

Major Buildings at WRAMC

The following is a sampling, with photographs and brief descriptions, of noteworthy buildings in the Site. Some are notable due to their historic character and retention value, while others are rather notable for the challenges they may bring to successful redevelopment of the Site. The purpose of this section is to provide a visual snapshot of the major buildings on site represented by numbers on a plan and discussed throughout this report.

Building 1: Administration Building, 1908

Building 1 was the first building constructed on the Walter Reed campus and has been added to several times since its original construction. It serves as the focal point and identity of the former campus. The building was originally constructed as a hospital, and then turned into an administration building.



Figure 3-46: All above – Building 1. Source: Perkins+Will.

Building 82: Auto Skills Center, 1908

Originally constructed as a gas and service station, then turned into a vocational training center for automotive mechanical skills. The building was added onto in 1958.



Figure 3-48: View of service station following construction, dated 1942. Source: National Museum of Health and Medicine, AFIP, WRAMC History Collection.



Figure 3-49: Building 82. Source: National Museum of Health and Medicine, AFIP, WRAMC History Collection.



Figure 3-47: View of front elevation of Building 82, dated May 2010. Source: Oehrlein & Associates Architects.

Building 7: Main Barracks, 1910

This building was built as a barracks for the Hospital Corps/Field Hospital Company and housed 200 soldiers. Alterations to the building took place in 1992 and 2000. The building was later turned into office space.



Figure 3-53: View of Building 7, dated circa World War I.
Source: Walter Reed Directorate of Public Works Archives, Box #1, Folder #12, 09-4673.



Figure 3-50: Building 7. Source: Oehrlein & Associates Architects.



Figure 3-54: Building 7. Source: Oehrlein & Associates Architects.

Buildings 8 & 9: Officer Housing, 1910

These two structures, nearly identical, were erected to house Army officers and their families. Additions to the rear of both buildings now include multi-car garage space and added living space. The buildings continue to serve as residences.



Figure 3-51: All above – Building 8 & 9. Source: Oehrlein & Associates Architects.

Building 15: Central Heating Plant, 1915

This large, voluminous structure was constructed to provide heating to the buildings on the Walter Reed campus, and fulfill this function as it continues to operate today. For a utilitarian building, the structure incorporates many fine architectural details in its design. The interior features large, open spaces that are supplied with natural lighting through a monitor roof. The building has had numerous additions and alterations over time but still retains much of its original character.



Figure 3-55: Historic photograph showing east elevation of the Central Heating Plant, dated October 11, 1922. Source: Walter Reed Directorate of Public Works Archives, Box #1, Folder #16.



Figure 3-52: All above – Building 15. Source: Oehrlein & Associates Architects.



Building 17: Doss Memorial Hall, 1920

This building is one of the few structures on the Walter Reed campus not designed by Army professional staff. The National Catholic War Council hired F.B.A. Ware of New York City to design the structure, and then paid for its construction. The building is I-shaped in plan and had alterations in 1944. The building used to provide temporary housing on the upper levels and office space in the basement.



Figure 3-59: View of west elevation of Building 17, dated May 2010. Source: Oehrlein & Associates Architects.

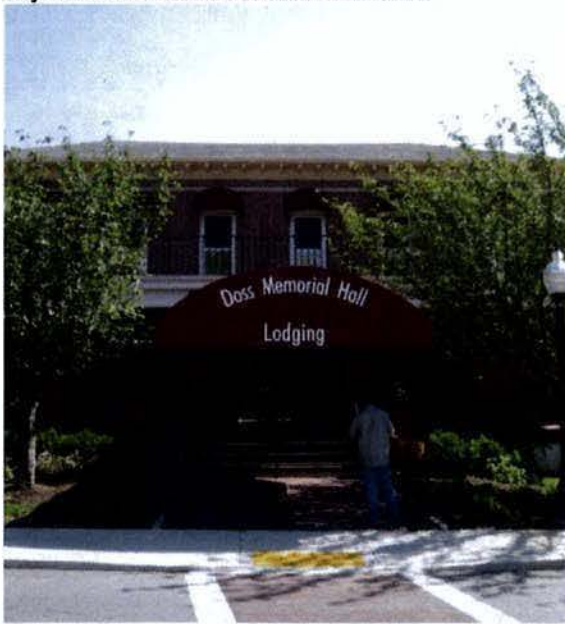


Figure 3-56: View of main entrance at Building 17, dated May 2010. Source: Oehrlein & Associates Architects.

Building 11: Delano Hall, 1929

Delano Hall was built in three major sections between 1929 and 1933. The building was originally occupied by the Nursing Corps for dormitory facilities, and then changed to house administrative and office uses.



Figure 3-60: View of Building 11 under construction, dated April 8, 1931. Source: National Archives and Record Administration, SC 590550.



Figure 3-61: View of Building 11 under construction, dated May 2010. Source: Oehrlein & Associates Architects.



Figure 3-57: Building 11. Source: Oehrlein & Associates Architects.

Building 45: Bandstand, 1941

The existing Bandstand dating from 1941 was constructed as a replacement to a previous bandstand in the same location dating from circa 1920. The structure provides for outdoor recreation space and a therapeutic healing environment for wounded soldiers.



Figure 3-58: All above – Building 45. Source: Oehrlein & Associates Architects.



Building 6: Borden Pavilion, 1997

This structure of recent construction used to provide a large volume of office space for the former Walter Reed campus. Although not having high architectural merit or historic significance, it may be worth retaining due to its good condition, size, and adaptability.



Figure 3-62: All above – Building 6. Source: Oehrlein & Associates Architects.



Buildings 2 and 4:

Hospital & Parking Garage, 1977

Constructed between 1972 and 1977, Building 2 is the largest structure on the campus and served as the main hospital facility at WRAMC until the installation closure. It is an exposed concrete structure designed under the brutalist architectural style of the 1960's and 1970's. The building was made using approximately 110,000 cubic yards of reinforced concrete.

The completed building had 5,500 rooms and had 1,280 patient beds. In 2002, the number of patient beds was down to 250 due to a diversion of space for outpatient clinics, administration and other support functions.

Unique features of the building include interstitial floors that included air conditioning, heating, electrical, plumbing and life support systems. Many of these systems have become obsolete, even after piecemeal renovations that occurred over time.

The adjacent parking garage has two levels below grade topped by a landscaped roof. It supports parking for over 1,000 cars.



Figure 3-63: Building 2 and the west end building 4 which is the green roof of the parking garage. Source: Perkins+Will.



Figure 3-64: Parking access ramp on Georgia Avenue side of the garage. Source: Perkins+Will.



Figure 3-65: Parking garage interior. Source: Perkins+Will.

Building 2A: Military Advanced

Training Center, 2007

This is a relatively small building appearing to be a steel structure clad in an exterior insulated finished system.

This center opened in 2007 to offer rehabilitating soldiers the latest in cutting edge equipment to help with their recovery. The facility is designed for ease of use and has the latest in computer and video monitoring systems and prosthetics to help enhance amputee and patient care.



Figure 3-66: Building 2A with building 2 in the background

Buildings 88: Recreation Center, 1941

Most of this building was not in use at the time of WRAMC closure. The unused portion was a natatorium and gymnasium, and the smaller portion was used as a child day care center.



Figure 3-67: View of the entrance to the Child Development on the east end of building 88.



Figure 3-69: Rear of Building 2A with building 2 on the right.



Figure 3-68: View of the former gymnasium and natatorium in building 88

ENDNOTES

1. *Walter Reed Army Medical Center Centennial: A Pictorial History, 1909-2009*, Washington, DC: Borden Institute, 2009, p. 168.



STREET PATTERN

- LRA Boundary
- Surrounding Street Pattern
- Site Orthogonal Street
- Street Responding to Topography

The former WRAMC Site has a remarkably different street pattern from the surrounding context and the rest of the City in general. The District's predominant grid street pattern does not carry through the Site, although Dahlia Street originally did. The Site instead has narrow curved roads, few parallel routes or intersections, and numerous dead ends.

An urban street grid typically provides increased connectedness; multiple parallel routes allow traffic overflow providing greater flexibility and capacity. However a street grid tends to ignore topography rather than conforming to landscape contours. Main Drive, the former campus' primary street, follows the site topography providing scenic views of both the landscape and key buildings. Other routes on the Site weave around buildings. While the street grid pattern dominates the rest of the city, on the Walter Reed Site the topography and placement of buildings tends to dominate.

Exhibit 3-70: Street Pattern

Open Space

The north-south and east-west axes from Building 1 together with the alignment of Main Drive, form the organizational basis for the entire campus. Hoff Memorial Fountain sits at a location where the building arrangements meet the topographic forms of the Site. Building 1's front lawn is of a simple design including both lawn and tree plantings. The landscape inside the Hoff Fountain circle is slightly more formal. The fountain itself is a historic site feature and further enhances the Site by providing the refreshing sight and sound of water, and visual character.

The Great Lawn, surrounded by Main Drive to the north and east, Building 14 to the west, and the Rose Garden to the south, is the paramount landscape feature on the property. In the past the lawn has served as a natural amphitheater focused on the historic bandstand and has been used for graduations, Easter services, and other functions. This space contains some of the most significant specimen trees on the campus. The lawn is the largest and most usable of the public open spaces on the property.

Located just south of the Bandstand (Building 45), at the edge of the Great Lawn, is the Rose Garden. Although not all of the components of the garden are original, the Rose Garden retains the fundamental design it has had for more than 80 years. This area is often used for relaxation and contemplation, because of the seating areas and the abundance of shade in warm summer months. The sound and cooling effect of the water greatly contribute to the comfort of this spot. The fountain is at the transition from the Rose Garden to a wooded ravine, and acts as a gateway to this space.

Of all the open spaces at the Site, the wooded ravine south of the Rose Garden retains the most natural vegetation and character. The setting has

been heavily altered over time, with ornamental trees added and allowed to grow untrimmed, and concrete retaining walls and stone steps added. Although it provides a quiet and shaded space on the campus, the location is secluded, and not very visible.



Figure 3-71: Hoff Memorial Fountain. Source Perkins+Will.



Figure 3-72: The Great Lawn. Source Perkins+Will.



Figure 3-73: The Great Lawn. Source Perkins+Will.



Figure 3-74: The Rose Garden in the Great Lawn. Source Perkins+Will.

2.4 Transportation

As a part of its transition from serving the medical needs of the United States Army to becoming a mixed-use destination within the District of Columbia, the former WRAMC campus and the surrounding transportation facilities are undergoing repurposing and reconfiguration. This section details the current state of transit services, pedestrian environment, bicycle facilities, and roadway conditions in and around the former WRAMC campus and discusses future improvements proposed as a part of the Small Area Plan (SAP) surrounding the former WRAMC campus.

As part of the Reuse Planning process, an in depth transportation analysis of the Site and surrounding street network was completed. The SAP takes into consideration the Transportation Impact Study (TIS) analysis and highlights those recommendations in the Transportation Recommendations Section. The full TIS report can be found in Appendix C.

Overview of Regional Access

The existing WRAMC is situated in Northwest Washington, DC. Regional mobility and site access are provided by bus and rail transit, principal arterials, and regional multi-use bicycle trails. The Site is within a 15 minute walk of the regional Metrorail system and is directly served by an express bus network. These transit services link the Site with downtown Washington, DC, major population centers in Maryland and Virginia, national rail service, and the region's three airports: Ronald Reagan Washington National Airport, Washington Dulles International Airport, and Baltimore/Washington International Thurgood Marshall Airport.

A trip between the Site and downtown Washington, DC takes approximately 25 minutes by

Metrobus. Traveling by Metrorail would require a similar amount of time due to the time required to travel between the Site and the Takoma Metrorail station, which is the station located nearest to the Site; once at the station, the rail trip takes approximately 15 minutes. These time estimates, including those listed below, were developed using GIS mapping and routing software. Estimated travel times are based on travel between the intersection of Dahlia Street and Georgia Avenue and the Metro Center Metrorail station located at 13th Street and G Street.

The adjacent roadways provide connections between the Site and the regional and national network. 16th Street and Georgia Avenue, which border the Site to the west and east, respectively, are principal arterial roadways in the District and link the Site with downtown Washington, DC to the south and Silver Spring and the Capital Beltway to the north. A private vehicle trip from the Site to downtown Washington, DC, which is approximately 5 miles, takes 15 minutes. A trip between the Site and the nearest Capital Beltway access point, which is located approximately 3 miles from the Site, takes 8 minutes.

The Site is located within cycling distance of a regional network of multi-use trails, including the Metropolitan Branch Trail and the Capital Crescent Trail. These trails are commuter and recreational corridors that provide mobility throughout the study area and the region. There are on-street bicycle facilities in the study area that provide access to the multi-use trails and regional destinations. A bicycle trip between the Site and downtown Washington, DC via the on-street bicycle network takes approximately 30 minutes.

Because of these connections to the regional street network and to nearby multi-use trails, there are no major barriers to site mobility and accessibility throughout the Washington, DC region. However, although the Site is well-

connected to the adjacent roadway network via the local street grid, east-west connectivity with Chevy Chase and other neighborhoods to the west is limited due to the finite number of connections through Rock Creek Park, which is located immediately adjacent to the Site on the west side of 16th Street.

Overview of Local Access

The existing WRAMC is located adjacent to the Brightwood, Takoma, and Shepherd Park neighborhoods. These neighborhoods are predominantly residential with some pockets of commercial activity. Neighborhood mobility is provided by local transit service, arterial and local roadways, sidewalks and crosswalks, and signed bike routes and on-street bike lanes. The Site is bound by Georgia Avenue, Fern Street, 16th Street, and Aspen Street.

The local transit network consists of bus service along 16th Street, 14th Street, Alaska Avenue, Georgia Avenue, 5th Street, Blair Road, Aspen Street, and Butternut Street. These bus routes have stops located immediately adjacent to the Site and every few blocks along each bus route. Bus service links the Site with the Takoma Metrorail Station, Silver Spring, and downtown Washington, DC. Several stops near the Site have shelters, route information, and seating.

The study area's roadway network consists of principal arterials, minor arterials, collector roads, and local roads. The network surrounding the Site is laid out in a grid pattern with a few avenues and roadways that bisect the network diagonally. Intersections are located at regular intervals and most streets located in the study area are two-way except portions of 8th Street NW, Van Buren Street, and Hemlock Street. The roadway network provides good traffic circulation throughout the study area, allowing for multiple



routing options for drivers and dispersing vehicles throughout the roadway network.

Access to the existing WRAMC was provided through several gates, which are located along the periphery of the campus. However, several of these gates have been closed following the relocation of the Hospital. Currently, the gate located at 16th Street and Main Drive is the only gate that still provides access to the remaining on-site uses.²

Travel through the study area by vehicles, pedestrians, and bicyclists are obstructed by the WRAMC due to the site security. It cuts off direct north-south and east-west traffic traveling through the study area because the roadways are blocked by the now closed campus gates and do not connect through the Site. North-south travel along 13th and 14th Streets is impeded, as well as east-west travel along Dahlia Street, Butternut Street, and Elder Street. However, the impact to east-west travel is not as great as to north-south travel due to Rock Creek Park, which provides an additional barrier to east-west movements in the study area. Vehicles, pedestrians, and bicyclists traveling on these study area roadways must circulate around the Site or take alternate routes through the study area. However, with the proposed redevelopment of WRAMC, these access points will be fully operational.

Pedestrian facilities are provided throughout the study area, including sidewalks, curb ramps, crosswalks, and pedestrian signals. Conditions are acceptable for pedestrians, shade is provided by mature trees, sidewalks are buffered from traffic by a planting strip and on-street parking, and traffic speeds are low along most collector and local roads. However, the following roadways do not have continuous sidewalks on both sides of the street, Aspen Street, Luzon Avenue, Geranium Street, and Blair Road. Pedestrian volumes are highest along Georgia Avenue near

bus stops and between the Site and the Takoma Metrorail station, which is approximately one-half to three-quarters of a mile from the future Town Center of the Site. The 2009 DDOT Pedestrian Master Plan identified Georgia Avenue as a high hazard corridor due to high traffic speeds and volumes.

On-street bicycle lanes are provided along 14th Street south of Aspen Street and on Piney Branch Road between Butternut Street and Underwood Street. Beach Drive, 8th Street, and Piney Branch Road are signed bike routes. Riding bicycles on sidewalks is permitted in the study area. The DDOT 2011 Bicycle Map indicates that cycling conditions are fair to poor along 16th Street and Georgia Avenue due to traffic speeds, traffic volumes, and roadway conditions. There is limited bicycle parking throughout the study area, and cyclists frequently use street signs or other objects to secure their bicycles.

The existing WRAMC obstructs north-south bicycle traffic along 14th Street. This is not a major obstruction for regional bicycle traffic because bicyclists must use 16th Street or Georgia Avenue north of the Site. However, the Site does impact local traffic between the residential uses north and south of the Site along 14th Street. Bicycling is possible along most local roads in the study area. Within the Site, there are no bicycle facilities, but low traffic speeds and wide street widths allow cyclists on the Site to ride along all Site roadways. These cyclists are currently required to access the Site via the only available driveway at 16th Street and Main Drive.

On-street parking is provided throughout the study area along all streets, including 16th Street, Georgia Avenue, and others. Most study area parking spaces require residential parking permits, though some spaces are metered or unregulated. The remaining areas prohibit

parking during peak periods and are unregulated during off-peak periods.

Vehicular Access and Circulation

Travel by privately-owned vehicles is common in the outer sections of the District of Columbia in the vicinity of the WRAMC campus. As such, the campus is well-suited to vehicular travel owing to its location between major north-south commuter roadways like Georgia Avenue and 16th Street, which directly border the campus to the east and west, respectively. This section provides an overview of conditions along the external and internal roadways, vehicular connections between the Site and the surrounding street network.

External Roadways

The Site is bordered on the east and west by Georgia Avenue and 16th Street, respectively, both major north-south roadways connecting the Site with major regional destinations like downtown Washington, DC to the south and Silver Spring and the Capital Beltway to the north. These routes serve highly directional commuter traffic volumes of around 30,000 vehicles per day, largely due to their design as major commuter arterial roadways and how the existing street network and local barriers like Rock Creek Park serve to concentrate traffic along these corridors.

East-west traffic around the former WRAMC campus is more local in nature. The residential character of the east-west streets through the surrounding neighborhoods limits traffic speeds, while the presence of Rock Creek Park to the west and CSX and Washington Metropolitan Area Transit Authority (WMATA) railroad tracks to the east presents a barrier to long-distance east-west travel. Therefore, east-west traffic in the vicinity of the former WRAMC campus is distributed across the street grid and the campus' security

perimeter does not present a significant impediment to vehicular mobility.

Security Perimeter and Internal Conditions

As with the other travel modes, the closure of the former WRAMC campus has limited vehicular site access. The former WRAMC campus was closed to through traffic throughout the time it was operating as a hospital; the redevelopment will finally allow the Site to be open. When the Site was open as a hospital there were five (5) gates into campus, the only access now available to travelers is through the Main Drive gate along 16th Street. While this single security gate limits the convenience of access to the former WRAMC campus, the fact that this gate is located along 16th Street, a major arterial roadway for traffic traveling into and out of DC means that the low volumes using the campus are generally well-served by the current access scheme.

Once inside the security perimeter, traffic circulation occurs along a network of two-lane, two-way roadways including Main Drive, 12th Street, Service Road (13th Street), Dahlia Road and North Road. The numbered streets accommodate north-south movements while Main Drive, Dahlia Road, and North Road accommodate east-west movements. Although this network provides sufficient means to access all buildings and facilities within the former WRAMC campus, the existing configuration restricts overall site circulation because of the limited number of north-south connections across the Site.

Main Drive is the primary east-west link between the 16th Street gate and the currently closed gates along Georgia Avenue. Traffic calming measures are in place along the length of Main Drive, including speed humps, relatively narrow travel lanes, and two traffic circles. However, throughout the former WRAMC campus all inter-

nal intersections are stop-controlled and the posted speed limit is 15 mph.

Transit Service Access and Circulation

Metrorail and Metrobus services connect the Site with other District neighborhoods and the Washington-Metropolitan region. The WRAMC is primarily serviced by the WMATA express and local bus service along the 16th Street and Georgia Avenue corridors.

Metrobus

The former WRAMC Campus is serviced by five major Metrobus lines in the study area, as shown on "Table 3-74: Nearby Transit Services". Stops for these services are located along streets adjacent to the Site, including 16th Street, Alaska Avenue, Aspen Street, and Georgia Avenue. Two of these services, the Georgia Avenue Metro Extra Line and the 16th Street Express provide high-quality, limited-stop service between the Site, Metrorail,

and major regional destinations. Other bus lines in the area compliment these express lines by providing service around the clock.

Metrorail

Metrorail service is provided via Takoma station on the Metrorail Red Line, approximately ¾-mile from southeastern corner of the former WRAMC campus. To the north, the Red Line connects the WRAMC Site to Silver Spring and Glenmont in Montgomery County, Maryland, while to the south the Red Line provides service to downtown, Union Station, Gallery Place/Chinatown, and Metro Center before swinging north through Chevy Chase into Bethesda in Montgomery County.

The station entrance is located at Cedar Street/Carroll Street just west of Eastern Avenue. The station provides a limited amount of short-term metered parking spaces along with a number of bicycle racks and lockers and 9 carsharing

Route #	Route Name	Destinations	Service Hours	Headway
52, 53, 54	14th Street Line	Takoma, U Street, Columbia Heights, L'Enfant Plaza	Monday-Saturday: 24-hour service Sunday: 4:10 AM - 2:30 AM	Weekday: 10-30 min Saturday: 15-30 min Sunday: 20-40 min
70	Georgia Ave - 7th Street Line	Silver Spring, Petworth, Chinatown	Monday-Saturday: 24-hour service Sunday: 4:45 AM - 2:45 AM	Weekday: 10-30 min Saturday: 10-40 min Sunday: 12-30 min
79	Georgia Avenue Metro Extra Line	Silver Spring, Petworth, Chinatown	Weekday: 6:00 AM - 7:00 PM No service on weekends	7-12 min
S2, S4	16th Street Line	Silver Spring, Columbia Heights, Metro Center	Monday-Saturday: 24-hour service Sunday: 4:45 AM - 2:15 AM	Weekday: 5-30 min Weekend: 15-40 min
S9	16th Street Express	Silver Spring, Columbia Heights, McPherson Square	Weekday: 6:30-10:30 AM, 3:00-7:00 PM No service on weekends	10 min
Metrorail Red Line	Service from Takoma Station	Silver Spring, Shady Grove, Bethesda, Downtown DC	First Train: 5:12 AM (7:12 AM Sat/Sun) Last Train: 12:21 AM (3:21 AM Fri/Sat)	Weekday: 3-6 min Weekend: 6-15 min Evening: 10-15 min

Table 3-75: Nearby Transit Services. Source: Gorove/Slade



spaces in the immediate vicinity. 9 bus bays provide connections to the local public transportation network.

There is generally good connectivity between the Site and the Takoma station for pedestrians and cyclists, although improvements are possible. This station is slightly beyond the ideal walking distance for transit access, but it is ideally suited for bicycle access from the former WRAMC campus. There is adequate auto access and some parking to accommodate those arriving by car. The Metrobus 14th Street Line also provides an efficient alternative for accessing the Metrorail system.

Between the various Metrobus services adjoining the former WRAMC campus and the multiple options available for accessing Metrorail service at Takoma station, the level of transit service provided around the campus results in generally high transit usage.

Truck Access and Circulation

Prior to the closing of WRAMC, the campus accommodated truck access only at the 16th Street and Main Drive gate. Since the 16th Street entrance is the only security gate that continues to provide access to the Site, all vehicular access must now share this location as well.

The Main Drive gate has two ingress lanes. The southernmost lane is used to channel and screen trucks entering the Site. Once on site, trucks may circulate freely, but most truck traffic is concentrated along 14th Street, Dahlia Street, and North Road since most building loading facilities are located along these streets. However, following the closing of the WRAMC, vehicular and truck volumes have dropped significantly due to the non-operational nature of the Site.

Pedestrian Access and Circulation

A range of pedestrian facilities are provided throughout the area surrounding the former WRAMC campus, including sidewalks, curb ramps, crosswalks, and pedestrian signal heads with countdown displays. Conditions are acceptable for pedestrians: shade is provided by mature trees, sidewalks are buffered from traffic by plant boxes and on-street parking, and traffic speeds are low along most collector and local roads. Nearly all streets in the study area feature planted buffers between sidewalks and the curb in addition to on-street parking that helps to provide an additional buffer between pedestrians and vehicular traffic.

Interface with Surrounding Neighborhood

Pedestrian volumes around the former WRAMC campus are highest along Georgia Avenue, near bus stops, and between the Site and the Takoma Metrorail station, approximately $\frac{3}{4}$ mile away. Because of the concentrated level of pedestrian activity in this area stemming from retail availability and transit accessibility, the 2009 DDOT Pedestrian Master Plan identified Georgia Avenue as a high hazard corridor due to high traffic speeds and volumes.

Routes between the Site and the Takoma Metrorail station have generally good walking conditions. Sidewalks are provided along both sides of the street along all major routes between the Site and the Takoma station, although the longer-than-ideal walking distance and moderate topographical changes along the route may discourage some users from walking between the site and the rail station. These users may choose to access the station via bicycle or the Metrobus 14th Street Line.

Surrounding the former WRAMC campus, existing sidewalks provide connectivity to the adjacent neighborhood excluding Aspen Street. Side-

walks connecting the former WRAMC campus to the community currently do not exist along the northern edge of Aspen Street between Georgia Avenue and 16th Street.

Pedestrian Connectivity

As previously mentioned, existing security restrictions in place around the former WRAMC campus currently restrict site access to only the Main Drive gate off of 16th Street. This location is not close to major pedestrian destinations, and the high vehicular traffic volumes and speeds along 16th Street do not present favorable pedestrian conditions.

However, the single access location means that despite the less than ideal conditions all pedestrians within the Site must enter and exit via the 16th Street gate. This gate is over $\frac{1}{2}$ mile from the Georgia Avenue commercial corridor. Therefore, it is likely that pedestrian access at the 16th Street gate will consist largely of bus arrivals.

Finally, as stated previously the former WRAMC campus security restrictions interfere with external pedestrian circulation by causing pedestrians to divert around the campus in order to reach their desired destination.

Internal Pedestrian Facilities

Once inside the WRAMC Site, moderate travel speeds and low traffic volumes create generally favorable conditions for pedestrians. Main Drive and Dahlia Street serve as the main pedestrian access routes and feature sidewalks along both sides of the street, curb ramps, and striped crosswalks. Signs along these roadways identify roadway crossings and instruct drivers to yield to pedestrians. Additionally, traffic calming measures such as speed humps, narrow travel lanes, and traffic circles are located throughout the Site to limit traffic speeds and improve pedestrian safety.

Although some missing or poor pedestrian facilities can be found on the periphery of the Site, the majority of on-site pedestrian activity occurs between buildings within the central campus and between buildings and parking facilities, therefore largely avoiding the outlying roadways with substandard sidewalk facilities.

North-south access on the former WRAMC campus is served by a network of sidewalks and paved pathways, most notably along 12th Street. However, this route is also limited by elevation change, frequent driveways and curb cuts, and incomplete crosswalks south of Main Drive, contributing to the generally discontinuous nature of pedestrian pathways along the edges of the Site. It should be noted that some of the internal pedestrian facilities do not meet DDOT standards.

Bicycle Access and Circulation

The Site is located within cycling distance of a number of existing regional multi-use trails, including the Metropolitan Branch Trail, Beach Drive and Rock Creek Park trails, and the Capitol Crescent Trail. These trails are commuter and recreational corridors that provide mobility throughout the greater Washington region. There are also a variety of on-street bicycle facilities around the former WRAMC campus that provide access to regional destinations.

On-street bicycle lanes are provided along 14th Street south of Aspen Street, directly adjoining the former WRAMC campus to the south and stretching south to Columbia Heights. Limited facilities also exist along Piney Branch Road between Butternut Street and Underwood Street, connecting a signed bicycle route that stretches between the Metropolitan Branch Trail at the Takoma Station and downtown DC via Columbia Heights. 8th Street also provides a signed bicycle route stretching south to Petworth.

The DDOT 2011 Bicycle Map indicates that high travel speeds, traffic volumes, and on-street conditions contribute to poor cycling conditions along 16th Street and Georgia Avenue. This leads to many bicyclists riding on the sidewalk on these streets.

By contrast, fair to good bicycling conditions exist along the east-west streets connecting the former WRAMC campus to the Takoma Metrorail station. The residential character of these streets and the generally low travel speeds and traffic volumes that exist within the Takoma neighborhood makes bicycling an attractive means of connecting to the Metrorail system.

As with the pedestrian network within the former WRAMC campus, the interface between external bicycle paths and the internal bicycle network is limited by the closed nature of the former WRAMC campus as it currently exists. The former WRAMC campus presents an impediment to regional bicycle travel external to the Site by requiring cyclists to circulate around the campus due to its restricted security perimeter. Furthermore, the 16th Street entrance at the Main Drive gate does not present favorable conditions for bicycle access due to vehicular traffic along 16th Street itself in conjunction with the lack of connections between the gate and formal bicycle facilities.

Within the Site itself, there are no dedicated bicycle facilities. Currently, the generally narrow two-lane roadway cross-sections with low volumes within the Site keep vehicular travel speeds low and therefore allows cyclists to ride along all site roadways in relative safety. However, there is limited bicycle parking throughout the study area and cyclists were observed using street signs or other objects to secure their bicycles because of this deficiency.

Parking

The existing WRAMC campus includes a total of 4,508 parking spaces, with 2,341 of these spaces located within the LRA boundary which includes on and off street parking. The majority of these spaces are located within existing parking structures below Abrams Hall (Building 14) and the Heaton Pavilion (Building 2). These facilities are largely unused, due to the campus being previously closed off, but are potentially available for future reuse.

ENDNOTES

1. *The study area encompasses all of the intersections included in the TIS (Appendix C), which is an area of nearly 2.0 square miles. The overall general boundaries are the DC boundary line, 16th Street, Military Road/ Missouri Avenue, Georgia Avenue and Eastern Avenue.*
2. *At the time of the drafting of the Reuse Plan and the Small Area Plan the only gate open to the public was the gate on Georgia Avenue and 16th Street; however, as long as the Army is the owner of the property they may change which gate or gates are open. Once the property has been moved from Army ownership to District government and ultimately private ownership, all the streets will become part of the city's grid rather than being limited access gates.*



2.5 Market Analysis

Demographics

The Site is situated in Ward 4 in Northwest Washington, DC, among five very stable neighborhoods: Brightwood, Shepherd Park, Colonial Village, Takoma, and Manor Park. In 2000, there were approximately 25,000 people within 1-mile of the site. While this Ward experienced a slight population increase of 594 persons or 0.8% between 2000 and 2010, the area within a 1-mile radius of the site grew at a faster rate. In 2010, the population within the 1-mile radius of the study area was 26,300 which translates into an annual growth rate of 0.51% between 2000 and 2010. (See "Table 3-76: Population Growth Trends").

The District has now reversed its negative population growth rate prior to Census 2000 and has experienced a rapid population increase of 5.2% from 2000 to 2010. Due to an even more significant population increase from 2010 to 2011 of 16,273 people or 2.7% in just one year, the next decade is expected to reflect an aggressive population growth that will most likely impact positively on urban redevelopment.

The market analysis conducted for the Reuse Plan looked at the projected growth rate for the study area, as well as projected growth rates for the District and the region. The market study assessed the impact of a range of growth scenarios for the study area. Using this average annual growth rate for the region (0.9%) suggests that the population within 1-mile of the site is expected to grow to 30,000 by 2020. Assuming a growth rate that is more similar to the fastest-growing county in the region, Fairfax County (1.1% per annum growth rate), the population within 1-mile of the site could grow as high as 31,200 in 2020. However, if the population in

this area were to grow at the 2.7% rate, which the District as a whole recently experienced from 2010 to 2011, the population would be as high as 38,500 in 2020.

The population within 1-mile of the Site had a median household income of \$55,500 in 2010, which is slightly lower than the District's overall median household income of \$60,900. (See "Table 3-75: Median Household Income Trends (2010 Dollars)"). The closest central business district to the study area is Silver Spring. While its median household income is \$71,606 (higher than the 1-mile area of the Site), the study area does contain pockets of higher-income households, such as Shepherd Park and northwest portions of Takoma, which have a median income of \$61,055. (See the Walter Reed Army Medical Center Re-Use - Market Study in Appendix B for more information).

	1 mile radius: Median Household Income	Annual % Change
1990	\$62,600	
2000	\$58,100	- 7.0%
2010	\$55,500	- 4.5%

Table 3-76: Median Household Income Trends (2010 Dollars)

	1 mile radius: Population	Annual % Change
2000	25,000	
2010	26,300	0.51%
2015	28,700	0.9%
2020	30,000	0.9%

Table 3-77: Population Growth Trends



Market Analysis

An assessment of reuse opportunities for the Site, established during the Reuse Planning process, explored two potential market-based programs for the Site:

1. Demand-Supported Development Program; and
2. Contingent Development Program

Demand-Supported Development Program

This program is an assessment of existing site and market conditions. The Demand-Supported Program reflects a mix of uses which are primarily driven by revenues and expenses, and for which projected market demand is assumed to drive locational decisions of users. These uses include traditional market sectors – retail, residential, commercial office, and hospitality.

Demand-Supported Development Program Projections

The demand-supported development program uses ten-year economic and demographic projections for the study area and the region, and takes into account the anticipated development pipeline. The analysis assumes that the Department of State (DOS) will control a 43.57 acre portion of the Walter Reed Site to the west of the District's parcel. The DOS anticipates a Foreign Mission Center (FMC) to include offices and embassies that support foreign missions in the United States; the FMC is only roughly planned at this stage.

Trends in the real estate market of the surrounding area projects changes in market demand for housing, retail, office space and hotel. Pipeline development and comparable sales and project

information were considered in the projection of demand for multiple building types. NOI Uses were incorporated into the Demand-Supported program. The consultant team also used the following three additional tools to fully vet the potential of the Site:

- Developer Focus Groups: Roundtable discussions with more than 20 development firms were held by the LRA to identify development opportunities and constraints, as well as key implementation considerations;
- Development Case Studies of Comparable Sites: An analysis of local and national development projects with characteristics similar to Walter Reed helped identify program opportunities and implementation considerations.
- Request for Ideas (RFI) for Building 1: Solicitation to a wide range of industry and non-profit organizations, released by the LRA, helped determine interest in and ideas for a corporate or institutional re-use of Building 1 (the original hospital building).

Contingent Development Program

This program identifies certain conditions, or "demand drivers," that would allow for increased programming of particular land uses. The following three contingent demand drivers have the potential to significantly increase demand for each land use on site:

- Accelerated timing for operational streetcar service: Moving the streetcar operational service date forward to the year 2015 would increase short-term residential demand for the Walter Reed campus due to the enhanced access it would provide residents to downtown DC;
- Destination retail anchor: Attracting a destination retail anchor would draw consumers from a larger market from throughout the DC area, increasing retail traffic on the Site and attracting strong demand for other retailers to locate nearby;
- Corporate, academic, or medical anchor tenant: Attracting a large office-use tenant could significantly increase demand for office space, possibly establishing the Site as an office location and attracting related office demand.



Figure 3-78: Demand-supported program



Contingent Development Program Projections

Coordinated community and government efforts in key areas could expand the Demand-Supported Program recommendation. The analysis considered what the potential impact would be if the District could attract a commercial office and destination retail tenant, and accelerate implementation of streetcar development. These outcomes, if occurring simultaneously, could result in the recommended Contingent Program. The impact of the three incremental demand drivers would include the following:

- Impact of accelerated timing for operational streetcar service: Streetcar is defined as an operational streetcar line that connects Walter Reed to the Metrorail system or to employment centers in Silver Spring, Maryland and downtown Washington, DC. The Demand-Supported Program assumes streetcar service to Walter Reed is operational in 2020. The Contingent Program assumes that operational date is at least five years sooner. Increase the Demand-Supported residential program by 1,130 units for a total of 2,110 units;
- Impact of a destination retail anchor: A retailer that draws customers from beyond a two-mile radius and therefore increases capture rates of retail demand. Destination retailers may include department stores (e.g. Kohl's), wholesalers (e.g. Costco) and large-format specialty stores (e.g. Harris Teeter). Increase in the Demand-Supported retail program by 75,000-100,000 square feet for a total of 150,000-200,000 square feet;
- Impact of a corporate, academic, or medical anchor tenant: A single user or a cluster of cooperative users that have an immediate or planned need for more than the 200,000 SF

offered in Building 1, catalyzing demand for at least an additional 50,000 - 200,000 SF of new office space of complementary office users; Increase the Demand-Supported office program by 50,000-200,000 square feet for a program total of 620,000-770,000 square feet.

The impact of a destination retail anchor on this area of the city would be significant. There are few destination retail areas in the city overall and the area around Walter Reed in particular has less retail than many other areas. Having a destination retailer would draw both visitors from the immediate surrounding neighborhoods but also from a wider catchment area – helping to draw a stronger retail tax base for the city.



Figure 3-79: Contingent Program Summary

3

REDEVELOPMENT FRAMEWORK RECOMMENDATIONS

Walter Reed Army Medical Center, Washington, D.C.: Historic photo of the Walter Reed Army Hospital (Building 1) (looking northeast).



Redevelopment Framework

The Redevelopment Framework lays out the development strategy for the former Walter Reed Army Medical Center (WRAMC) Small Area Plan, which will reinforce and augment the existing site character through the use of selective development infill that corresponds to the types of buildings that are currently found on the Site. This will ensure that the integrity of the historic buildings and landscapes is maintained, while infusing the Site with new programs and uses.

"Exhibit 4-79: Proposed Development from the Walter Reed Reuse Plan July 13, 2012", is an illustrative site plan providing a guideline for development based on the WRAMC Reuse Plan market feasibility program. This Plan illustrates potential building footprints with heights that would fit the Site based on the Reuse Plan market feasibility program. The illustrated footprints are only a test-fit for how the program might work in the Site while serving as a massing guideline and recommendation for future build-out.

The Proposed Development Plan takes into account the existing rights-of-way and distributes the program space in buildings that will be designed to be sensitive to their historic context and surrounding community.

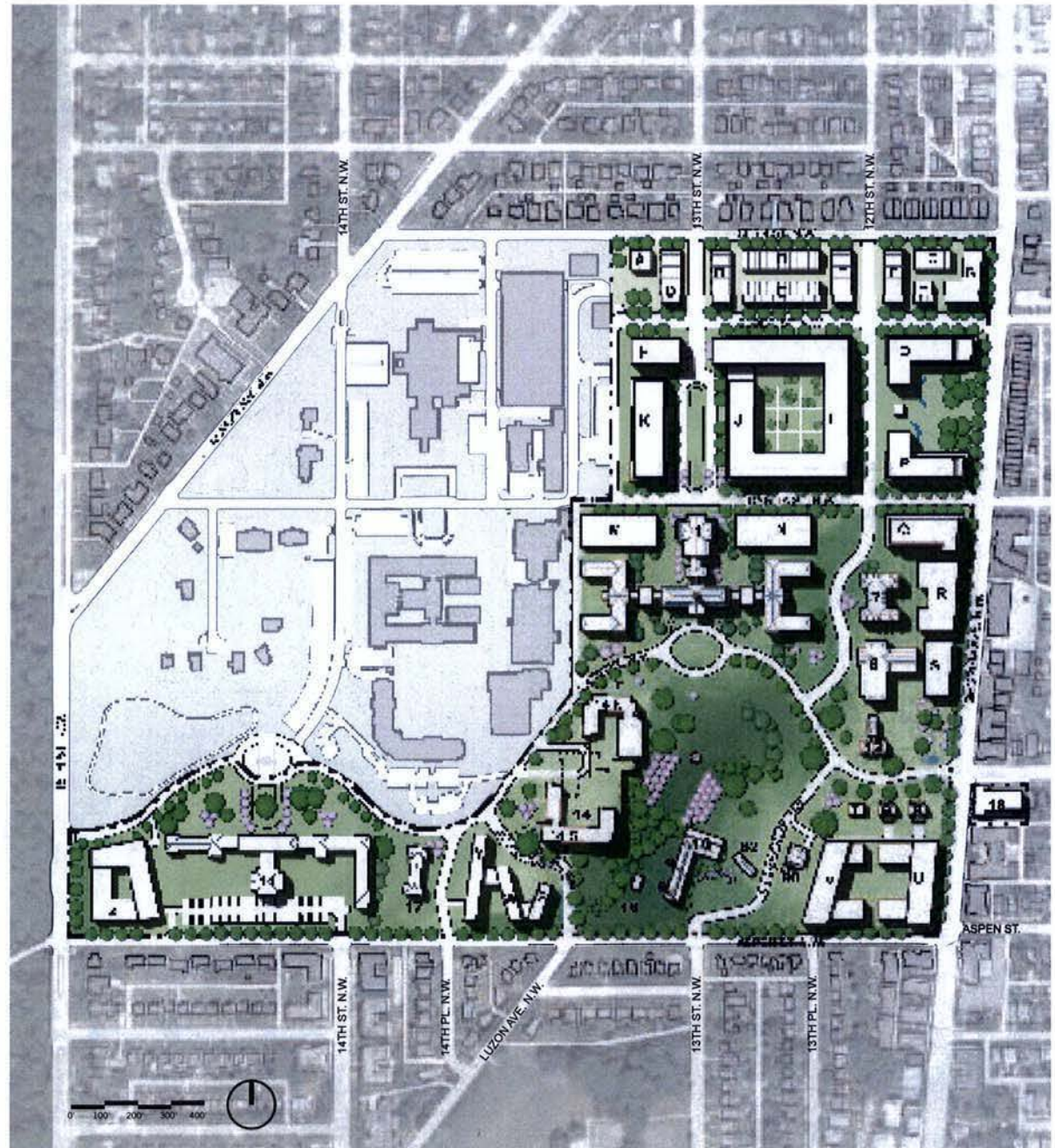


Exhibit 4-80: Proposed Development from the Walter Reed Reuse Plan July 13, 2012 Source: Perkins+Will



3.1 Comprehensive Plan Land Use Designations

The Council-approved Reuse Plan specifies the proposed land uses for redevelopment of the former WRAMC Site (See "Exhibit 4-79: Proposed Development from the Walter Reed Reuse Plan July 13, 2012" on page 58). These uses include residential, institutional/corporate, educational, public facility, open space, as well as mixed uses. The Site is currently designated as "Federal" on the Future Land Use Map of *The Comprehensive Plan of the National Capital: District Elements* (Comprehensive Plan). In order for new development to occur on the Site, new land use designations must be determined so that zoning can be established for future development. Zoning must not be inconsistent with the provisions of the Comprehensive Plan.

The Council-approved Reuse Plan is the foundation for the following Comprehensive Plan land use designation recommendations for the Site. Specifically, these land use designation recommendations are consistent with the Reuse Plan's development densities as depicted in "Exhibit 4-79: Proposed Development from the Walter Reed Reuse Plan July 13, 2012" on page 58.

The SAP recommends land use designation changes. To facilitate these land uses, it is anticipated that a Zoning Map amendment would occur after the SAP is approved by Council. The SAP assumes that the new zoning would permit the proposed development, including any affordable housing, by-right (without requiring additional Zoning Commission review).

However, the ability to request a planned unit development (PUD) should be limited. A PUD is a discretionary, project-specific zoning case which typically includes requests to increase building height or density. Each PUD that is heard and decided by the Zoning Commission, includes public review and comment, and is intended

to encourage high quality developments that provide public benefits. Within the Walter Reed Small Area Plan boundaries, a PUD should not be utilized to increase height or density for any site with frontage along Fern Street NW, Aspen Drive NW, or 16th Street NW, and additional height or density through a PUD on any other site should be limited. The PUD development should mitigate any potential impacts of the increased height or density, and provide commensurate public benefits to the neighborhood beyond what is anticipated or required by the Small Area Plan, the Land Disposition Agreement, or other applicable requirements associated with the Site.

The recommended land use designations for the Site range from low to moderate to medium densities for residential and commercial development, as well as open space designations. "Exhibit 4-80: Comprehensive Plan Land Use Designation Recommendations" on page 61 depicts the specific land use designations for the Site. Definitions for each of the land use designations are as follows:

- **Low Density Residential (RLD):** Defines the District's single family neighborhoods. Single family detached and semi-detached housing units with front, back, and side yards are the predominant uses.
- **Moderate Density Residential (RMOD):** Defines the District's row house neighborhoods as well as its low-rise apartment complexes. Also applies to areas characterized by a mix of single family homes, 2-4 unit buildings, row houses, and low-rise apartment buildings. In some older inner city neighborhoods with this designation there may also be existing multi-story apartments.
- **Medium Density Residential (RMED):** Defines neighborhoods or areas where mid-rise (4-7 stories) apartment buildings are the predominant use. Pockets of low and moderate density homes may exist within these areas. This designation also may apply to taller residential buildings surrounded by large areas of permanent open space.
- **Low Density Commercial (CLD):** Defines shopping and service areas that are generally low in scale and character. Retail, office and service businesses are the predominant uses. Areas range from small business districts that draw primarily from the surrounding neighborhoods to larger business district uses that draw from a broader market area. Their common feature is that they are comprised primarily of one-to three-story commercial buildings.
- **Moderate Density Commercial (CMOD):** Defines shopping and service areas that are

somewhat more intense in scale and character than the low-density commercial areas. Retail, office, and service businesses are the predominant uses. Areas range from small business districts that draw primarily from the surrounding neighborhoods to larger business district uses that draw from a broader market area. Buildings are larger and/or taller than those in low density commercial area but generally do not exceed five stories in height.

- **Medium Density Commercial (CMED):** Defines shopping and service areas that are somewhat more intense in scale and character than the moderate-density commercial areas. Retail, office and service businesses are the predominate uses. Areas generally draw from a citywide market area. Buildings are generally larger and/or taller than those in moderate density commercial areas but generally do not exceed eight stories in height.
- **Institutional (INST):** Includes land and facilities occupied and used by college and universities, large private schools, hospitals, religious organizations, and similar institutions.
- **Parks, Recreation, and Open Space (PROS):** Includes the federal and District park systems, including the National Parks, the circles and squares of the L'Enfant city and District neighborhoods, the National Mall, settings for significant commemorative works, certain federal buildings such as the White House and the US Capitol grounds and museums, and District-operated parks and associated recreation centers. It also includes permanent open space uses such as cemeteries, open space associated with utilities such as the Dalecarlia and McMillan Reservoirs, and open space along highways such as Suitland Parkway. This category includes a mix of passive open space (for

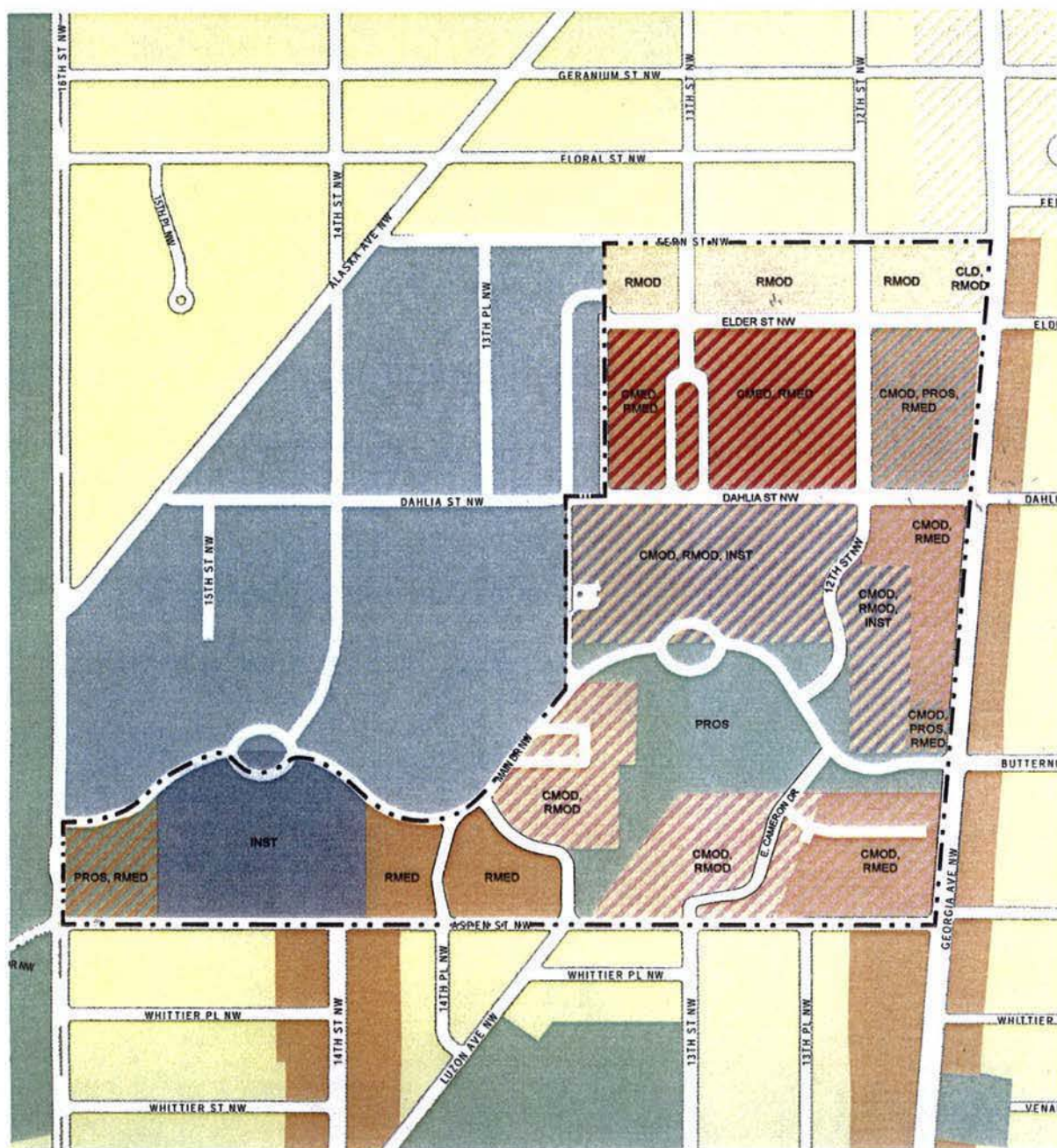
resource conservation and habitat protection) and active open space (for recreation).

- **Federal (FED):** Includes land and facilities owned, occupied and used by the federal government, excluding parks and open space. Uses include military bases, federal government buildings, the International Chancery Center, federal hospitals, and similar federal government activities. The "Federal" category generally denotes ownership rather than use. Land with this designation is generally not subject to zoning.

ENDNOTES

1. *District of Columbia Comprehensive Plan Future Land Use Map.*





COMPREHENSIVE PLAN LAND USE DESIGNATION RECOMMENDATIONS

LEGEND

	CLD, RMOD
	CMED, RMED
	CMOD, RMED
	CMOD, RMOD
	CMOD, RMOD, INST
	PROS, RMED
	CMOD, PROS, RMED
	FED
	INST
	PROS
	RMED
	RMOD
	RLD

Exhibit 4-80: Comprehensive Plan Land Use Designation Recommendations. Source: Office of Planning.



3.2 Site-Wide Urban Design Principles

The following site-wide urban design principles help set forth an overall design strategy for future development. The following general guidelines are as follows:

1. MAINTAIN THE EXISTING SITE CHARACTER
2. RETAIN BUILDING 1 AS "THE CORE"
3. ENHANCE THE OPEN SPACE
4. PRESERVE HISTORIC ELEMENTS
5. EXTEND THE STREET NETWORK
6. CREATE VIBRANT, MULTI-MODAL CIRCULATION CORRIDORS
7. INTEGRATE SUSTAINABLE STRATEGIES

The principles set forth in this chapter will guide the evaluation of new development.

1. MAINTAIN THE EXISTING SITE CHARACTER

Analysis of the Site suggested that it could be naturally divided into character areas based upon the historic building types and uses whose location had been determined largely by topography. The powerful presence of the original hospital in Building 1 is physically and theoretically the center of the Site. Due to its growth over time and the extraordinary topography surrounding it, Building 1 establishes a specific campus environment that sets a framework in which the campus can be conceptually divided into successive east-west bands, each with its own character. Understanding these character areas is useful in

establishing a framework for the continued evolution of the campus.

The following characteristics establish the framework for new design guidelines for infill and new development:

The first band, the area behind (north of) Building 1, offers the greatest opportunity for redevelopment, as it contains the fewest historic buildings, a large amount of open space that is not considered to be historic, and Building 2, which is proposed for demolition in the Reuse Plan. New development should be compatible to the existing low to moderate-density residential neighborhood across Fern Street. Open space lines the perimeter of the Site which is characteristic of a typical District of Columbia residential block.

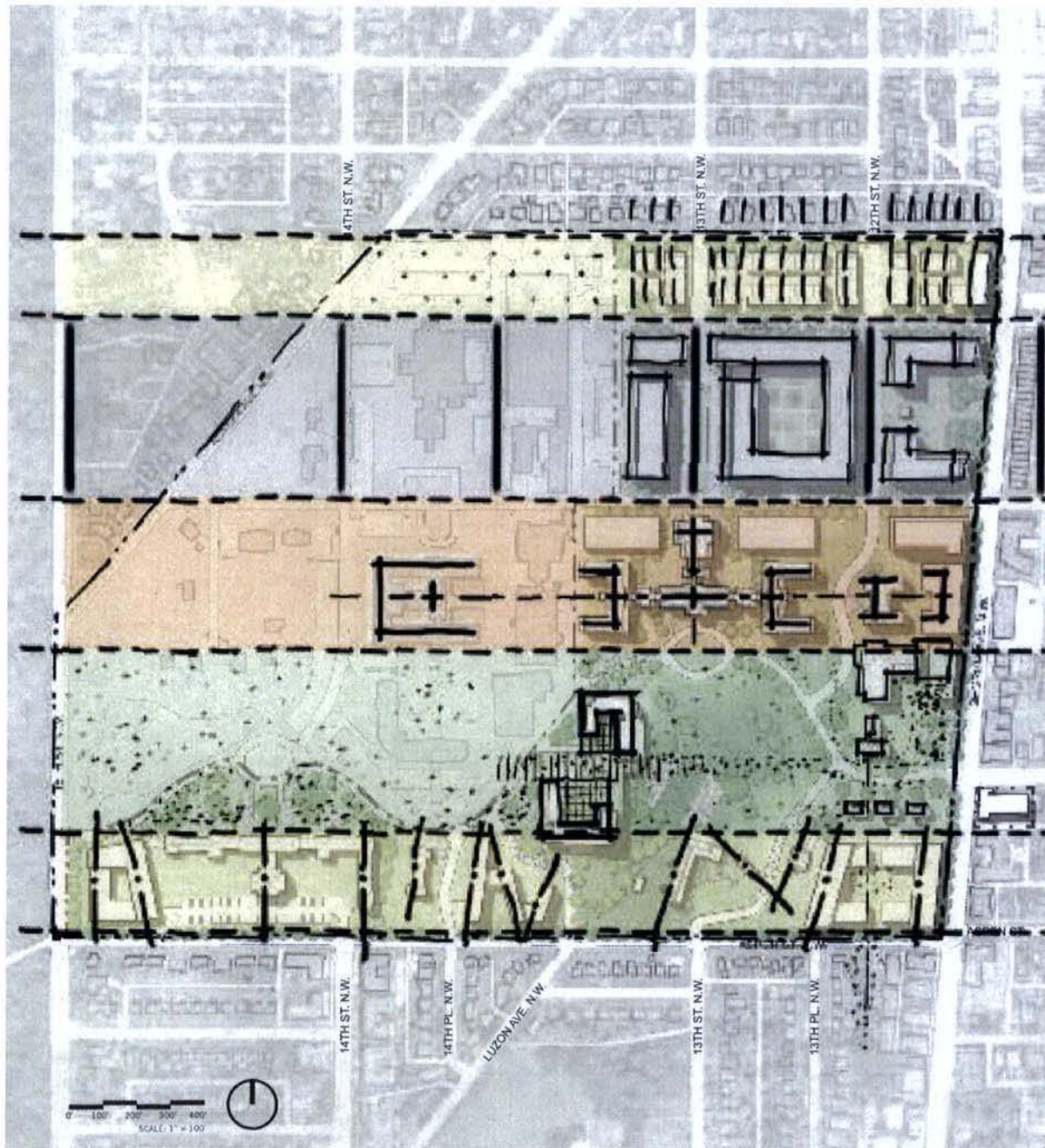
The second band, now dominated by the massive hospital Building 2, is now characterized by having new buildings and an adjacent subsurface parking garage that reinforces the larger scale urban blocks that are typical in more developed areas of the District. Buildings are oriented to the street edges and rarely as objects in the field.

The third band includes the original hospital Building 1 that incorporates Georgian-Revival architecture, typically found on many U.S. college campuses. Building 1 sets up the major formal relationships throughout the property and particularly within this band. Most of the buildings are historic and, though formally related, are separated by green space that further emphasizes a campus-like feel.

The fourth band includes the Great Lawn and Rose Garden, renamed "Cameron Glen", to honor Cameron Creek, which was buried upon construction of the Walter Reed campus. Lyrical and park-like, this area connects Georgia Avenue to Rock Creek Park. A major feature of this band is the meandering Main Drive.

The fifth and final band, along the southern border, is characterized by the non-orthogonal disposition of historic and industrial buildings, including the utility plant (Building 15), displaced due to topography and the desire to mitigate the impact of their mass on the adjacent neighborhood.





1. MAINTAIN THE EXISTING SITE CHARACTER

← NEIGHBORHOOD SCALE
RESIDENTIAL SCALE

← CITY/URBAN BLOCK
MAXIMUM DENSITY

← AXIAL; FORMAL
AMERICAN INSTITUTIONAL

← PASTORAL
LYRICAL
OPEN
PARK LAND

← PERIMETER SCALE
INTENSE TOPOGRAPHICAL VARIETY
PERMEABLE

Exhibit 4-82: Main The Existing Site Character Source: Perkins+Will

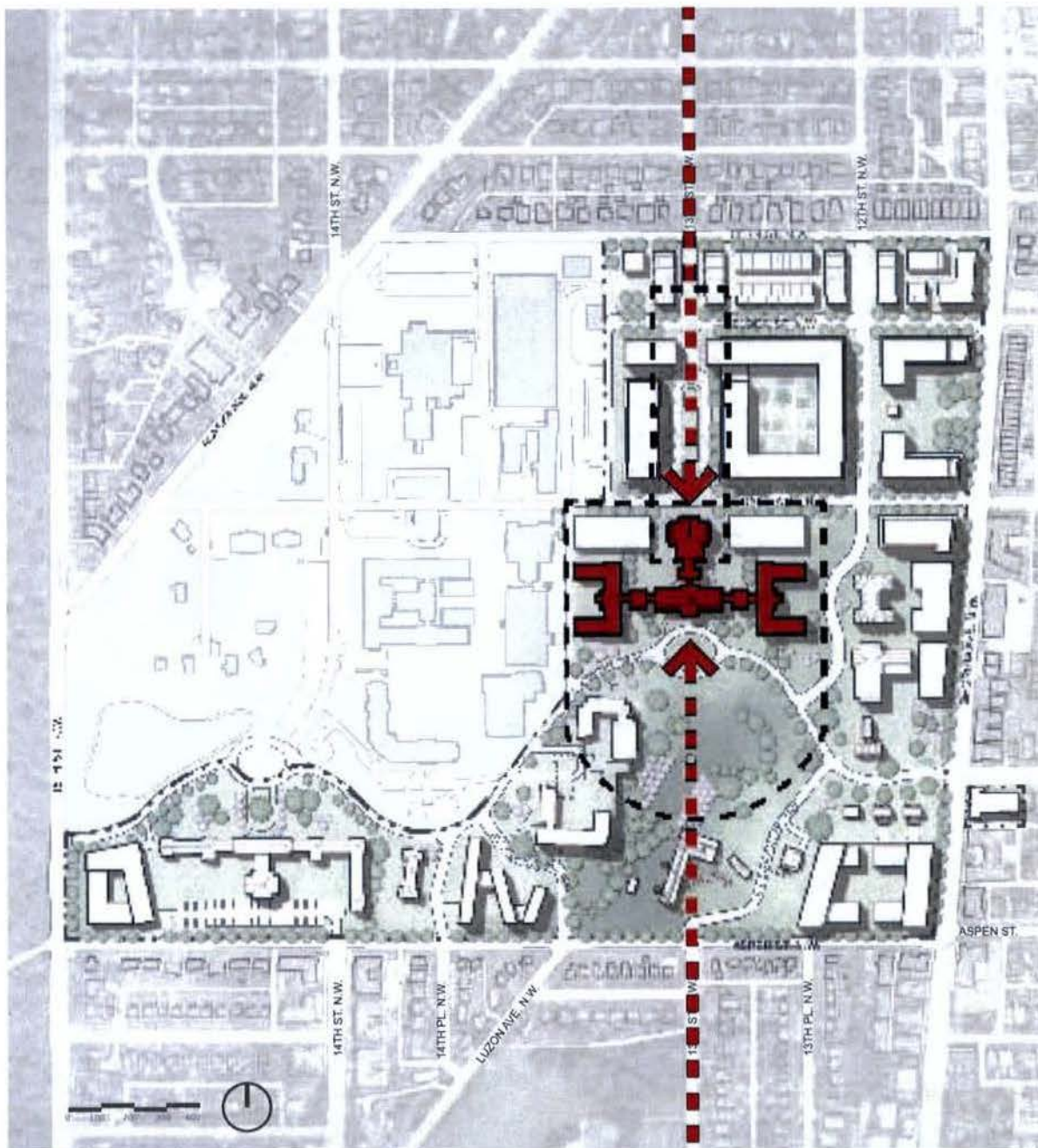


Exhibit 4-83: Retain Building 1 as "The Core". Source: Perkins+Will.

2. RETAIN BUILDING 1 AS "THE CORE"

The original hospital Building 1 is the heart of the Site and the place where the legacy of Walter Reed as the center for sustainability and innovation will remain.

Retaining Building 1 as the "Core" supports demolishing the adjacent former hospital Building 2 and extending 13th Street to terminate at the historic north façade of Building 1. This view, hidden for over three decades, will reestablish Building 1 as the physical and theoretical core of the Site and would re-define 13th Street as a viable north-south connector street to the neighborhood. Open spaces located along the north-south axis of Building 1 reinforce its prominence as the main historic building on the Site, where the Reuse Plan recommends an institutional, corporate, academic, or medical anchor tenant.

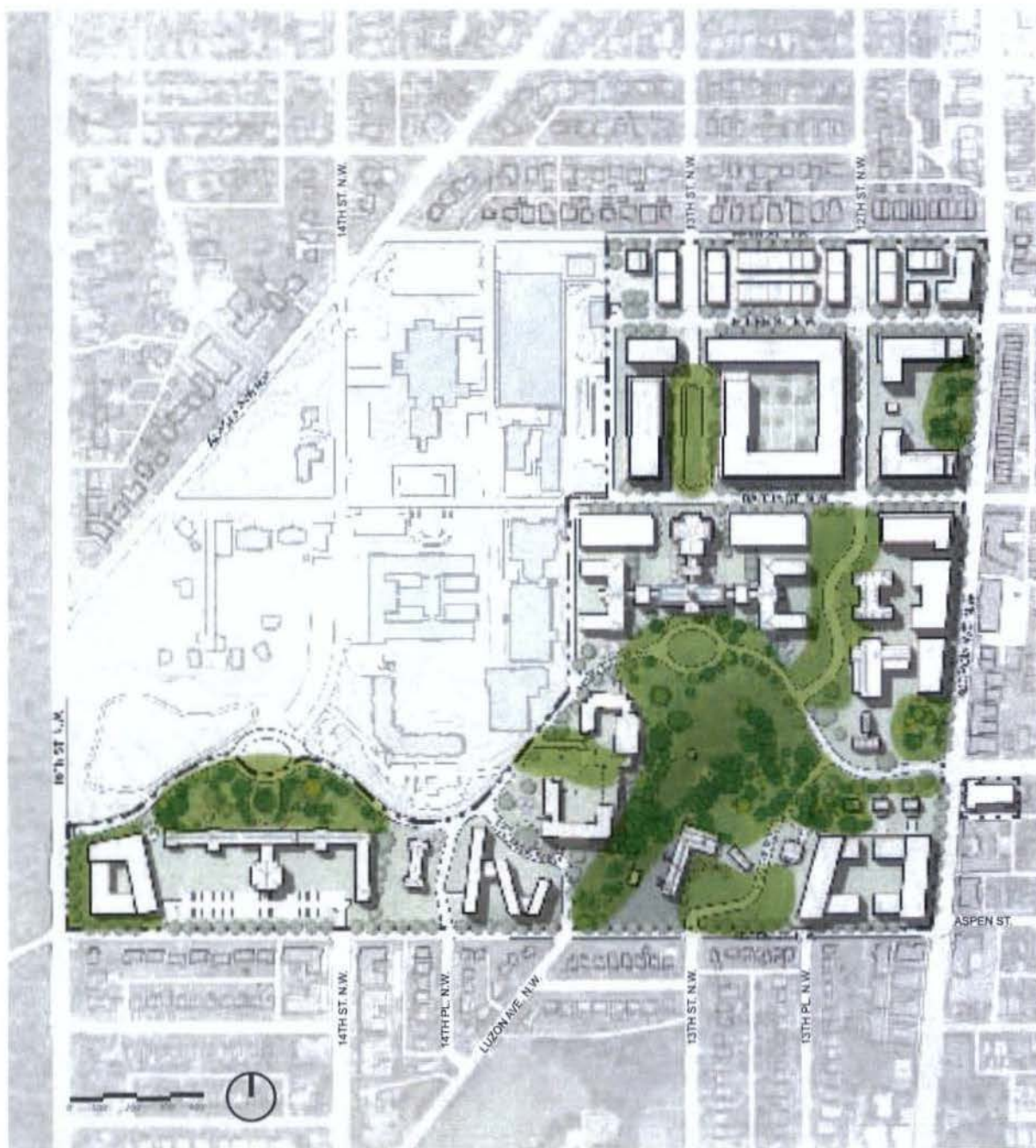


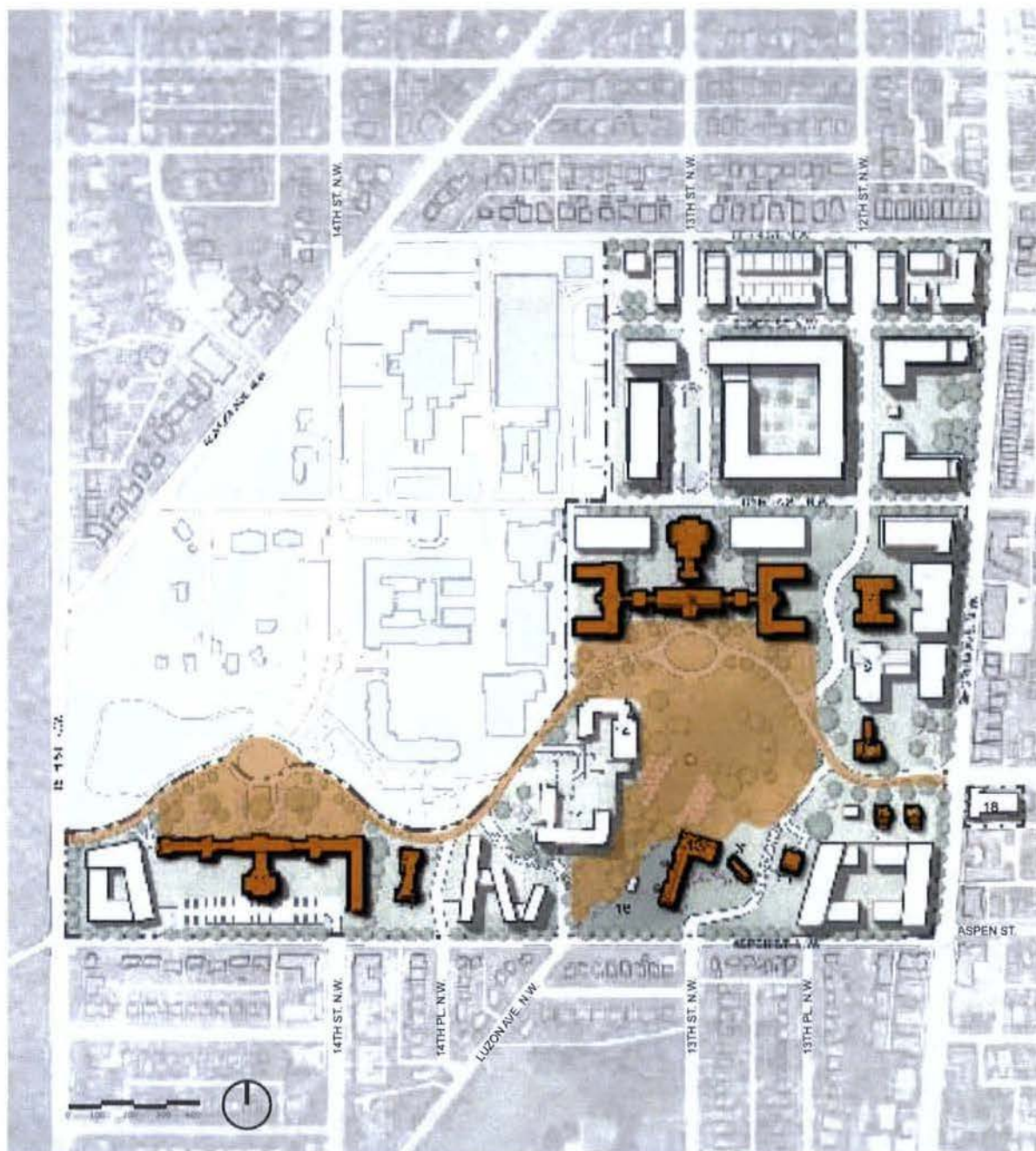
Exhibit 4-84: Enhance the Open Space. Source: Perkins+Will.

3. ENHANCE THE OPEN SPACE

One of the ways in which the Site is integrated with the community is via a network of open spaces running between Georgia Avenue and 16th Street, attracting people and activity into and throughout the Site.

Preservation of the Site's historic green open spaces and healthy, mature tree canopies are important to integrate the Site within the existing neighborhood character. By integrating naturalized stormwater management systems, urban agriculture and recreation, the future re-development of the Site will support a rare opportunity for the District to showcase innovative models for environmentally sustainable development.

- Open Space to be enhanced
- Trees



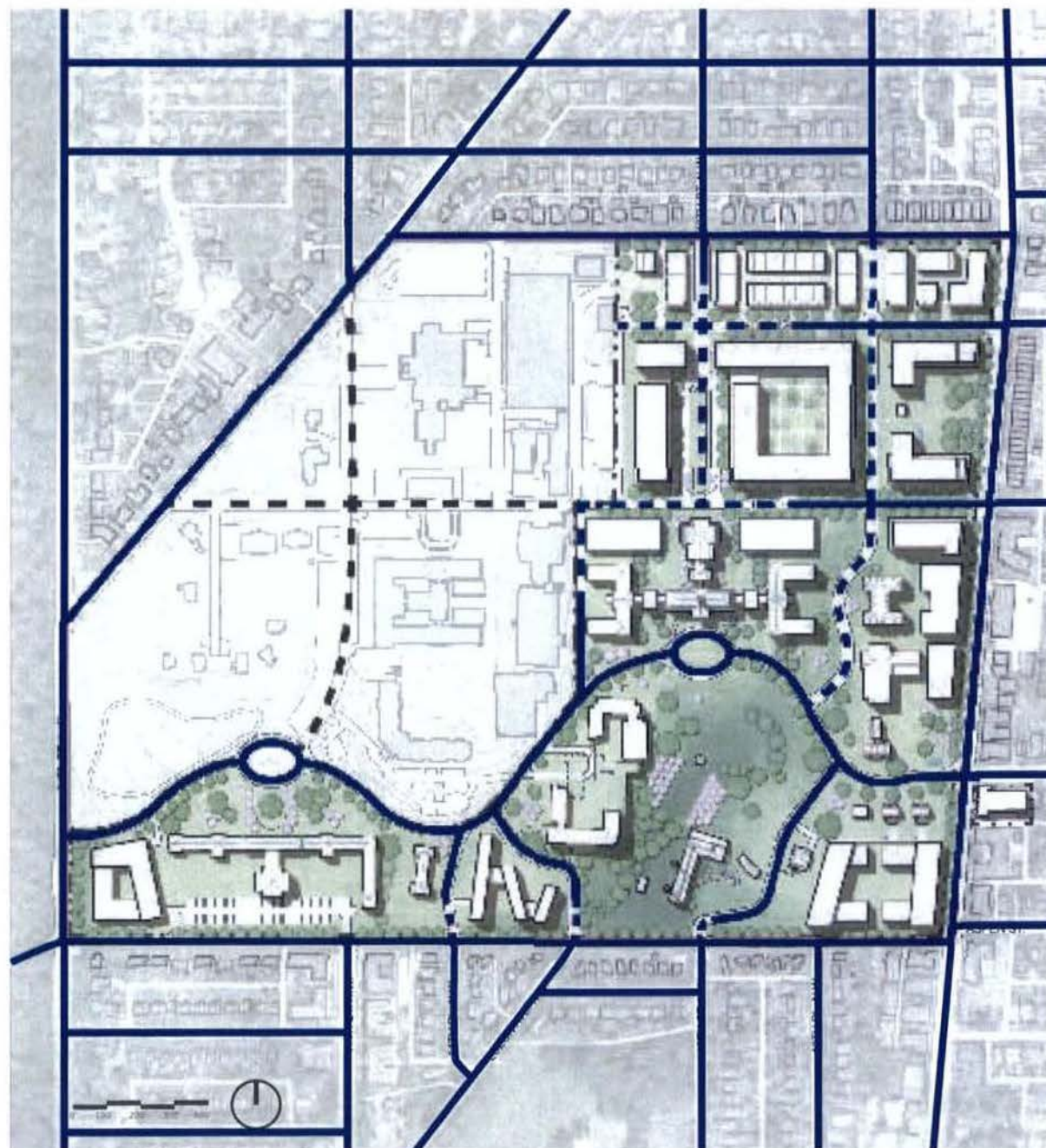
4. PRESERVE HISTORIC ELEMENTS

The SAP celebrates Walter Reed's legacy by reusing historic buildings and integrating cultural exhibits within the landscape.

In accordance with Section 106 of the National Historic Preservation Act of 1966, as part of the planning process for the Site, the U.S. Army has entered into the consultation process to determine what effect, if any, the transfer of the former WRAMC from Federal control may have on the many historic buildings on the campus. A nomination will be prepared by the U.S. Army for inclusion of the campus on the National Register of Historic Places. The period of historic significance proposed by the U.S. Army for the campus is 1909-1956. The buildings and landscape highlighted in "Exhibit 4-84: Preserve Historic Elements", have been deemed by the Army to be eligible for inclusion in the National Register of Historic Places.



Exhibit 4-85: Preserve Historic Elements. Source: Perkins+Will.



5. EXTEND THE STREET NETWORK

For over 100 years, the former WRAMC Site has been fenced in and isolated from the Brightwood, Shepherd Park and Takoma neighborhoods. By providing key opportunities to re-integrate existing streets and create new, multi-modal, north-south and east-west connections, the Site can be re-integrated back into the city fabric.

- Existing Street
- - - Extended Street
- · · Potential Street

Exhibit 4-86: Extend the Street Network. Source: Perkins+Will.



WALTER REED ARMY MEDICAL CENTER

SMALL AREA PLAN - FINAL DRAFT - JANUARY 28, 2013

6. CREATE VIBRANT, MULTI-MODAL CORRIDORS

The SAP envisions creating a new sense of place through the experience at the human level. A walk down 13th Street or a drive down Main Drive should not only improve connectivity but should also reinforce the identity of the Site as a new, vibrant neighborhood. The following illustrations and narratives capture the vision for each street below:

Elder Street is the point of transition from major commercial activity fronting along Georgia to the lower-density residential uses to the west along Elder Street, shown by a color gradient from orange to blue, the change in character from more to less retail activity at grade (see "Exhibit 4-86: Create Vibrant and Multi-modal Circulation Corridors" on page 69). Retail storefronts are intended to gradually change to residential entry ways with, windows, balconies or porches as the street grade elevates from east to west. As the character along Elder becomes more residential, small neighborhood serving retail if feasible at the time of development would be a great amenity for residents. Elder Street would potentially terminate into a quiet residential court west of 13th Street, with a combination of open space, town-homes and multi-family homes.

Aspen Street will host a variety of uses from institutional to arts and creative uses, to residential and commercial. Unique opportunities for open space to intertwine between new and historic buildings will create a residential character much like it is today. Pedestrian connections with landscaped sidewalks promote a safer and more connected feeling to Georgia and 16th Street.

Dahlia Street's, central location to the Site and its potential to truly function as a 'Main Street' corridor with a mix of uses establishes it as the

"pulse" of the Site. Historic and new development, varying in height and framing the right-of-way, signals to Georgia Avenue that this is a major town center gateway point, with a pedestrian-scaled vibe.

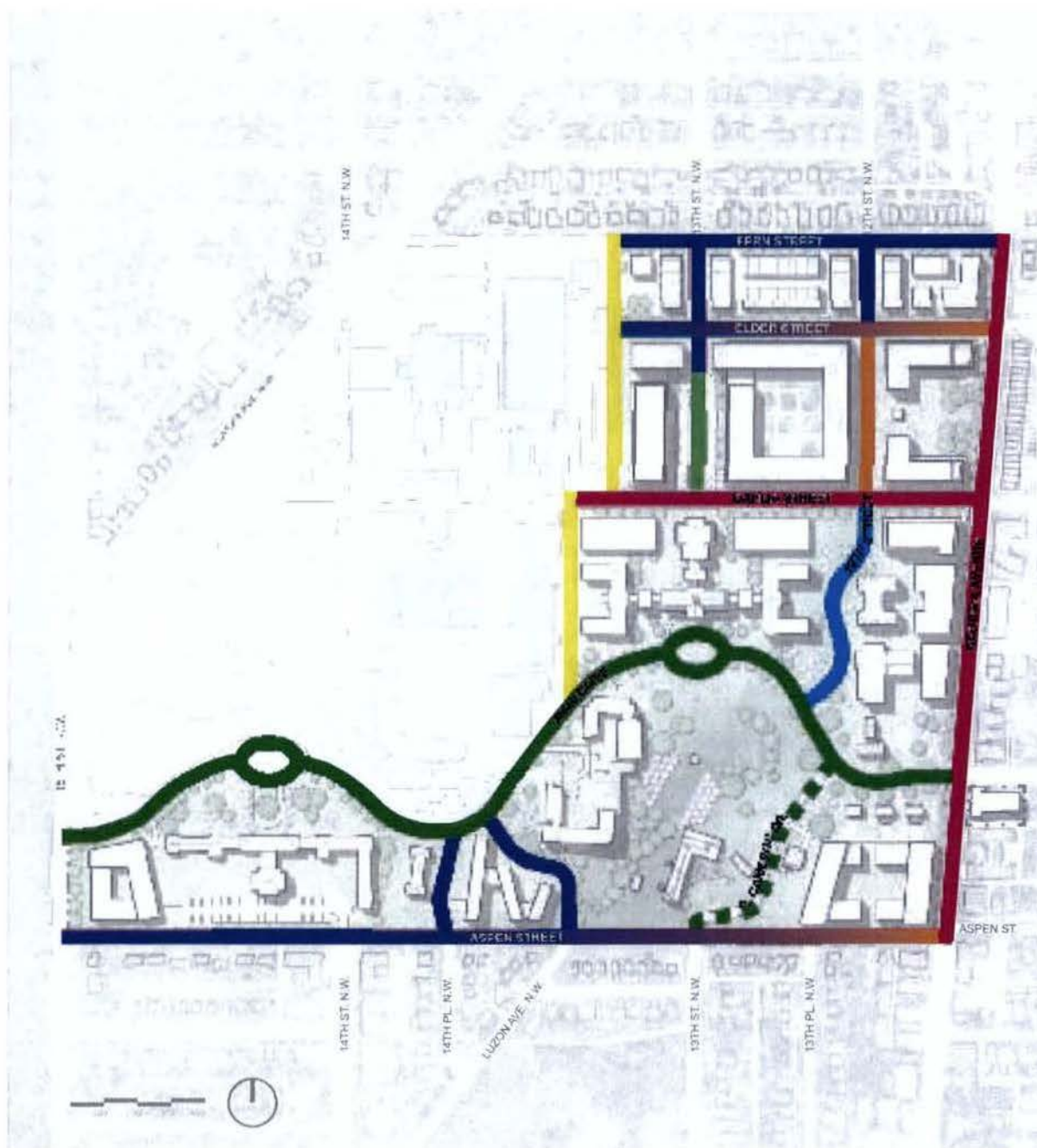
13th Street, extended from Fern and terminating to the architecturally interesting, rear façade of Building 1, is intended to have a right-of-way wide enough to accommodate recreational open space along the center, with new mixed use buildings framing the pastoral open space, green area.

12th Street's new institutional setting is characterized by a new, curvilinear right-of-way and is set to traverse through a historic context of formal, institutional buildings in an open setting with significant greenery.

Historic Main Drive should retain its historic character, with its undulating alignment and views to historical facades, ceremonial front yards and open space along the way. As a major east-west connection from Georgia and 16th Street, any improvements to Main Drive should encourage multi-modal connectivity and, celebrate its historic relevance.

E. Cameron Drive provides minor access from Main Drive to 13th and Aspen Streets. With an intimate, narrow right-of-way traversing major open space, the setting would celebrate this area's park-like, open character, yet contribute to the active green areas between new and historic development.

"Center of the block". These unique connector alleys and special places occur where the Walter Reed Site meets the DOS Site. The character of these areas where court or back yards or alley ways would occur should seamlessly be integrated with adjacent development, establish pedestrian and/or bike connections as feasible, and be reclaimed as safe and pedestrian-oriented new, usable, public spaces. These 'connectors' would provide service access to buildings, but at the same time should be designed as safe and accessible routes for pedestrians and bikes as feasible.



6. CREATE VIBRANT, MULTI-MODAL CORRIDORS

- Residential
- Retail, Residential, Commercial Mix
- Community Park or Campus Setting
- Major Retail Activity
- Institutional Setting
- Park-like, Open, Historic Main Drive
- E. Cameron Drive
- "Center of the Block"

Exhibit 4-87: Create Vibrant and Multi-modal Circulation Corridors. Source: Perkins+Will.

7. INTEGRATE SUSTAINABLE STRATEGIES

The redevelopment of the Walter Reed Site, following its history of healing, presents an opportunity to reimagine a large-scale campus-like development as an environmentally, economically and socially sustainable new urban center. The District is committed to supporting the creation of a highly sustainable new community. The SAP supports a regenerative project through a three-pronged strategy: 1) preservation and adaptive re-use; 2) community integration; and 3) environmental regeneration. Significant potential exists for: establishing a shared, bio-mass co- or tri-generation utility plant; generating stormwater management at a level that could generate retention credits; exploring Photovoltaic (PV) farming; strategically targeting urban agriculture; and the re-exploring of the passive cooling systems originally developed for the former WRAMC over 100 years ago.

Sustainability Goals

The SAP incorporates the following specific goals included in the Reuse Plan:

- Net-zero energy by 2030; net-positive energy by 2040
- Existing buildings: ASHRAE 90.1+30%; New buildings ASHRAE 90.1+34%
- +100% renewable energy
- 100% grey water reuse by 2020
- 50% landfill waste reduction by 2020
- 100% zero waste commitment by 2030
- Food and yard waste composted on-site or within approximately 30 miles
- 100% recyclable material
- +100% cool roof/green roof commitment

- Implement multi-modal modes of transportation

Sustainable Energy Systems

The sustainable strategies for the development of the Walter Reed Site include a goal of net zero site energy by the year 2030 and carbon positive by the year 2050. As these terms are sometimes misunderstood, an explanation of all the terms and goals are included in the Reuse Plan.

All of the energy systems will be connected to a central energy management system for monitoring and control. The energy management system will allow the performance of the various energy systems to be tracked to assure that energy goals are being achieved, to identify malfunctioning elements, to adjust system operation to optimize performance, and to bill the users appropriately.

Preserve and Adapt Innovatively

Preservation and reuse of the Site's historically significant structures and landscapes provides a foundation for the sustainability vision. Reusing existing buildings is inherently more sustainable as it saves the waste and energy associated with demolition and new construction. Reuse will be coupled with innovative strategies for additions and renovations. The narrow floor plates of many of the historic buildings are well suited to natural ventilation and daylighting strategies. Mechanical and electrical systems and equipment can be upgraded to high efficiency systems. The campus-like environment and large scale of the Plan allows centralized and shared utility systems not possible with smaller developments. The significant open space and natural topography of the Site can be utilized to manage stormwater runoff. This balanced approach honors the Site's history while aspiring to the highest standards of a sustainable future.

Reintegrate with the Community

For the last hundred years the Walter Reed Site has been fenced off from the neighborhood. With its return to the District, an unparalleled opportunity exists to further high performance initiatives by integrating the Site with its surroundings in a way that promotes sustainability in the surrounding neighborhood.

The Walter Reed Site can serve as an example for the community and a way to educate a larger audience about sustainable practices.

Regenerate the Environment

Just as research at the Site once advanced the healing of the wounded, the Site itself can advance the capacity to heal the natural environment by testing regenerative solutions. Regenerative design represents the leading edge of sustainability and its highest aspirations – the creation of buildings and places that can have a net positive affect on the ecosystems of which they are a part. Whether the Walter Reed Site becomes regenerative in parts or as a whole, it is the standard to which this Site should aspire.

The sustainability standards adopted in the development could include the best practices of today but also look forward to set the standards of tomorrow. As the rebirth of the Site unfolds over the next several decades, the opportunity exists to set a high standard of sustainability for the District of Columbia and a model for the rest of the country to follow.

Sustainable Opportunities

For the last hundred years, the Site was internationally renowned as a center of innovation for medical research. There is an opportunity to build on this reputation and refocus the Site towards innovation in sustainable development. Furthermore, the transformation into a sustainable site echoes the same changes happening in health-care from acute episodic care to chronic and long term care.

Existing Building Space

The Walter Reed Site has 4.1 million square feet of existing building stock with a variety of uses, of which a third has some historic value and will require innovative adaptive reuse strategies. As for non-historic buildings at the end of their useful life, they present an opportunity for materials reuse and recycling through careful deconstruction.

Open Space

The Site has large expanses of open space and can provide a significant public amenity to the community. Native vegetation also provides opportunities for natural stormwater management without an increased irrigation burden.

Topography

The Site topography is largely unchanged and approximately 50% pervious. Water naturally drains towards the southern portion of the Site where Cameron Creek was once above ground. The slopes and drainage patterns of the Site can be harnessed to filter stormwater.

Transportation

The Takoma Metrorail station is located near the Site. Numerous bus lines service the Site and a potential streetcar development may serve the Site in the future. Existing transportation sharing programs such as Zipcar and Capital Bikeshare

can be brought onto the Site to reduce occupants' reliance on private vehicles and create a truly multi-modal community.

Separate Storm and Sewer System

The Site has separated sanitary and stormwater systems which greatly facilitates progressive stormwater management practices. Although, the Site still feeds into the city's combined sewer system, opportunities exist to exceed the District's requirements.

Power Generation

The opportunity exists to leverage the existing campus power generation and distribution system to implement a central energy plant that could use a cogeneration or tri-generation system. Additional potential for on-site energy generation exists through the use of photovoltaics and solar hot water systems.

Cooling and Heating

The cooling and heating requirements for the entire site are centrally provided from buildings in the north and south respectively. Systems are still in place to continue and perhaps to expand on this shared generation.

Teaching Sustainability

As the current users leave and new uses arrive, a new audience will naturally come to appreciate the Site. This presents an opportunity to continually educate users about sustainable practices within a living laboratory and at work within an everyday setting.



Figure 4-88: Urban Agriculture (example). Common Good Farm, DC. Source: <http://www.flickr.com/photos/christinbogs/sets/72157626780055856/detail/>.



Figure 4-89: Rain Garden in Lansing, MI. Provided by Wiles Mensch Corporation - DC.



Figure 4-90: Potential Stormwater/Water Feature (example). Tanners Springs Park, Portland, OR. Source: <http://fabulousportland.com/2010/02/19/sunshine-makes-me-happy/>



The exhibit below illustrates sustainability strategies—such as, rain gardens, photovoltaics, green roofs and skylights—that could be applied at the northern area of the Site as shown and throughout the rest of Site as well. This area of the Site has substantial space below grade available for reuse due to the projected demolition of hospital Building 2. Central utilities could be located underground with open space amenities above.



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3.3 Sub-Area Urban Design Principles

As explained in the preceding Site-Wide Urban Design Principles section, one of the overall design strategies is to “maintain the existing site character.” An analysis of the existing site character yielded five different typologies that occur as five east-west bands on the Site (see “Exhibit 4-91: Existing site character bands as seen on the “Maintain The Existing Site Character” Planning Principle”). Since each typology would be experienced in a different way, the organization of the Plan divides the Site further into five distinct “sub-areas”. “Exhibit 4-92: Sub-Areas” on page 75, lists the sub-areas and locates them on the Site Plan. The Georgia Avenue Frontage was added as an additional sub-area, as it merits an additional discussion to address a prominent area of the Plan shared across all the sub-areas.

Additionally, within each sub-section, the Plan targets the following categories where further urban design guidance for future development is needed:

- Vision and Character
- Public Realm,
- Place Making
- Infrastructure

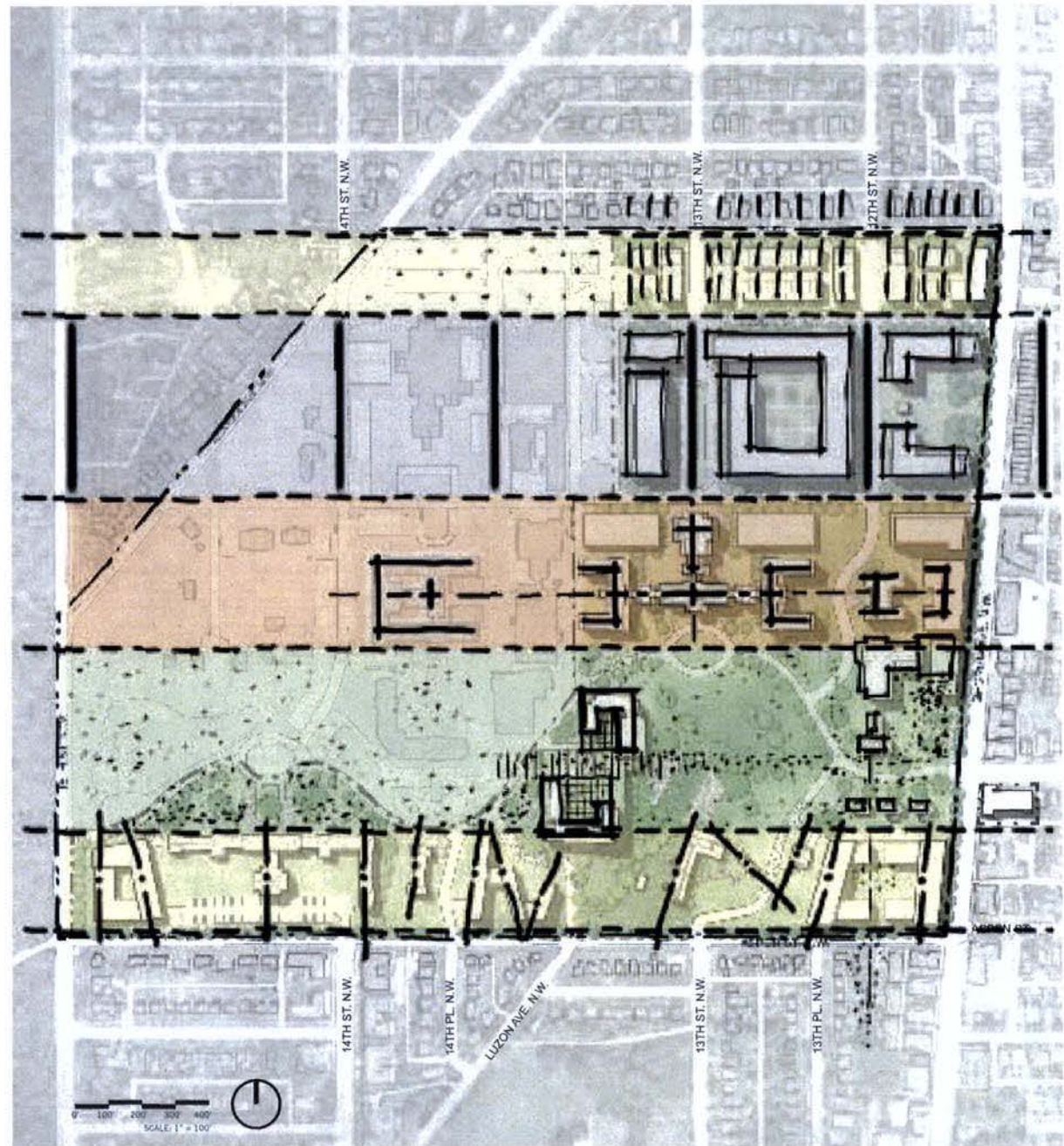
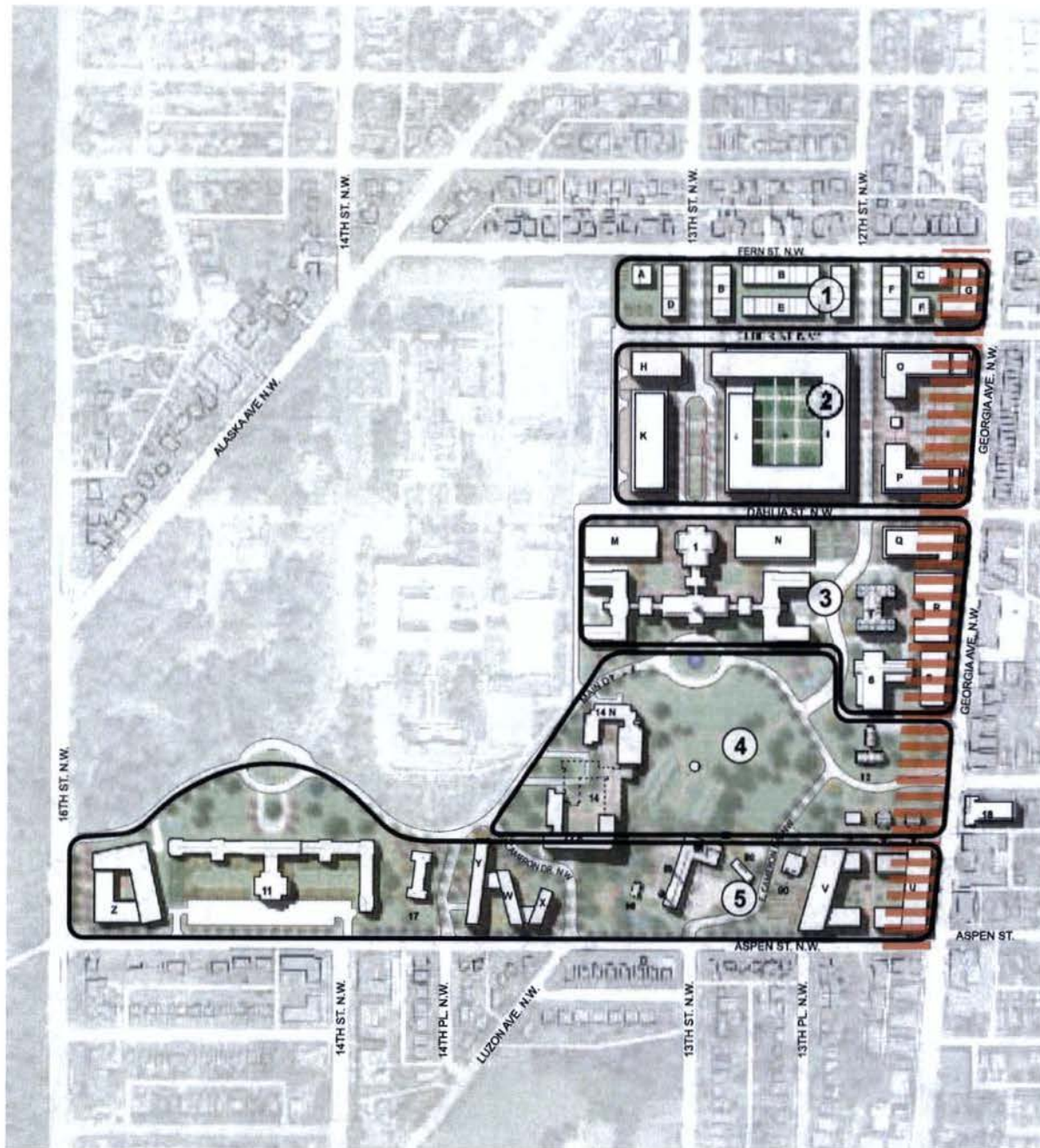


Exhibit 4-92: Existing site character bands as seen on the “Maintain The Existing Site Character” Planning Principle. Source: Perkins+Will



SUB-AREA CATEGORIES

1. Fern Street
2. Town Center
3. Institutional Core
4. Great Lawn ~ Cameron Glen
5. Aspen Street



Georgia Avenue Frontage

Exhibit 4-93: Sub-Areas. Source: Perkins+Will.



1. FERN STREET

Vision and Character

The Fern Street sub-area is located in the northernmost portion of the Site, between Fern and Elder Streets. The WRAMC Reuse Plan recommends extending Elder Street west of Georgia Avenue, forming three small scale blocks, similar in size to the neighboring residential blocks to the north.

A combination of existing single-family and duplex homes reflects the low-scale, residential, character of the surrounding neighborhood. With new townhomes proposed along 12th, 13th, Elder and Fern Streets, the vision and character of this sub-area pays homage to the existing low-density residential uses fronting on Fern Street and provides a natural progression to higher-density uses proposed in the Town Center. A mixed-use building with ground floor retail at the intersection of Georgia Avenue and Fern Street reinforces commercial activity targeted along Georgia Avenue and may attract neighborhood-serving types of uses for residents.

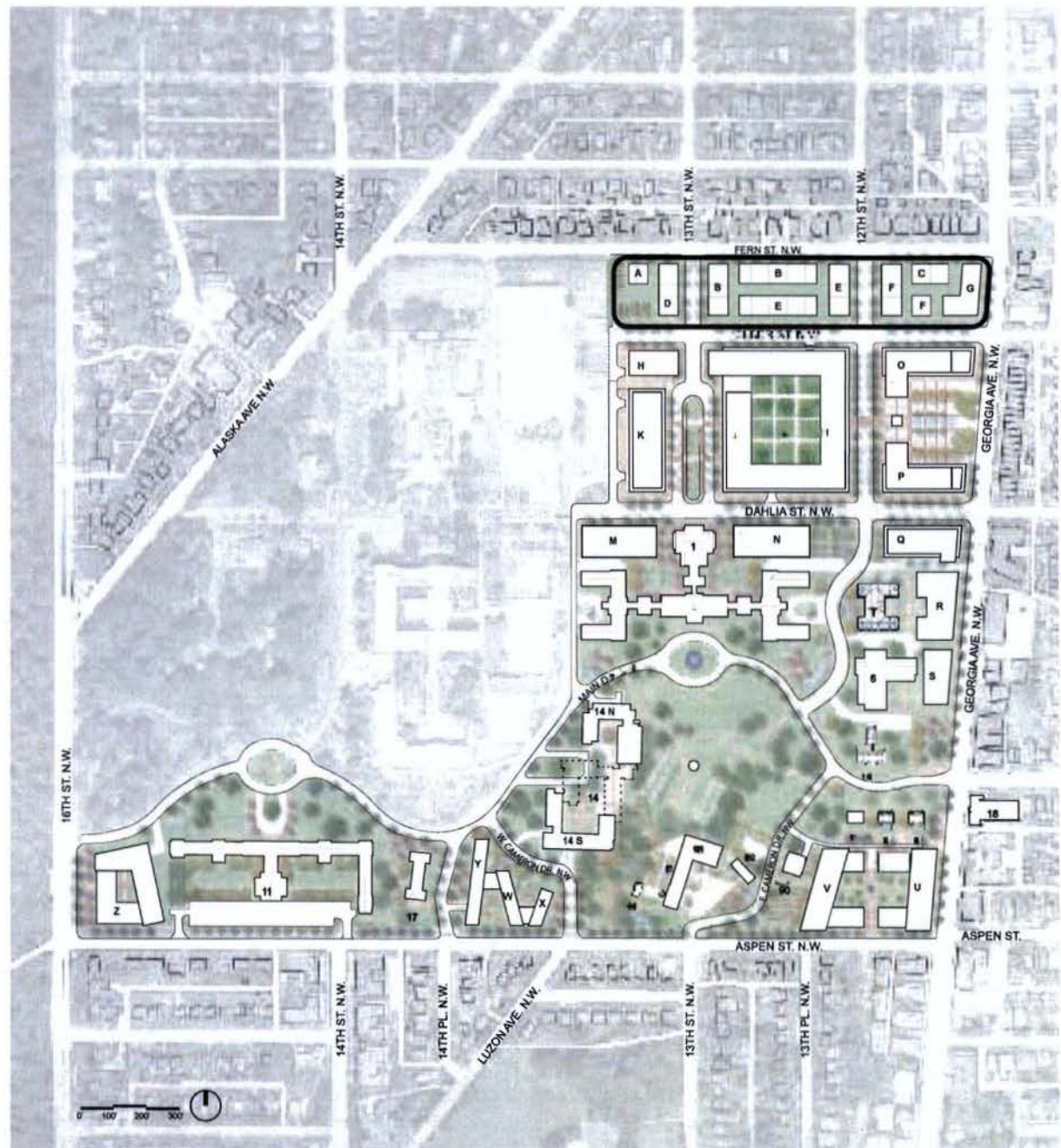


Exhibit 4-94: Sub-Area Key Plan - Fern Street. Source: Perkins+Will.

NEIGHBORHOOD CONTEXT



Figure 4-95: View looking north along Fern St. at a three-story residence just east of 13th St. Source: Perkins+Will.



Figure 4-96: View looking north along Fern St. at three-story residences in between 13th St. and 12th. St. Source: Perkins+Will.

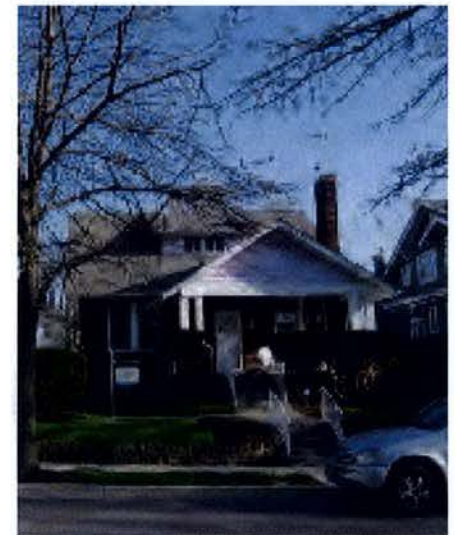


Figure 4-97: View looking north along Fern St. at a two-story residence in between 13th St. and 12th. St. Source: Perkins+Will.



Figure 4-98: View looking north along Fern St. at duplex homes just west of Georgia Ave. Source: Perkins+Will.



Figure 4-99: View looking north along Fern St. at duplex homes just west of Georgia Ave. Source: Perkins+Will.



Place Making

Amenities

Elder Street terminates at the boundary of the DOS Site to the west and creates a unique, yet intimate open space. The character of this area should mirror a quiet residential setting, making it an ideal location for a small scale community garden and a family recreation area.

Building Orientation

All proposed new buildings and major entrances should be oriented towards the street or near corners wherever possible. Proposed townhomes in this sub-area should be designed to front along 12th, 13th, Fern and Elder Streets, thereby encouraging visual interest for pedestrians and further establishing the residential nature of the area. To help strengthen the Georgia Avenue and Fern Street intersection, the proposed mixed use building here would have access at grade and increase maximum allowable height at the corner.

Alleyways proposed throughout the sub-area help further establish a "center of the block" feeling throughout rather than the having the backs of buildings facing sidewalks, and thus should be designed to provide a pleasant, safe environment for pedestrians to walk through and for residents to look at. The area between the extended 12th and 13th streets would have mostly residential frontages facing each other, possibly with neighborhood serving retail on occasion on the south side of Elder Street.

Height and massing

Pursuant to the Reuse Plan, proposed building heights should range from 3 to 4-stories, with a Garage and Basement beneath. For example, the homes along Fern Street could be 3-stories reflecting similar heights of the existing homes across the street, while increasing the building height to 4-stories along Elder Street where the

grade is lower. The low-rise mixed-use building facing Georgia Avenue in this area should fit within the varying building height context that currently prevails on Georgia Avenue. Building height and massing should be engaging to the pedestrian experience.

Public Realm

The following are basic guidelines mainly for the public realm, defined as the area between the building facades — comprising the road, sidewalk, site furnishings, trees and open spaces that combine to form the street's character:

- **Rights-of-Way:** Provide minimum right-of-way (ROW) widths of 90 feet, compliant with DDOT's standards and to enhance this sub-area's opportunity for multi-modal connections. Other priorities should include sufficient room for front yard setbacks, curb-side stormwater management, on-street parking, and bike lanes as feasible.
- **Pedestrian Zone:** Explore minimum 20 feet pedestrian zones distance from building face to curb for landscaped front yards, pedestrian circulation and curbside rain gardens and trees. Refer to DDOT's standards for the planning and design of sidewalks and streets, such as tree planting guidelines and selection of site furnishings and materials.
- **Green Elements:** Integrate rain gardens in sidewalks for storm water management where feasible. Encourage the use of permeable materials to manage stormwater runoff.
- **Curb Cuts:** Minimize curb cuts throughout the blocks.

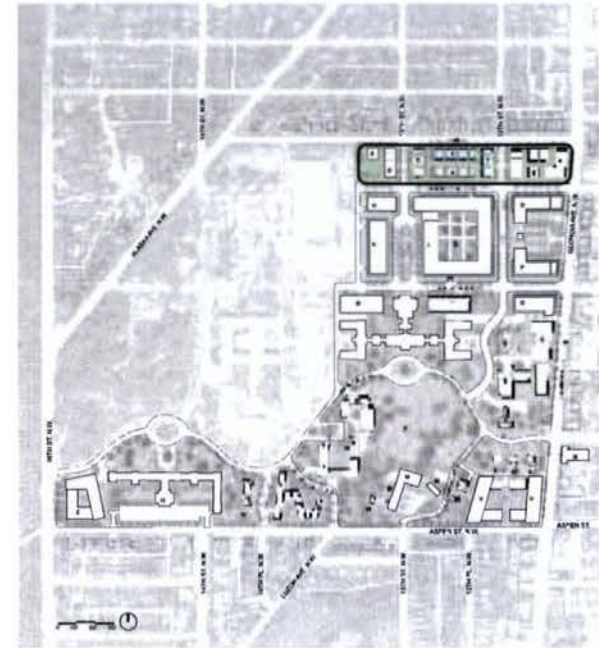


Exhibit 4-100: Sub-Area Key Plan 1. Source: Perkins+Will.

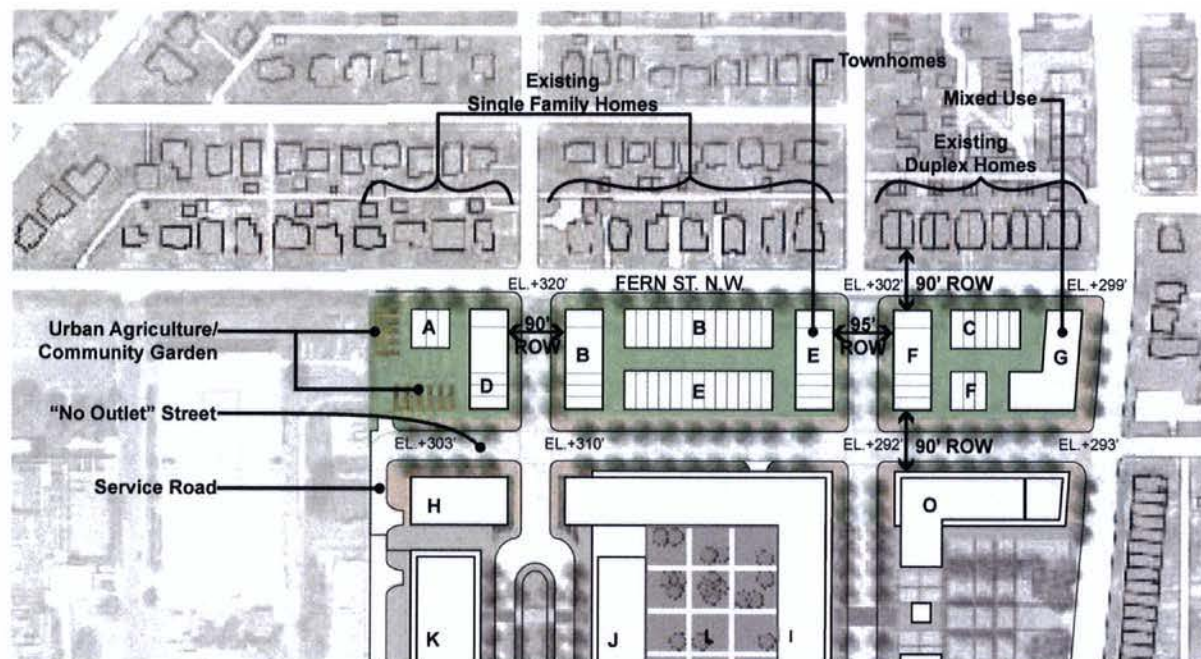


Exhibit 4-101: Sub-Area Plan - Fern Street. Source: Perkins+Will.

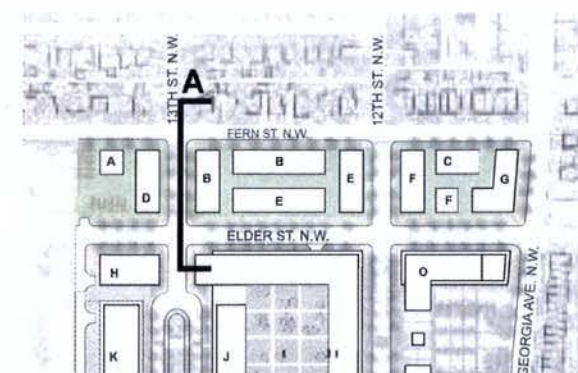


Exhibit 4-103: Site Section Key Plan - Fern Street. Source: Perkins+Will.

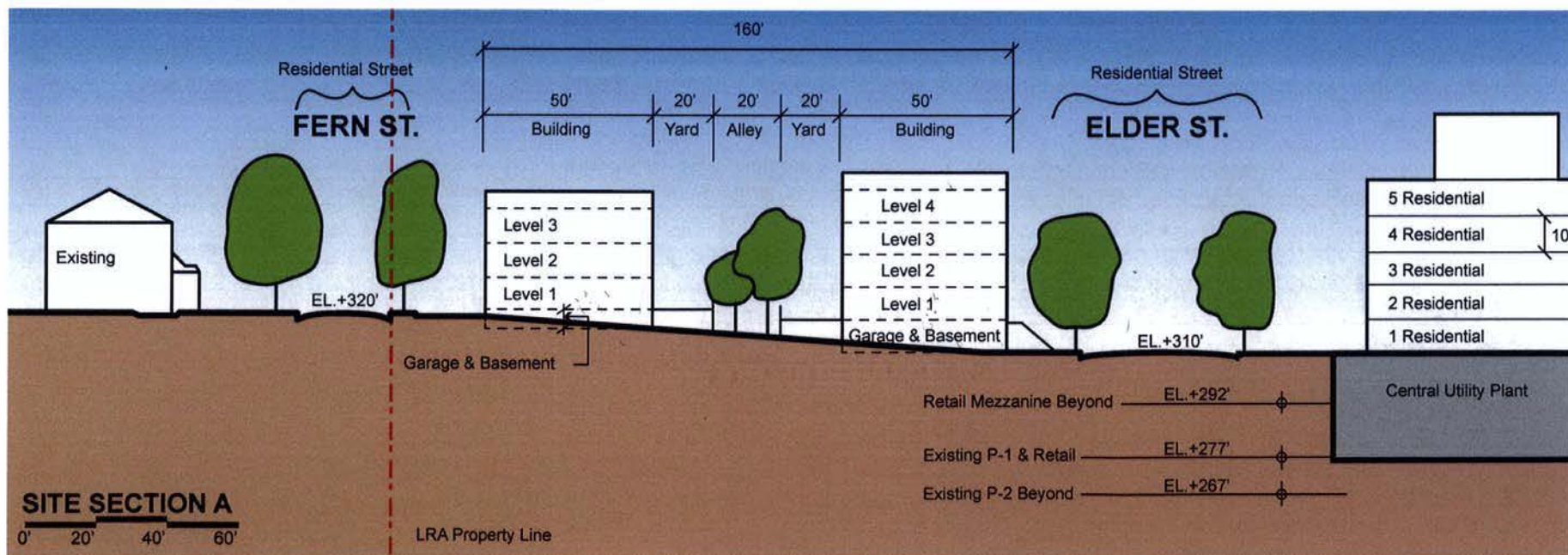


Exhibit 4-102: Fern Street Sub-Area Site Section. Source: Perkins+Will.

- **Pedestrians Bikes:** Pedestrians and bicyclists are intended to move around primarily on the street grid. The streets in this sub-area should have designated bicycle lanes as well as sidewalks on both sides of the street.
- **Loading and Service:** Service alleyways through the center of each block with access from Elder Street will provide easy access to proposed uses and are located away from main entrances.
- **Parking:** Pursuant to the Transportation Impact Study (TIS), one parking space per home is recommended for the townhomes. A dedicated, below grade parking garage, including an anticipated ratio of 0.5 spaces per unit should be included for the multi-family housing fronting Georgia Avenue. On-street parking would be permitted on all streets in this sub-area. See the Transportation Impact Study for more information.

A. 12TH STREET, 13TH STREET AND ELDER STREET SECTION

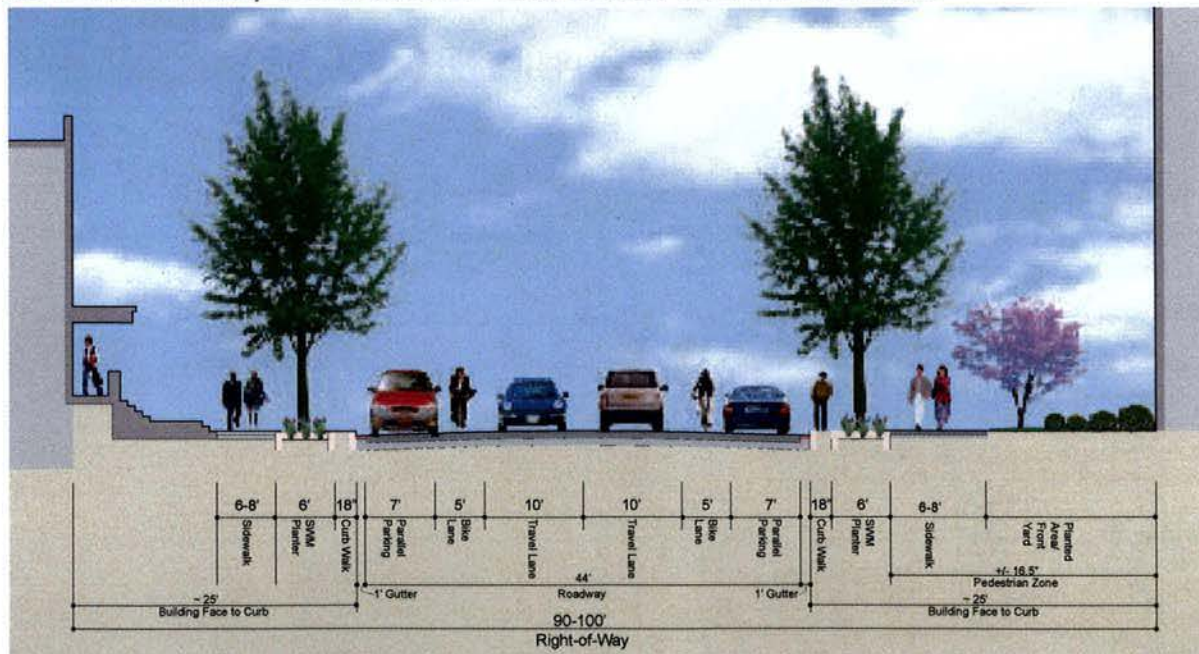


Exhibit 4-104: Fern Street Site Section. Source: Perkins+Will.

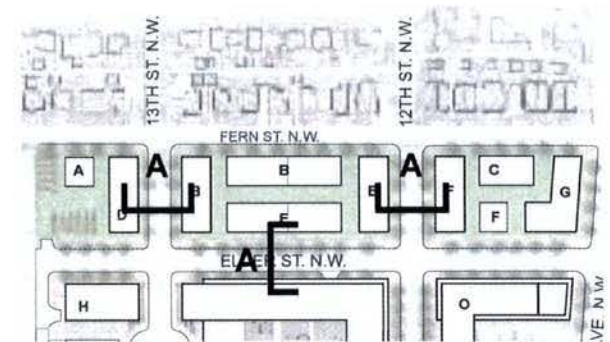
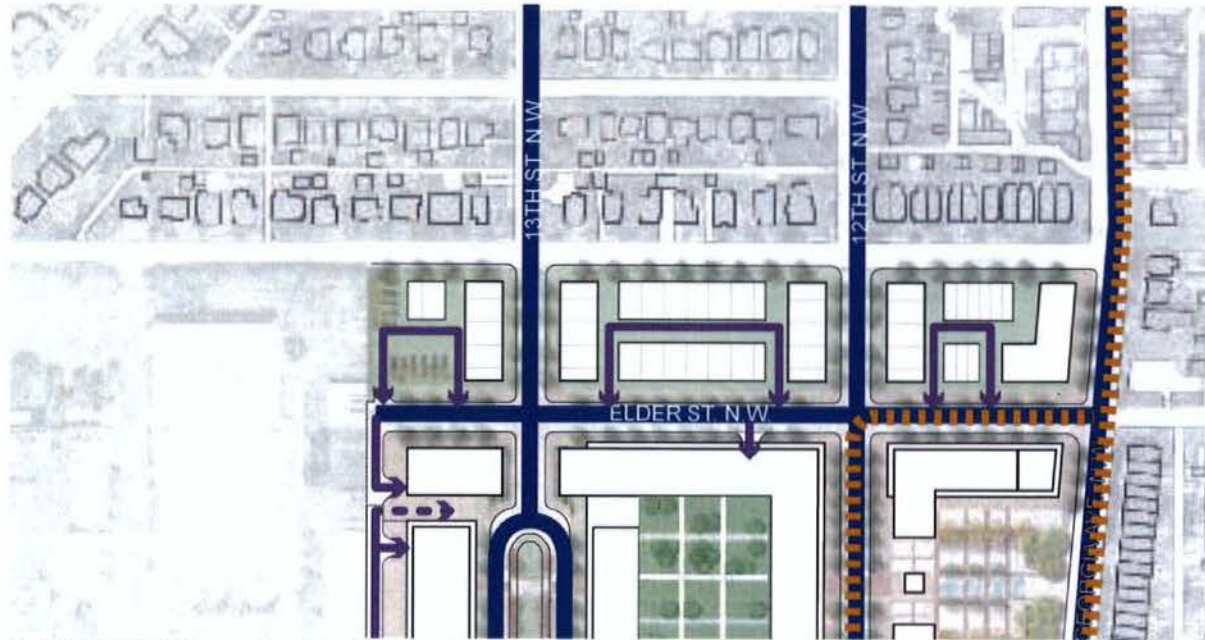


Exhibit 4-105: Street Section Key Plan - Fern Street. Source: Perkins+Will.



VEHICULAR MOBILITY

- Street
- Service and/or Parking
- - - - - Potential Streetcar

Exhibit 4-107: Vehicular Mobility - Fern Street. Source: Perkins+Will.



PEDESTRIAN AND BICYCLE MOBILITY

- Pedestrian
- Proposed On-Street Bicycle Lane

Exhibit 4-106: Pedestrian and Bicycle Mobility - Fern Street. Source: Perkins+Will.