommodate these technologies when they become economically viable.

District Energy and Cooling

District energy and cooling are a system for distributing heat and cooling to multiple buildings at the local neighborhood scale. Given the District of Columbia is served by relatively fossil-fuel-intensive grid electricity, onsite power generation, even using natural gas, can help offset a significant quantity of greenhouse gas emissions. The inconsistent (or "peaky") loads that occur in the morning and evening hours must be balanced with strong daytime loads (for example, commercial, retail, or hotel uses) to create a more consistent load, thereby enabling much greater efficiency for the central plant.

Energy Principles

- » Plan and design energy-efficient buildings and retrofit existing buildings to meet the LEED Silver rating greater to reduce the amount of energy needed for heating and cooling.
- » Consider a central power plant when a hotel or conference center and commercial office and/or retail spaces are added to the campus. A cogeneration plant, used to produce both heat and electricity, should be analyzed for its economic viability to meet the total heating demand of buildings in subsequent development phases.
- » Encourage the use of on-site renewable energy generation for local use (e.g., solar thermal, photovoltaic systems, biofuel-based electrical systems, wind energy).
- » In non-critical areas, lighting should integrate photovoltaics to reduce cabling requirements and promote the use of clean energy.
- » Reduce the energy required for water movement using gravity, low-powered motors, and solar power.

WATER USE AND REUSE

The District recognizes the importance of water as a resource for the city and the need to manage stormwater to minimize pollution, flooding and preserve the integrity of natural systems. One of the challenges of redeveloping the East Campus to provide a robust water supply to sustain the community, reduce potable water demand, and treat stormwater on the site. The Master Plan recommends implementing LID infrastructure to absorb and manage stormwater runoff from the campus through filtration and recharge areas. The water principles seek to provide a robust water supply to sustain the community, reduce potable water demand and treat stormwater on-site.

Water Supply and Treatment

Implementing conservation measures throughout the East Campus will greatly reduce demand on the potable water supply. These strategies should include installing efficient fixtures and appliances based on EPA Water Sense and Energy Star standards, and using graywater -- reclaimed water from rain harvesting, bathing, laundering and other activities -- for toilets and urinals. Rainwater collection and treatment is a relatively low-tech, parcel-level method of offsetting potable water use.

In Washington, systems taking advantage of graywater must comply with the provisions of the applicable DC building code. As of March 2013, this code will incorporate new standards for filtering and disinfecting such reclaimed water (it is anticipated that the new stormwater regulations will provide guidance on rainwater reuse).



Figure 2.30: Example of rainwater harvesting system (photo credit: RainHarvest Systems).

Water Conservation and Treatment Principles:

- » Drip irrigation systems and native plantings requiring little moisture should be used to reduce water demands for parks and landscaped areas.
- » Infrastructure leak-detection technology and accurate metering should be used to reduce overall water consumption.
- » Low water flow fixtures and appliances should be used in infrastructure and within tenant occupied spaces.
- » Explore the feasibility of using rainwater harvesting for non-potable water uses such as irrigation or toilets. The economics of rainwater harvesting vary by use types, and should be examined on a building by building basis.



Figure 2.31: Tree pits can be designed to collect stormwater.

STORMWATER

The East Campus is located in the Anacostia Watershed, which is one of the most polluted sub-watersheds within the greater Chesapeake Bay Watershed. As the urban water cycle continues to alter the quality of our aquatic ecosystems and increase the risk of flooding in the built environment, stormwater management practices such as low-impact development, BMPs, and green infrastructure have emerged. Providing a sustainable stormwater management plan within the redeveloped campus is an important strategy in this context. Stormwater standards continue to evolve in response to low impact development (LID) techniques and green infrastructure, and the District of Columbia is developing pioneering regulations that shift the impact on future land development to locally manage stormwater. This section reviews the proposed new

regulations and their design implications on the stormwater management alternatives proposed for the East Campus.

Stormwater Regulations

The U.S. Environmental Protection Agency (EPA) put into place the Municipal Separate Storm Sewer System Permit (MS4) for Washington, DC, which will be effective from October 2011 to October 2016. The new standards will require future developments, and substantial existing building retrofits that disturb land greater than or equal to 5,000 square feet to provide onsite retention of 1.2 inches of stormwater from a 24-hour storm through the use of evapotranspiration, infiltration, and/or rainwater harvesting. Offsite mitigation and/or a fee-in-lieu program will be used when sites are unable to meet the retention standard. The proposed 1.2-inch requirement was assumed for all aspects of the East Campus redevelopment.

Stormwater Quantity

The stormwater regulations require that the peak stormwater discharge rate from the 2-year and 15-year storm events must be controlled to the pre-development rate, which refers to a meadow condition, "prior to man's influence." The requirement is intended to ensure adequate capacity for stormwater conveyance systems and prevent flooding of properties downstream of the development. The Campus will discharge stormwater runoff into the adjacent ravine, and stormwater will then flow into the Suitland Parkway drainage system and outfall into the Anacostia River.

A variety of stormwater design guidelines can be implemented to meet the new DC stormwater regulations cost effectively. They are intended to be flexible and can be adjusted as the new stormwater regulations and their associated credit programs are refined.

Stormwater Principles

- » The East Campus is unsuitable for typical infiltration practices because of its clay soils, but bioretention and LID methods should be applied on a limited basis to meet the city's new retention standard. Bioretention facilities with under drains should be installed in some public spaces to meet the threshold of the retention requirement.
- » Decrease the amount of impervious surfaces on the campus, and use green roofs to reduce the volume of stormwater retention as required by the new standard. For sites where the building footprint encompasses the majority of the parcel area, green roofs (or rooftop detention) should be the primary retention strategy.
- » Collect and recycle rainwater for landscape irrigation, toilet flushing, and other uses to meet the retention volume standard.
- » Limit the post-development peak discharge to the pre-development peak discharge rate, by onsite stormwater management measures, such as wet or dry detention basins, infiltration basins or trenches, and underground storage facilities.



Figure 2.32: Biofiltration system near the Navy Yard.

MATERIALS AND WASTE

Waste is becoming an increasingly important issue for cities to manage more efficiently. City waste is transported significant distances before being treated or finally disposed. Waste can be categorized into two classifications: construction waste and operational waste (day-to-day life of a city).

On the East Campus, the large scale of development demands effective ways of dealing with waste by minimizing its generation during construction. Efficient design and careful planning of buildings can potentially meet a target of at least 90 percent of construction waste being diverted from landfills. The materials and waste principles seek to create buildings and infrastructure that are efficiently designed, built with environmentally sustainable materials; consider deconstruction and aims for zero construction waste.



Figure 2.33: Multiple recycling options.

The materials and waste operations principles seek to make a substantial contribution to the principle of eliminating the “concept of waste” through good design, emphasizing source reduction, reuse, recycling and composting.

Materials and Waste Principles

» Construction

- › Create a waste diversion plan to avoid landfills and/or incineration.
- › Promote preservation of cultural heritage by salvaging and reusing materials.
- › Utilize green building practices that encourage the efficient use of recycled and recyclable materials.
- › Encourage the use of low impact, low-embodied energy materials for buildings and

infrastructure.

- › Use products made of wood that are certified as harvested from sustainably managed forests.

» Operations

- › Promote the recycling and reuse of disposables by providing facilities, education and separation of materials.
- › Encourage site users to divert organic waste material into compost.

» Hazardous Materials

- › Identify hazardous materials and develop a safe removal and abatement as the campus is developed.

HAZARDOUS MATERIALS

As with many sites developed in the early 1900s, the East Campus features hazardous materials within existing buildings and facilities, and buried in selected locations on the campus. Detailed review and research of the historic documentation, previous site assessments, and regulatory records show that such materials within existing buildings, site structures, and landscape features include:

- » Asbestos: ACM vinyl tiles and pipe insulation are present in some buildings and utilities.
- » PCB: Power transformers were observed at Buildings 88, 90, 92, 93, 94, 117, 119, and 124. Power transformers within the project area are owned by the US General Services Administration or the District of Columbia. The power

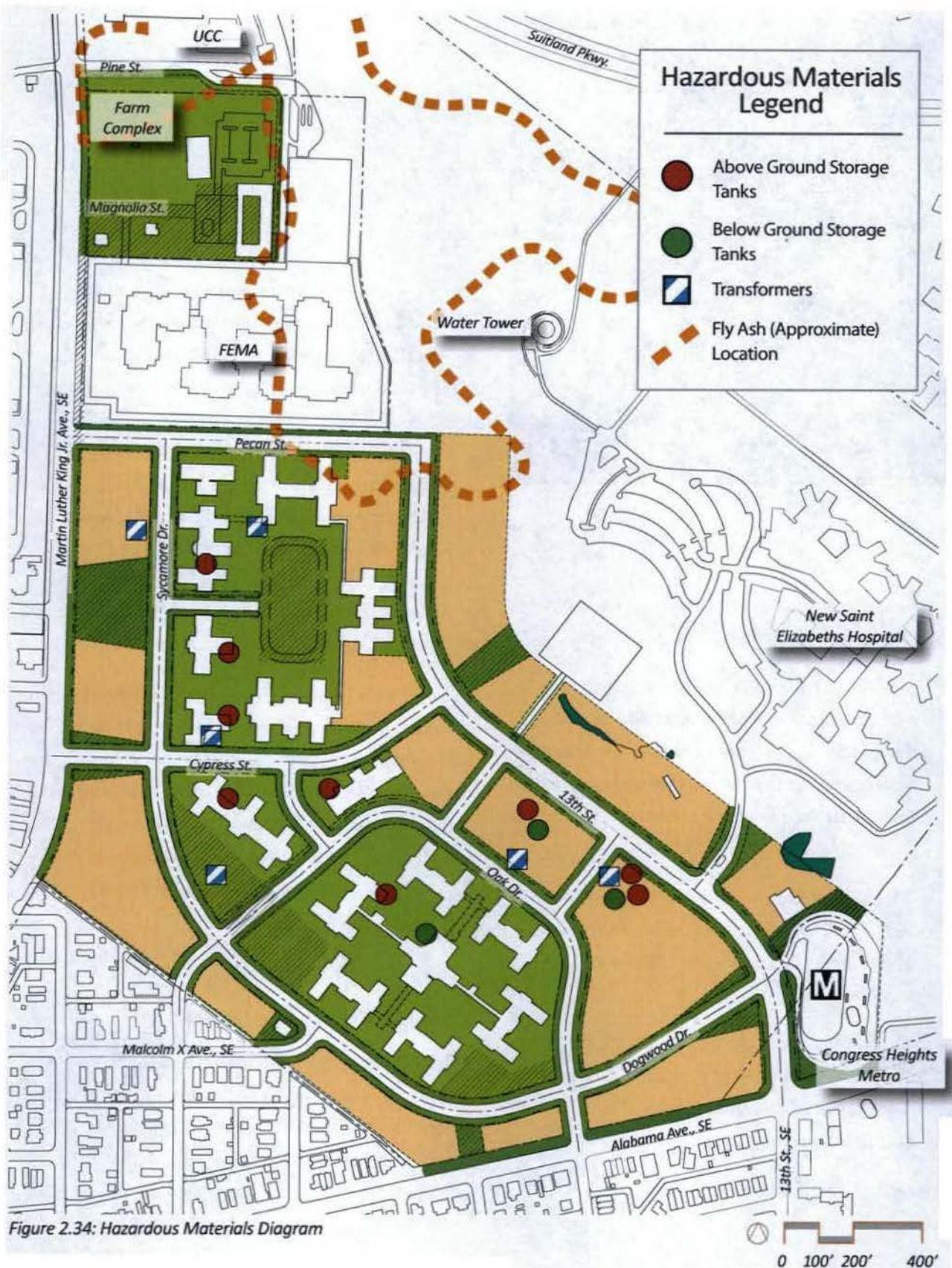


Figure 2.34: Hazardous Materials Diagram



Figure 2.35: Biodiversity in the Landscape

transformers on the East Campus are non-PCB-containing transformers.

- » Lead-Based Paint (LBP): LBP is suspected in the interior wall and ceiling paint, and in the wood trim of historic structures. Based on the age of the buildings on the East Campus (those built prior to 1977), it is highly likely LBP may have been used to paint the exterior of the buildings.
- » Underground Storage Tanks (USTs): Based on a 1995 RCRA Compliance Evaluation Inspection conducted by EPA on the Saint Elizabeths Campus, there were 10 USTs.
- » Radon: The rocks and soils found in the vicinity of the East Campus were mapped as having low radon potential (average readings of 0 to 4.0 picocuries per liter (pCi/L).
- » Fly Ash and Fill Materials: Approximately 30

acres along the northern most portion of the East Campus, between Suitland Parkway and Building 81, were formerly operated by the District of Columbia Department of Public Works as a landfill under Permit 1-83 (FHWA, 2008). The landfill was closed between 1983 and 1989, prior to regulation under the RCRA. The District DOH determined that the surface soil levels of polychlorinated dioxins and furans present at the site should not pose a public health threat to employees, patients, residents, or landfill workers (FHWA, 2008).

Future development or infrastructure construction on campus will lead to additional environmental review and testing for these issues in order to develop a safe removal and abatement plan. Further details on these plans are included in Chapter Four. For example, core sampling is recommended in landfill areas of future construction that would be at depths greater than 1 foot (FHWA, 2008).

HABITAT AND BIODIVERSITY

The Saint Elizabeths East Campus is characterized by a significant amount of open green space and wooded areas. The site provides valuable landscapes in the District that provide habitats and biodiversity for plant and animal species. Future development should build

on this legacy by creating landscapes and ecosystems that are restorative, visually appealing, biologically diverse, and ecologically sound.

Opportunities to achieve these goals lie in the integration of green roofs, green infrastructure, landscape plantings, and support of the District's biodiversity initiatives. The habitat and biodiversity principles seek to create valuable landscapes and ecosystems that are restorative, visually appealing, and enhance community character, while being functional, maintainable, biologically diverse and ecologically sound. These principles are adjusted to the Campus to address the discovery of potential wetlands during the Transportation EA.

Habitat and Biodiversity Guidelines

- » Promote the use of green roofs on new and existing buildings to enhance microclimate, a biodiverse habitat, and capture stormwater.
- » Reduce impervious surfaces to mitigate urban heat island effects.
- » Include biodiversity and native species in landscape planting design.
- » Design sensitively to existing habitats, such as wetlands and consider opportunities for LID.

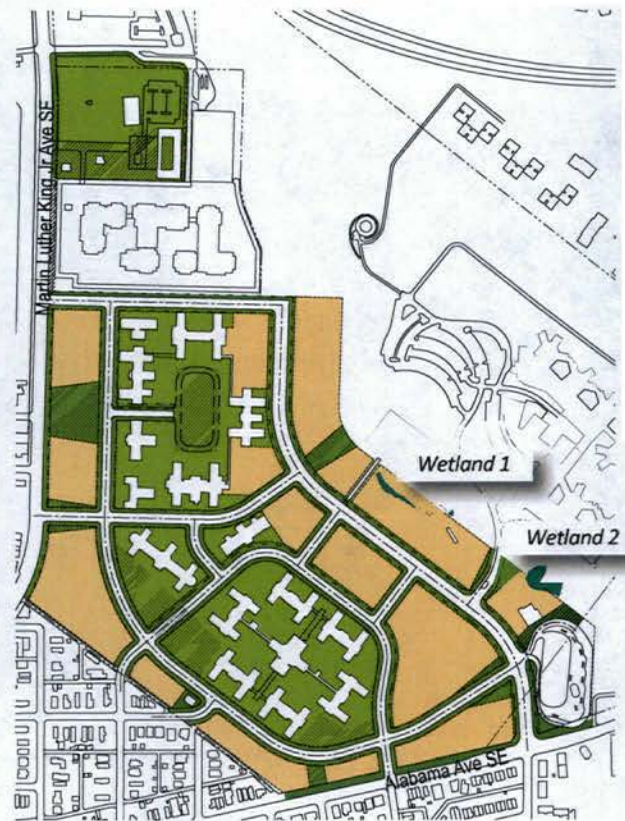


Figure 2.36: Wetlands Map

Wetlands Legend

- Identified Wetlands
- Development Pad for New Buildings
- Public Realm

WETLANDS

During the review of existing site conditions for the Transportation Environmental Assessment, the consultant team conducted a detailed survey (including documentation research and field investigations) of the East Campus and identified two water bodies that may be considered wetlands. The U.S. Geological Survey



Figure 2.37: Electric car charging station near 14th and U, NW.

(USGS) quadrangle map, National Wetland Inventory, District of Columbia Wetland Conservation Plan (District of Columbia, 1997) and online District geographic information system files showed no documented water bodies or wetlands within the project area. A detailed ecological survey was also conducted for the site that identified two potential wetlands in the undeveloped eastern section of the project area. More detailed information on the wetlands is available in the Transportation EA wetland delineation report which the District will use to inform additional planning and coordination efforts related to this issue.

GREENHOUSE GAS EMISSIONS

Buildings and transportation systems significantly affect greenhouse gas emissions. Saint Elizabeths should measure its own emissions to minimize their impact and reduce local air pollution. The carbon emissions per square foot should be calculated and a target of 30% reduction by 2020 from a baseline equivalent to a contemporary new development. The greenhouse gas emissions principles seek to calculate the Campus's carbon emissions per square foot and set a target of 30% reduction by 2020 from a baseline equivalent to contemporary new development.

Greenhouse Gas Emissions Guidelines

- » Reduce overall carbon dioxide gas emissions to combat climate change future hazards and adapt to current changes.
- » Implement energy efficiency measures for buildings and infrastructure.
- » Provide residents and visitors with alternative transportation options to reduce dependence on automobiles.

Greenhouse gas emissions are an important indicator by which the city will be able to determine the success of the other sustainability principles and methods put in place on the Campus. By measuring our greenhouse gas emissions, the city will be able to better determine our local impact on the global issue of climate change.



Figure 2.38: The Saint Elizabeths East Campus Illustrated Plan



PUTTING IT TOGETHER

Illustrative Plan & Development Program

The Illustrative Concept Plan shows a potential future for the East Campus consistent with the Sitewide Guidelines above, as well as, the policy framework from the 2008 Framework Plan. The Concept Plan incorporates key urban elements and design strategies to enhance districts within the East Campus and shape great streets, blocks, transit, storefronts, sidewalks, parks and public open spaces into a unique place of high quality and character. The Illustrative Concept Plan represents just one way properties could be developed in accordance with the recommendations set forth in this document. Policy directives and the exact location, scale and design character of public and private improvements may ultimately vary in detail, but should be consistent with the spirit of this plan.

The Illustrative Concept Plan embodies primary urban design objectives and features, including park and plaza locations, building types, building heights, building massing and street configuration throughout the planning area. It does not specify a particular development plan for any given site, but rather communicates an acceptable direction and level of development consistent with the stated goals, objectives and policies of this document. Potential development partners should gain from this plan a clear understanding of the District's and stakeholders expectations for support and approval.

Development Program Summary

The East Campus offers enormous potential as one of the few large remaining parcels in the District where significant development can occur. Early in the planning effort, several studies were conducted to

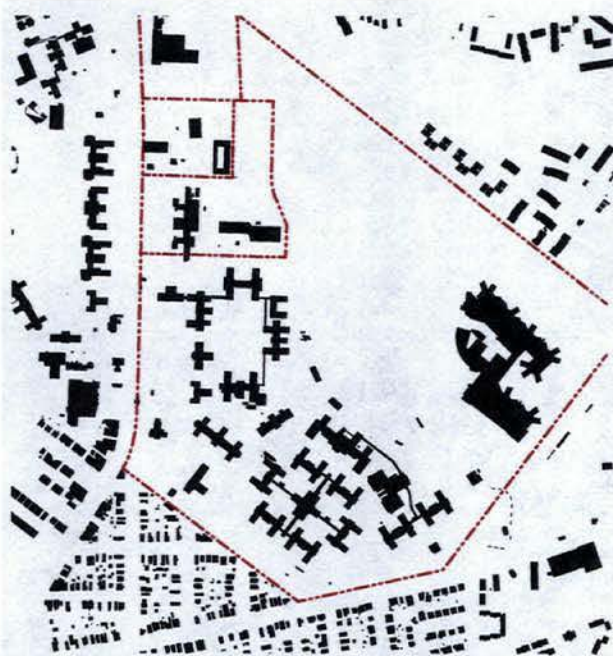


Figure 2.39: East Campus & Congress Heights Existing Buildings

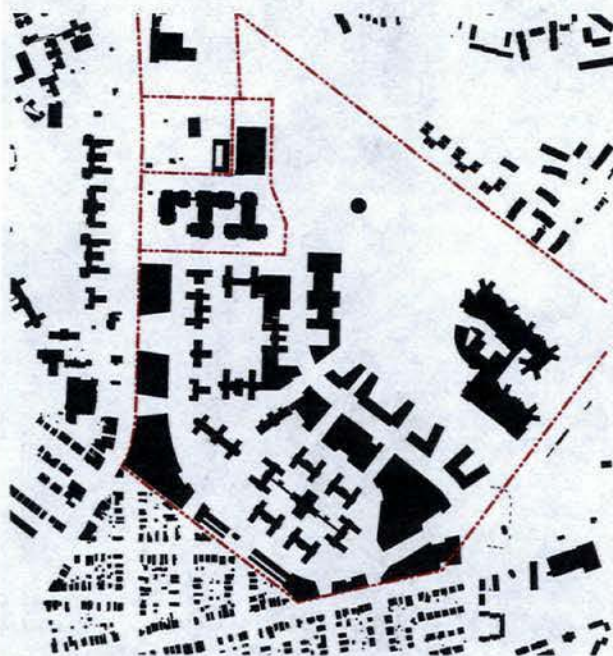


Figure 2.40: East Campus & Congress Heights Proposed Buildings

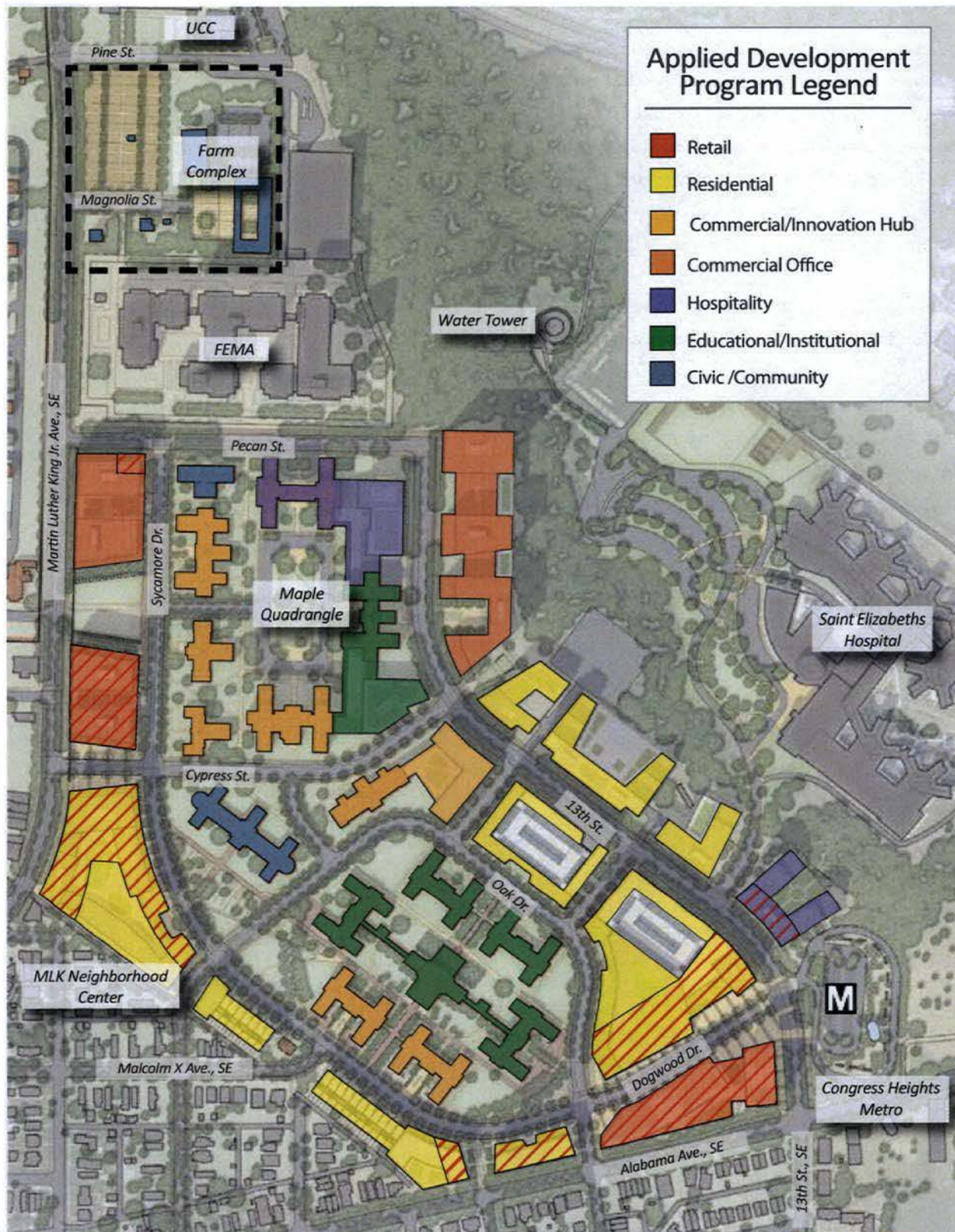


Figure 2.41: An application of the development program on the East Campus.

assess future demand for retail, residential, office, hotel and other uses on the East Campus, and assist in the development of the Master Plan. The studies suggest that there is sufficient pent-up demand for residential and retail development, and these uses could be built immediately. The demand increases significantly when the needs of the forthcoming DHS complex are considered.

These assumptions, combined with the guidance and principles from the Master Plan, yield a total building program of 4.2 million gross square feet distributed across both new construction and the reuse of historic buildings. This development program does not include the proposed development on the FEMA parcel of 750,000 square foot plus parking. The distribution of space by general land use categories is summarized below:

- » Office: 1.8 million gross square feet, including 500,000 gross square feet of “Innovation Hub” space
- » Residential 1,300 units, in a mixture of for-sale, for-rent and workforce housing

- » Retail: 206,000 gross square feet of leasable area, supported largely by meeting existing pent-up demand. The spaces can be configured in a walkable, “town center” configuration or in a mixed-use format
- » Hospitality: 330,000 gross square feet in two offerings, a limited service, business-class format and an upscale conferencing hotel with significant ballroom and non-room revenue.
- » Civic & Educational: 250,000 gross square feet; in addition to the above, the site should seek to incorporate non-commercial activity centers. Ideally, these centers should take the form of sophisticated open spaces and creative use of historic buildings for unique educational and community development functions.

The unique characteristics, preservation goals, and development objectives for each of the campus’s sectors is an important layer to the Master Plan. The general principles found in this chapter are supplemented by more sector or parcel specific guidance presented in the following chapter.





Figure 2.42: Perspective Illustration of the Transit Center on the East Campus

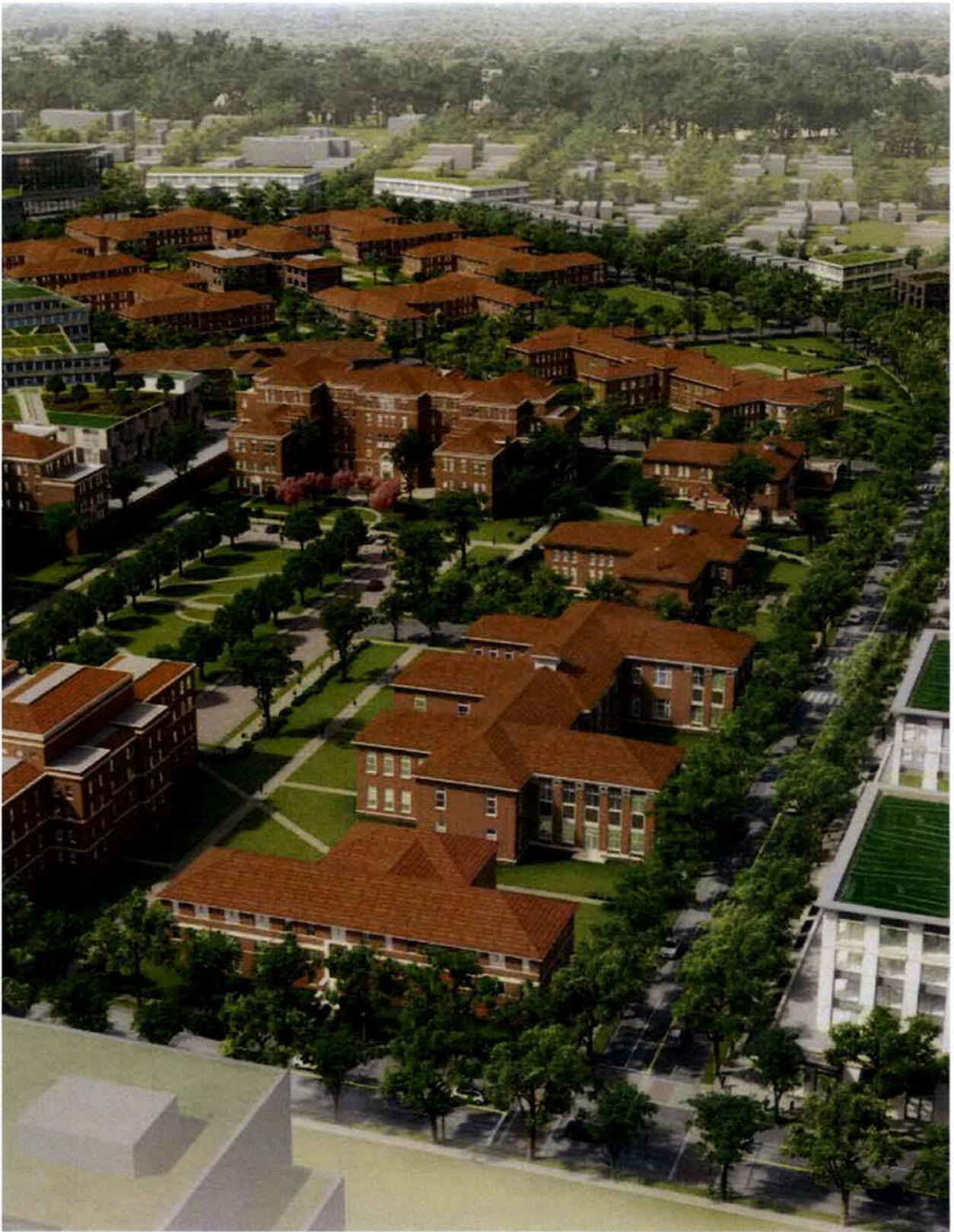


Figure 2.41: The Saint Elizabeths East Campus Perspective





3: ARCHITECTURE AND DESIGN GUIDELINES



Figure 3.1: Perspective View of 13th Street



CHAPTER 3: ARCHITECTURE AND DESIGN GUIDELINES

SITE-WIDE GUIDELINES

In the Saint Elizabeths East Campus, the District holds both a precious cultural inheritance and a unique economic development opportunity. These Architecture and Design Guidelines recognize both facts and intend to provide for future development flexibility while also protecting, engaging, and enhancing the coherence and power of this historic campus. In essence, they are developed for the following three reasons:

- » To ensure that the existing historic buildings retain their clear integrity and distinction.
- » To ensure that a similar coherence, quality, and uniqueness also extend to future buildings.
- » To ensure that future development is compatible and harmonious with the historic campus.

In order to properly and consistently address issues at both the scale of the entire campus and its constituent parts, these guidelines are divided into two sections: site-wide guidelines and sector and parcel guidelines. Project design and project review teams should consider both sections.

The site-wide guidelines are divided into two sections: Historic Structures and New Architecture. The sections follow a structure similar to that of Chapter Two: fundamental principles are described first and specific recommendations follow.

HISTORIC STRUCTURES

Introduction

Recommendations regarding the retention, relocation, or demolition of existing elements, as well as the locations of new construction, were developed in part from the historic preservation consultation process for the East Campus Master Plan. These Architecture and Design Guidelines use those recommendations from the consultation process as a baseline and address only the treatment of those components proposed to remain on site.

However, the guidelines herein are meant as recommendations for future development. Because of Saint Elizabeths' designation as a District of Columbia historic district, each individual demolition, alteration, or new construction project must be reviewed and approved by the District of Columbia Historic Preservation Review Board (HPRB), as required by local laws, and the DC SHPO and the ACHP, as required by the Deed.

Saint Elizabeths Hospital is divided into the East and West Campuses by Martin Luther King Jr. Avenue, and the two campuses represent different periods and types of historic development. However, both the East Campus and West Campus are part of the one NHL, and maintaining its overall integrity is a key objective for both campuses. Therefore, guidelines for the treatment of historic resources must be fundamentally consistent on both campuses.

The site-wide guidelines for the treatment of historic resources adopt the exterior "Building Treatment Standards" provided in the Saint Elizabeths West Campus Preservation, Design, and Development Guidelines (November 10, 2008) and supplement these standards with guidance provided by the National Park

Service Preservation Briefs. The site-wide guidelines also adapt the West Campus standards related to building additions.

At the same time, the Master Plan must address those conditions, features, and historic resources unique to the East Campus. For example, the West Campus Master Plan addresses development that will accommodate known federal office tenants with specified needs and requirements. In contrast, the East Campus Master Plan and Architecture and Design Guidelines must anticipate the needs of unknown tenants and address the capacity and demands of the market.

The Architecture and Design Guidelines for the East Campus and West Campus will also differ in application: whereas revitalization of the West Campus is a federal undertaking subject to federal review. The East Campus will be private development of District of Columbia property and will follow review processes and laws administered by the District of Columbia Historic Preservation Office, Historic Preservation Review Board, and the historic covenants set forth in the Deed.

The parcel-specific guidelines outlined below address the four parcels that comprise the significant building groupings on the East Campus, as defined in the Saint Elizabeths Hospital East Campus Historic Resource Survey (Tracerics, July 2011):

- » Parcels 1 and 2: Farm Complex
- » Parcel 4: 1902 Buildings
- » Parcel 5: Maple Quadrangle
- » Parcel 11: Community Technology (CT) Village



There are four contributing buildings not included in these four parcels and subject only to these general site-wide guidelines:

- » Blackburn Laboratory, Building 88 (1923)
- » Staff Residence No. 6, Building 99 (1924)
- » Tuberculosis Building 1, Building 102 (1933)
- » Unnumbered Cottage (ca 1885-1915)

Principles

- » Respect and emphasize the unique historic character and resources of the campus.
- » Retain, rehabilitate, and adapt historic buildings in an appropriate manner.
- » Respect spatial relationships among historic buildings and associated landscapes.
- » Preserve and restore historically significant landscape features.
- » Integrate new development within the campus in a manner compatible with its historic structures.

Building Treatment Guidelines

- » All work on historic buildings and structures will be undertaken in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.
- » Alterations should be designed and integrated into the historic fabric with minimal impact to the existing architecture.
- » Deteriorated building fabric will be repaired rather than replaced. When material deterioration



Figure 3.2: Architectural detail of historic Saint Elizabeths

prohibits repair, replacement materials shall best match the original in material, color, and texture.

- » Rehabilitation work will retain original windows, window openings, doors, and door locations.
- » All work will be designed and executed in a manner that minimizes damage to or removal of character-defining features or significant fabric of the building, structure, or setting.
- » All exterior work will be executed in a manner that minimizes damage to significant landscapes or site features adjacent to the building or structure.



Figure 3.3: Simple massing of brick distinguishes the architecture .



Figure 3.4: Aerial view of the East Campus.

- » Treatment of historic materials on the site should follow the guidance provided in relevant National Park Service Preservation Briefs.
- » Any work completed to improve energy efficiency in the historic buildings or achieve other sustainability goals will follow the Secretary of the Interior's Illustrated Guidelines on Sustainability for Rehabilitating Historic Buildings (2011).

Further building treatment guidelines not derived from the West Campus guidelines stipulate that character-defining features should be preserved as part of any rehabilitation scope. New entrances on secondary elevations should use existing fenestration patterns and openings as much as possible to minimize the loss of historic fabric.

Building Addition Guidelines

The compatibility of individual building additions will be evaluated by the District of Columbia Historic

Preservation Office and the Advisory Council on Historic Preservation per the Deed during individual project review.

- » Building additions should be undertaken in a manner that, if removed in the future, would leave the critical form and integrity of the historic resources unimpaired.
- » The placement and design of additions and new construction should avoid permanent damage to contributing landscape and archaeological resources, and consider impacts on significant views and vistas both inside and outside the site.
- » Additions should be designed to be compatible with, but not duplicative of, historic structures. Additions should not attempt to create false historic buildings or portions thereof.
- » All building additions should be designed to respect the existing historic building fabric,

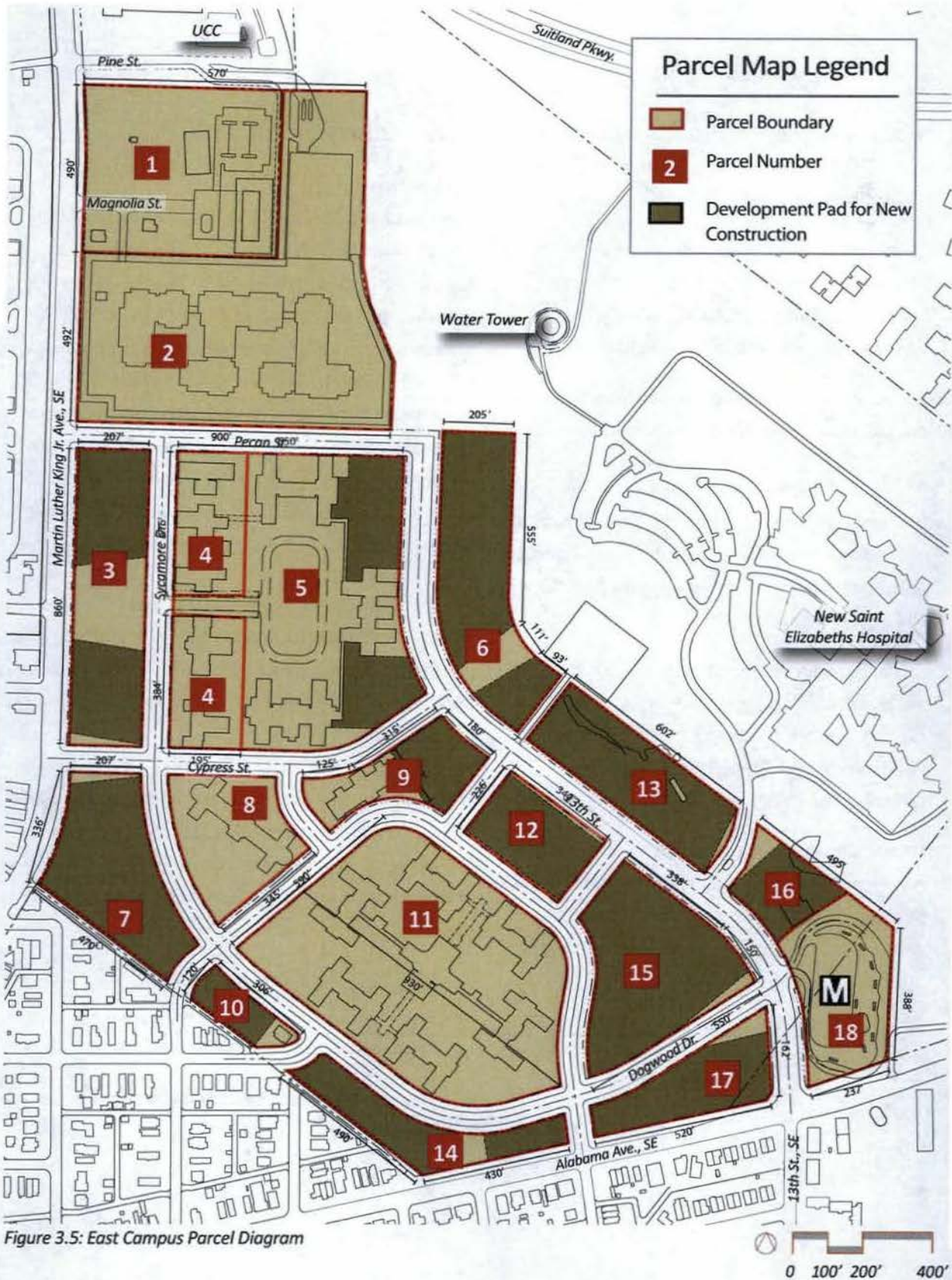


Figure 3.5: East Campus Parcel Diagram

landscape features, archaeological features, internal and external views and vistas, and other character-defining features of the East Campus.

- » Construction and construction staging should be undertaken in a manner that avoids damage to existing buildings, structures, landscapes, landscape features, and archaeological features.

Building addition standards not derived from the West Campus guidelines are suggested as follows:

- » Additions should be designed to avoid or minimize the removal of existing historic building fabric and will optimize the use of existing door and window openings for connections between the historic building and any additions.
- » Guidance regarding appropriate design and placement of additions relative to the unique existing conditions (buildings, landscapes, and views) on the East Campus is provided in the parcel-specific guidelines.
- » Entrance features such as canopies and awnings are discouraged on primary elevations and should be designed to avoid obstruction of character-defining features such as porches, surrounds, and other ornamentation.
- » Rooftop mechanical equipment should not be visible from the ground.

NEW ARCHITECTURE

Introduction

These Architecture and Design Guidelines articulate the principles by which the DC Historic Preservation Review Board and the Advisory Council on Historic Preservation, as appropriate per the Deed, will evaluate requests for new development proposals on the Saint Elizabeths East Campus. They are meant to assist property owners, developers, and architects. The guidelines are meant to guide, rather than dictate, the design of buildings and detail of work, in order to achieve compatible new design in an area with a strong historic identity.

It is important here to note that “compatibility” is not intended to suggest a design strategy of mimicry or replication. Indeed, the District of Columbia Historic Preservation Guidelines state specifically that “a new building should be seen as a product of its own time. To reproduce a historic building, or to copy exactly a style from the past, creates a false sense of history. By relating to the existing buildings and the environment, but being of its own time, a new building shows a district’s evolution just as the existing buildings show its past.”

These guidelines are intended simply to:

- » Preserve the design integrity of the campus.
- » Improve the coherence and quality of new development.



- » Assist property owners, developers, and architects.
- » Broaden awareness of preservation and design issues.

Massing and Form

The existing campus is notable for its formal consistency, i.e., for the ways in which a relatively simple palette of building forms and materials was consistently applied to provide for a variety of space needs and sizes (Figure 3.3). New building massing is encouraged to respect this lesson, at both the individual and collective scale, by emphasizing simple, rather than extravagant, aesthetic statements so it is compatible with existing buildings.

Designers of new structures are encouraged to investigate and pursue opportunities to develop and emphasize overall urban form rather than exclusively individual architectural form. Particular suggestions in this regard are contained within the sector and parcel guidelines.

Two particularly unique aspects of the existing buildings are cupolas and overhanging hipped roofs. Designers are therefore encouraged to employ these distinctive elements sparingly, if at all, in new buildings.

Roofs of new buildings are encouraged to be invisible from the ground, to minimize visual competition with existing roofs.

Where new tower elements or other key focal points occur, they are encouraged to be integral to building

massing and detailing and not to compete with important existing focal points (Figure 3.6).

Symbolic elements and orienting devices are important components in urban place-making and should play a role on the expanded Saint Elizabeths East Campus. However, such elements should not be placed indiscriminately, but in careful relation to the historic campus, the neighborhood, and the site itself, in order to anchor significant views to and through the campus, and to avoid competing visually or spatially with existing historic elements. New tower-like elements or embellishments and orienting devices are therefore suggested only in the following locations:

- » At the northwest corner of development parcel number 5.
- » At the southwest corner of development parcel number 6.
- » At the southeast corner of development parcel number 14.

These locations are indicated on Figure 3.6. For additional specifics, please refer to the sector and parcel guidelines. The height of these elements will be subject to approval by DC Historic Preservation Review Board and the Advisory Council on Historic Preservation, as appropriate per the Deed.

All new building massing will respect build-to lines, setbacks, and height and frontage parameters described in the regulating plan.



Figure 3.8: . Hipped roofs dominate the campus.



Figure 3.9: . Cupolas are unique to several historic structures.



Figure 3.7: The cupola on Building 92 acts as an existing landmark and should be preserved in the Master Plan.

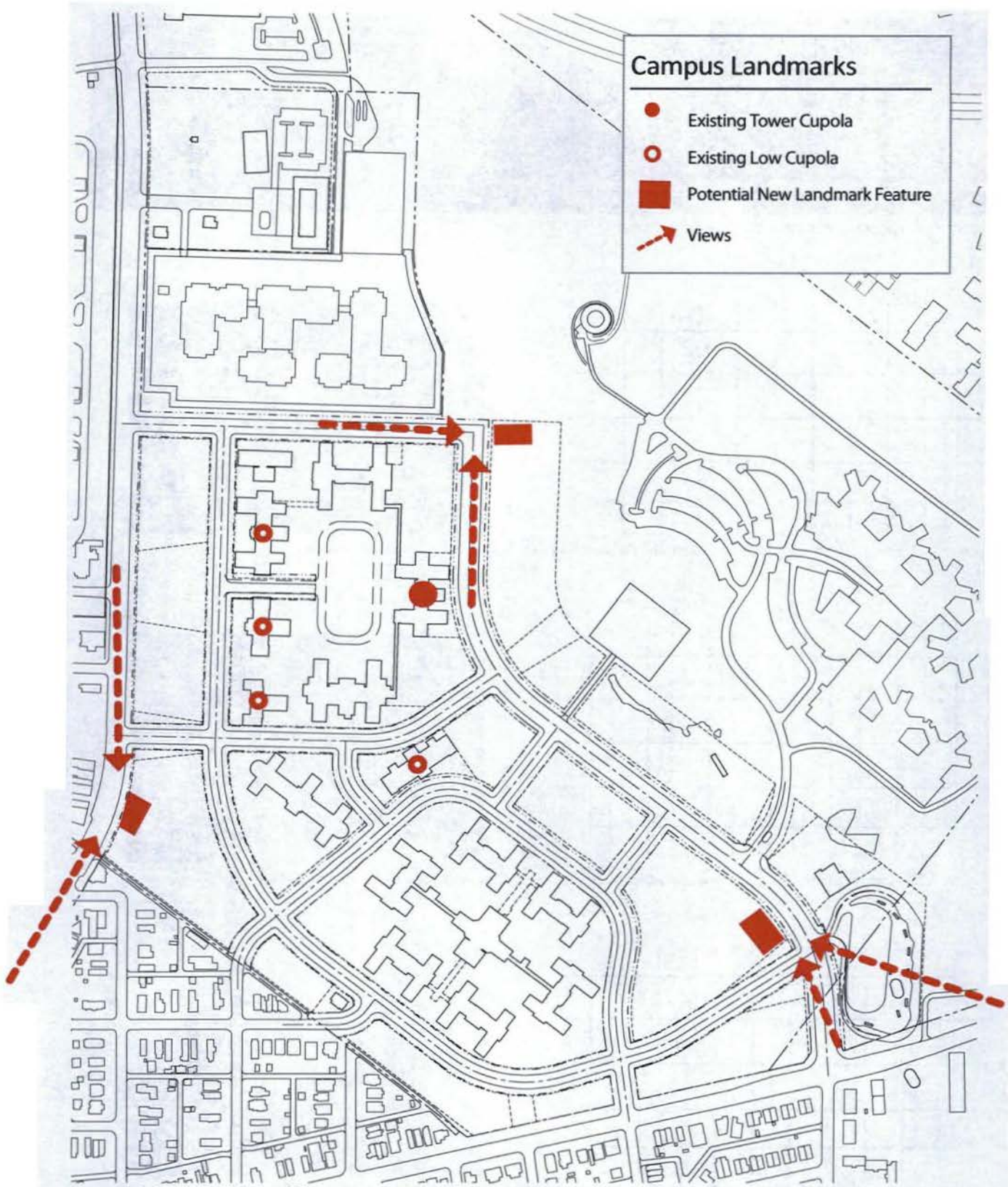


Figure 3.6: Symbolic Elements Diagram



Figure 3.10: Façade ordering in the CT Village group.

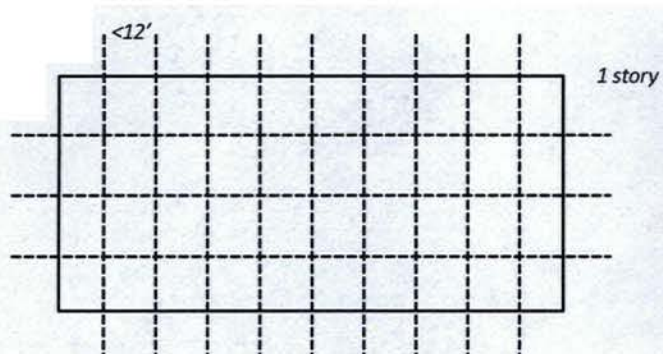


Figure 3.11: Grid pattern. Diagram and example: Palazzo Farnese, Rome, Italy, by Michelangelo.

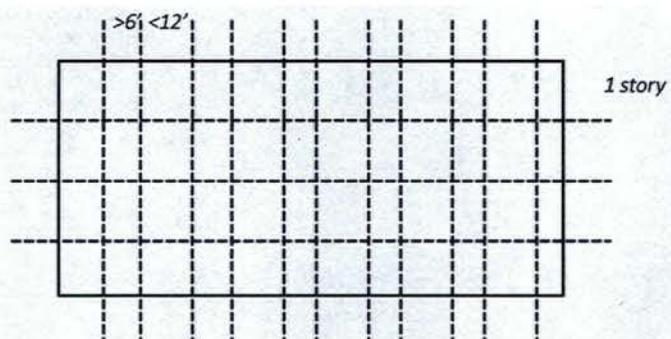


Figure 3.12: Grid variation. Diagram and example: 40 Bond Street, New York City, by Herzog & de Meuron.

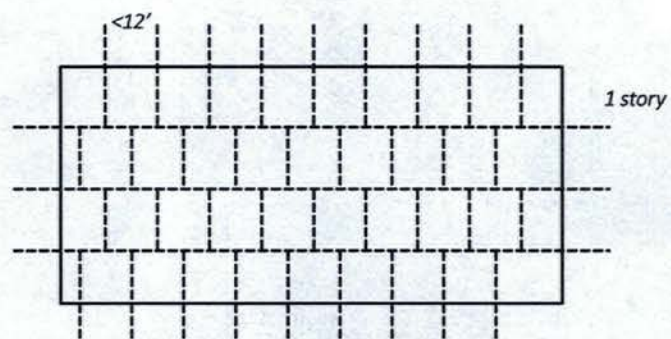


Figure 3.13: Grid shift. Diagram and example: Science Lab, Zurich, Switzerland, by Baumschlager & Eberle.

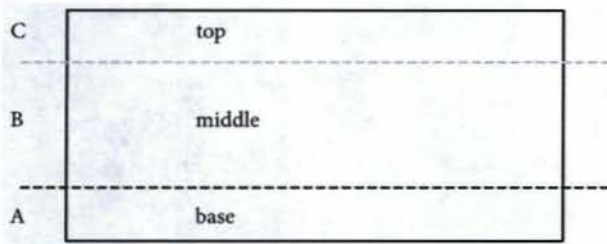


Figure 3.14: Basic façade divisions.

Division and Proportion

The massing and form of new buildings are fundamental to the coherence and compatibility of new construction at Saint Elizabeths, but will work best in concert with well-designed façades. Given that new buildings on the East Campus will vary substantially in size, shape, height, and use, special care is necessary to ensure that all new construction will be visually as well as spatially compatible with the historic site. In this regard, some lessons can be learned and incorporated from both the existing site and broader architectural conventions. This section includes related suggestions for the arrangement of building façades.

Order

Most existing historic façades at Saint Elizabeths are highly ordered and consist of a limited number of opening types and sizes, typically arranged in predictably repeating patterns (Figure 3.10). These simple ordering systems play functional roles, but also typify a design approach that defers to urban neighbors rather than calls attention to the façades themselves. In support of this deferential approach, new building façades are encouraged to establish and rigorously follow systems of geometric ordering.

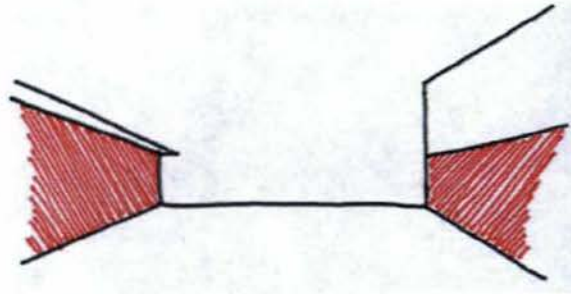


Figure 3.15: Base-eave relationship

Compositional Grid

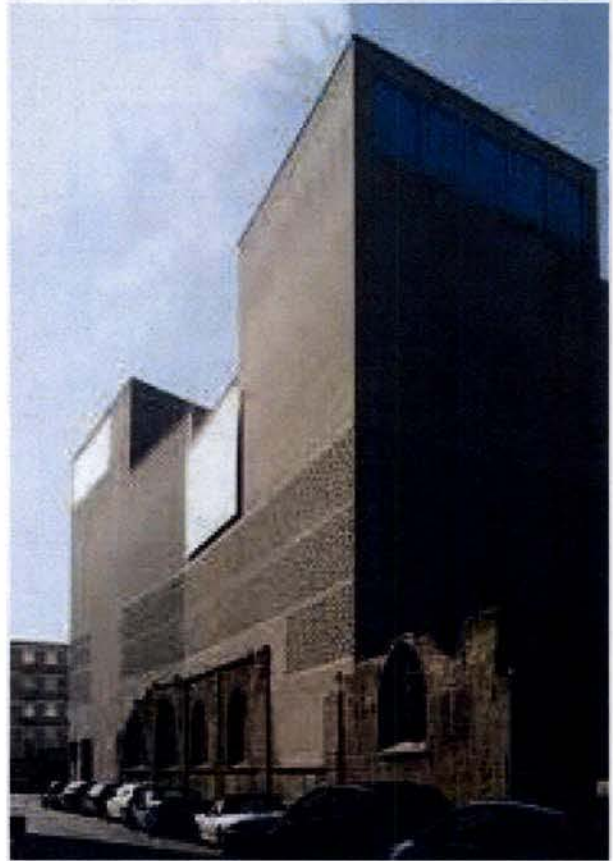
Most historic buildings at Saint Elizabeths East are symmetrically configured, but not all new building sites offer the opportunity for this formal arrangement. Fortunately, one simple means of both ordering an individual surface, and of combining an asymmetrical building with a readable façade, is the compositional grid. While all design circumstances vary, and no project is required to follow it, Figures 3.11, 3.12, and 3.13 indicate examples of a highly flexible façade ordering system that designers are encouraged to employ and adapt for new buildings.

Horizontal Layers

It is strongly recommended that each building façade incorporate three horizontal layers: base, middle, and top (Figure 3.16A). The specific qualities and relationships between these layers will be particular to an individual building's design and may be explicit or subtle. However, the general considerations involved are ubiquitous: every building façade, regardless of location, context, size, or configuration, is seen in relation to the ground, and requires entrances and related functional adjustments at that level. Likewise, each building will be seen in relation to the sky and/or



A. Horizontal banding



B. Variation in massing



C. Extended height



D. Reduced height

Figure 3.16: Examples of Top Differentiation



A. Material change



B. Setback/colonnade



C. Extended height

Figure 3.17: Examples of Base Differentiation



D. Material change and extended height

to other elements above and behind it, and designers should consider these factors accordingly.

Base

The role of the base is to address and resolve the relationship of the façade to the ground, in terms of design, construction, visual perception, and access. It is suggested that the building base comprise one to two stories in height and correspond legibly with a significant horizontal datum (e.g., the eave height) on the nearest historic structure and/or with the base height of an adjacent new building (Figure 3.16B). The design of the base should be integral to and consistent with, though not necessarily identical to, the design of the façade layers above. Means of distinguishing the base may include, but are not necessarily limited to the following:

- » Variation in actual or apparent story height (Figures 3.16C).
- » Variation in material and detail. It is recommended that the base not appear to have less visual weight than the layers above (Figures 3.17 A, D).
- » Horizontal banding (Figure 3.16A).
- » Variation in plane (Figure 3.16B).
- » Variation in window size (Figure 3.16, all).

Middle

The middle layer comprises the standard pattern of façade division within a building. It is recommended that this section consist of a minimum of two floors between the base and top layers. Should a façade employ the grid strategy described above, it would be most clearly visible in this layer.

Top

The role of the top layer is to address and resolve the termination of the upper portion of the façade. The design of the top should be integral and consistent with, though not necessarily identical to, the design of the façade layers below. Means of distinguishing the top may include, but are not necessarily limited to the following:

Variation in actual or apparent story height. The one-story limit noted above, would not apply in the top layer (Figure 3.16 C, D).

Variation in material and detail, consistent with Section 5.4, below. It is recommended that the top not appear to have greater visual weight than the layers below.

- » Horizontal banding (Figure 3.16 A).
- » Variation in window size (Figure 3.16 C, D).

Window Proportions

Window openings within existing campus buildings are typically more vertical than horizontal, as is typical of older masonry buildings. This condition poses a potential opportunity to develop compatibility between both existing and new campus buildings, as well as across the range of new buildings. New building designs are therefore encouraged to explore, develop, and deploy a height-width ratio of 1.5:1 or greater for new window openings and full-story glass lights.

Building Color, Materials and Details

The existing historic buildings consist of very few exterior materials, deployed with remarkable consistency, and each new building is encouraged to deploy a palette of similar order and coherence. As previously noted, new buildings should be compatible

