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TECHNICAL MEMORANDUM

To: Loren Pope — Ellisdale Construction

From: Jim Watson, PTP
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Date: October 22, 2014

Subject: 1108 16th Street NW Parking and Loading Statement

INTRODUCTION

This memorandum outlines the parking and loading aspects of the 1108 16th Street NW development located in Downtown Washington, DC in Ward 2. Figure 1 identifies the regional site location within the District. The site is currently occupied by an office building and will be redeveloped into a mixed-use development comprising of approximately 18,000 square feet of office space and 17 residential units. Three (3) parking spaces will be supplied on-site behind the development along the alley accessible from L Street. All residential loading will take place via the parking area along the alley adjacent to the west of the site. A parking and loading statement has been developed to best serve the nature of the site. This includes an analysis of comparable development in addition to an on-street parking analysis to determine the existing parking utilization in the neighborhood. This was augmented by a Transportation Demand Management (TDM) plan to promote the use of non-vehicular travel modes to and from the site.

The following conclusions were made regarding the 1108 16th Street NW development:

- The site is surrounded by an existing network of transit, bicycle, and pedestrian facilities that result in an adequate environment for safe and effective non-auto transportation;
- Based on the site location near ample transit services in addition to an analysis of comparable residential sites, and coupled with a TDM plan, it is likely that the parking supplied by the development will be adequate to serve the needs of residents.
- On-Street parking is highly utilized in the vicinity of the site with a peak of 94 percent utilization during the weekday evening parking peak period. Given the urban nature of the development, it is not likely that the development will cause any detrimental impacts to on street parking conditions.
- Based on an analysis of comparable residential units and an estimation of loading activity for the development, it was determined that the amount of loading activity expected to take place at the site will be adequately served by the on-site parking area.
- A TDM plan for the development will include the implementation of transportation incentives, the availability of transportation information, and bicycle amenities.

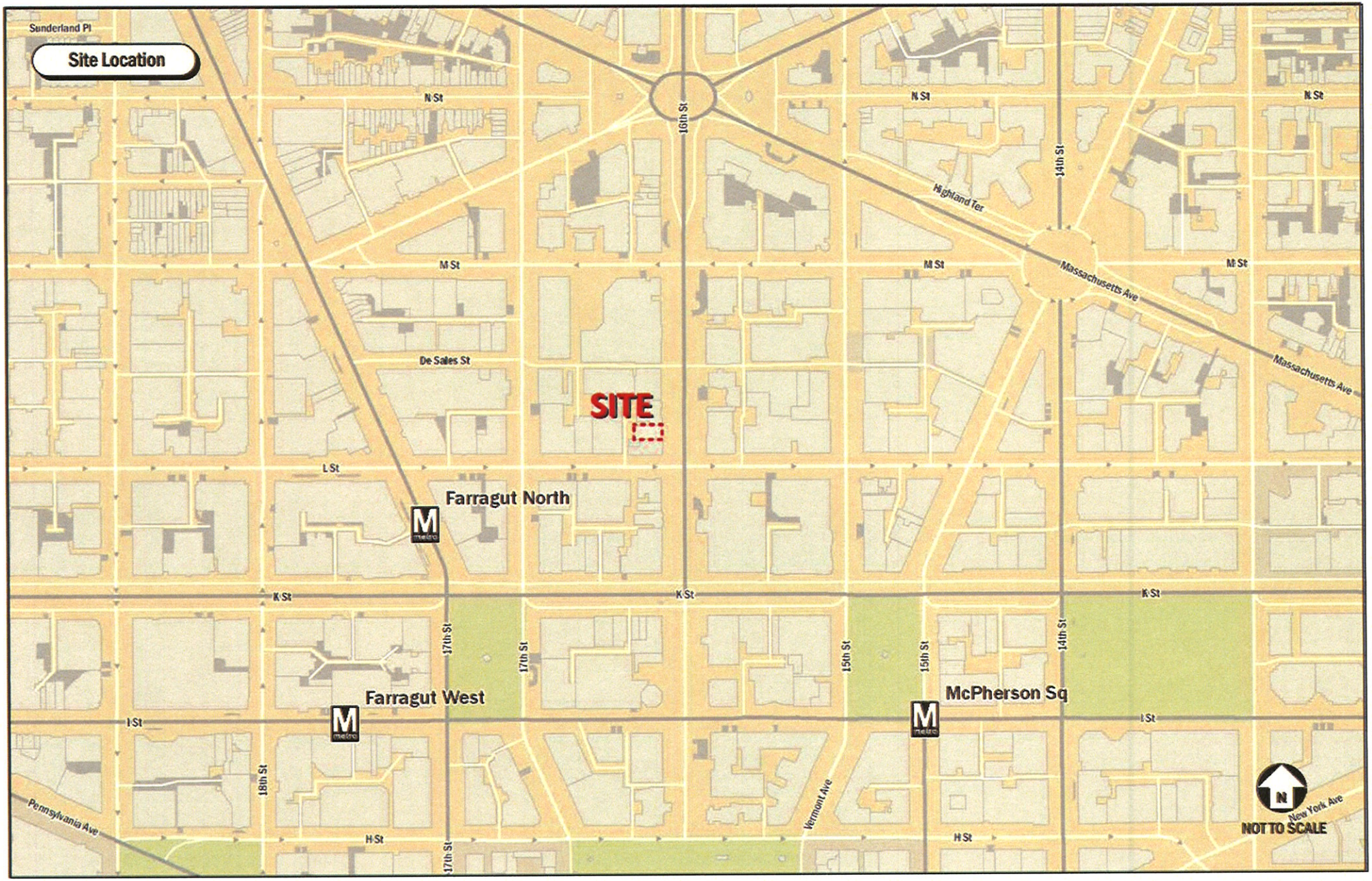

Figure 1: Site Location

EXISTING CONDITIONS

This section provides a review of the existing transit, bicycle, and pedestrian facilities in the vicinity of the site. The site is served by public transportation, primarily consisting of Metrorail and Metrobus. The project site is also served by a pedestrian network consisting of sidewalks and crosswalks along the streets surrounding the project site. Additionally, the site is served by an on-street bicycle network, consisting of bike lanes, cycle tracks, and signed bicycle routes.

Transit

The study area is well served by Metrorail and Metrobus. Combined, these transit services provide local, city wide, and regional transit connections and link the site with major cultural, residential, employment, and commercial destination throughout the region. Figure 2 identifies the major transit routes, stations, and stops in the study area.

Three Metrorail stations are located near the proposed development: Farragut North, Farragut West, and McPherson Square. The Farragut North station is located approximately two blocks to the west of the site and provides access to the Red Line. This station connects the site with Shady Grove, Maryland via Bethesda to the north and Glenmont, Maryland via Silver Spring to the northeast. Trains at these stations run approximately every 6 minutes during the morning and afternoon peak hours, every 12 minutes during the weekday mid-day and evening hours, and every 20 minutes on weekends.

The Farragut West and McPherson Square stations are both located approximately one quarter of a mile from the site and provide access to the Orange and Blue Lines. These two stations connect the site to Vienna, Virginia via Arlington to the west and New Carrollton, Maryland via Capitol Hill to the east on the Orange Line. The two stations also provide access to Franconia-Springfield, Virginia via Alexandria to the south and Largo, Maryland via Capitol Hill to the east on the Blue Line.

Numerous Metrobus and MetroExpress routes operate along 16th Street, 15th Street, K Street, I "Eye" Street, and Connecticut Avenue within walking distance of the site. Table 1 shows a summary of the bus route information for the lines that serve the study area, including service hours and the headways. The nearest Metrobus stop is located at the intersection of 16th Street and L Street, less than 200 feet from the site and serves the S1, S2, and S4 lines. Additionally, there is at least one stop for every bus route listed below within a quarter mile of the site.

Table 1: Bus Route Information

Route Number	Route Name	Service Hours[1]	Headway[1]
3Y	Lee Highway – Farragut Square Line	Weekdays: 6:30 – 9:30 AM (Eastbound only) 4:15 – 8 PM (Westbound only)	25 min
11Y	Mt Vernon Express Line	Weekdays: 6:30 – 9:00 AM (Northbound only) 4:10 – 7:30 PM (Southbound only)	15 – 30 min
16Y	Columbia Pike – Farragut Square Line	Weekdays: 6:10 – 9:40 AM (Eastbound Only) 3:45 – 7:35 PM (Westbound Only)	10 – 20 min
38B	Ballston – Farragut Square Line	Mon - Sat: 5:20 AM – 2:00 AM Sunday: 5:30 AM – 12:30 AM	15 – 30 min

[1] WMATA route schedules, http://wmata.com/bus/timetables/

32, 36	Pennsylvania Avenue Line	Late night extension of A2, 6, 8 line Weekdays: 12:00 am – 6:00 am Weekends: 12:00 am – 8:00 am	30 min
37	Wisconsin Avenue Limited Line	Weekdays: 6:30 – 10:00 AM (Southbound only) 4:00 – 7:45 PM (Northbound only)	15 min
39	Pennsylvania Avenue Limited Line	Weekdays: 6:30 – 9:45 AM (Westbound only) 3:30 – 7:30 PM (Eastbound only)	15 min
42, 43	Mount Pleasant Line	Mon - Sat: 4:30 AM – 3:30 AM Sunday: 4:30 AM – 2:00 AM	10 – 30 min
80	North Capitol Street Line	Weekdays: 4:30 AM – 2:00 AM Weekends: 5:00 AM – 1:00 AM	10 - 30 min
D1	Glover Park – Federal Triangle Line	Mon – Sat: 7:00 – 10:00 AM (Eastbound only) 4:30 – 7:45 PM (Westbound only)	20 - 30 min
D3	Ivy City – Dupont Circle Line	Mon – Sat: 6:00 – 10:00 AM (Westbound only) 3:00 – 6:45 PM (Eastbound only)	20 – 30 min
D6	Sibley Hospital – Stadium – Armory Line	Weekdays: 4:30 AM – 2:00 AM Saturdays: 5:00 AM – 3:00 AM Sundays: 5:30 AM – 1:00 AM	20 – 40 min
G8	Rhode Island Avenue Line	Weekdays: 5:00 AM – 1:30 AM Weekends: 5:30 AM – 1:00 AM	15 – 30 min
L2	Connecticut Avenue Line	Weekdays: 5:45 AM – 1:00 AM Weekends: 6:30 AM – 12:30 AM	15 – 20 min
N2, N4, N6	Massachusetts Avenue Line	Weekdays: 5:45 AM – 12:00 AM Weekends: 6:30 AM – 12:00 AM	15 – 30 min
P17, P19	Oxon Hill – Fort Washington Line	Mon – Sat: 5:00 AM – 3:00 PM (Northbound only) 9:30 AM – 8:00 PM (Southbound only)	10 – 30 min
S1	16th Street – Potomac Park Line	Mon – Sat 6:00 AM – 9:30 AM (Southbound only) 4:00 PM – 7:30 PM (Northbound only)	15 – 20 min
S2, S4	16th Street Line	Mon - Sat: 4:30 AM – 3:30 AM Sunday: 4:30 AM – 2:00 AM	15 – 30 min
S9	16th Street Limited	Mon – Sat: 6:30 AM – 7:00 PM	10 min
W13	Bock Road Line	Mon – Sat: 5:00 AM – 9:00 AM (Northbound only) 3:30 PM – 8:00 PM (Southbound only)	20 min
X2	Benning Road – H Street Line	Mon – Sat: 4:15 AM – 3:00 AM Sunday: 4:15 AM – 2:30 AM	15 – 30 min
DC Circulator	Georgetown – Union Station	Sun – Thurs: 7:00 AM – 12:00 AM Fri – Sat: 7:00 AM – 2:00 AM	10 min

Due to growth of population, jobs, and retail, the District's infrastructure is challenged with the need for transportation investments to support growth and to further strengthen neighborhoods. In order to meet these challenges and capitalize on future opportunities, DDOT has developed a plan to identify transit challenges and opportunities and to recommend investments. This is outlined in the DC's Transit Future System Plan report published by DDOT in April 2010. This plan includes the reestablishment of streetcar service in the District and near the proposed development.

The streetcar system element of the plan includes three routes that travel near the project site. The streetcar system will consist of modern low-floor vehicles that operate on surface tracks embedded in the roadways, which will mostly operate in travel lanes that are shared with automobiles. Stops will generally be located every ¼- to ½-mile along the routes. The future planned routes serving the study area will connect the site to several areas in the District including Georgetown, Washington Circle, Congress Heights, Buzzard Point, Takoma, Rhode Island Avenue, and Benning Road.

In addition, the K Street Transitway will be located near the study area. The project will reconfigure the K Street corridor to benefit mass transit, passengers, pedestrians, cyclists, and motorists. The most updated plan consists of a two-way, two-lane median transitway as well as two general purpose travel lanes between 20th Street and 9th Street NW, and one 10-foot travel/off-peak parking lane in each direction on K Street between 20th Street and 12th Street.

Car Sharing

Three car-sharing companies serve the District: Zipcar, Enterprise CarShare, and Car2Go. All three services are private companies that provide registered users access to a variety of automobiles. Zipcar and Enterprise CarShare both have locations near the project site. Table 2 lists the car-sharing locations in the vicinity of the project and shows that 30 carsharing vehicles are available within a short walk of the site. Carshare locations are also shown on Figure 3.

Table 2: Car Share Locations and Vehicles

Carshare Location	Number of Vehicles
Zipcar	
1150 15th Street	1 Vehicle
1015 15th Street	2 Vehicles
1199 Vermont Avenue	3 Vehicles
1730 Rhode Island Avenue	3 Vehicles
1150 Connecticut Avenue	2 Vehicles
1100 18th Street	2 Vehicles
1775 I "Eye" Street	4 Vehicles
Scott Circle West	2 Vehicles
15th Street/N Street	1 Vehicle
Andover House	2 Vehicles
Enterprise Carshare	
Scott Circle West	2 Vehicles
14th Street/N Street	2 Vehicles
1234 Massachusetts Avenue	4 Vehicles
Total Number of Car Share Vehicles in Study Area	**30 Vehicles**

Car-sharing is also provided by Car2Go, which provides point-to-point car sharing. Unlike Zipcar and Enterprise CarShare, which require two-way trips, Car2Go can be used for one-way rentals. Car2Go currently has a fleet of vehicles located throughout the District. Car2Go vehicles may park in any non-restricted metered curbside parking space or Residential Parking Permit location in any zone throughout the defined "Home Area". Members do not have to pay the meter or pay stations. Car2Go does not have permanent designated spaces for their vehicles; however availability is tracked through their website, which provides an additional option for car-sharing patrons.

Bicycle Facilities

Surrounding the site, bicycles have access to on-street bike lanes, signed bike routes, and local and residential streets that facilitate cycling. The bicycle network provides good conditions for local trips and there are several routes for trips between the study area and other areas within the District.

For the most part, cyclists to and from the 1108 16th Street site have short and direct access to existing bicycle facilities. This is represented in Figure 3 which displays the projected routes in which bicyclists would take to access or egress the site via nearby existing bicycle facilities. As can be seen in the figure, there is very good north-south connectivity via the 15th Street cycle track. Although there is a small break in the cycle track, bicycle specific signage leads bicyclists along an area with no vehicular traffic in order to regain access to the cycle track. There is also significant east-west connectivity east of the site via the Pennsylvania Avenue cycle track in addition to the New York Avenue and G Street bike lanes. The L Street cycle track offers an exclusive eastbound lane and the M Street cycle track offers an exclusive westbound lane west of Connecticut Avenue. Overall, the existing bicycle infrastructure near the site is very good with many cycle tracks and bike lanes creating multi-directional connectivity throughout the district.

The Capital Bikeshare program, launched in late September 2010, has placed over 175 bicycle-share stations across Washington, DC and Arlington and Alexandria, VA with approximately 1,670 bicycles provided. There are two stations within a quarter-mile radius of the site located at Columbus Circle/Union Station and D Street/Maryland Avenue NE contributing to 67 docking stations as summarized in Table 3.

Table 3: Bikeshare Stations

Bikeshare Location	Number of Docks
K & 17th Streets	19 docking stations
17th & K Streets	15 docking stations
15th and K Streets	18 docking stations
15th St and New York Ave	15 docking stations
Total	**67 docking stations**

Pedestrian Facilities

Pedestrian access to the site is provided along 16th Street and the facilities within the study area provide a good walking environment. Sidewalks, crosswalks, and curb ramps with detectable warnings are provided at all intersections in the study area and nearly all intersections within a quarter-mile walkshed of the site. Pedestrian activity within the study area occurs along transit access routes, along transit transfer routes, in the vicinity of transit stops, and at commercial nodes surrounding the area. All streets in the study area have adequate sidewalk widths, and although there are few continuous buffers between the sidewalk and curb, there are many trees, bike racks, parking meters, and similar objects that provide some separation between pedestrians and vehicular traffic. On-street parking provides an additional buffer between pedestrians and vehicular traffic, however on most streets within the study area parking is not allowed during the AM and PM peak periods. Figure 4 displays the existing pedestrian facilities within a quarter-mile walkshed. As can be seen, there are signalized crosswalks at all major intersections in addition to a pedestrian only pathway near the site.

The bus stops located along K Street, I (Eye) Street, H Street, 15th Street, and 16th Street serve bus routes that provide local and commuter service between the study area and destinations throughout the District as well as parts of Maryland and Virginia. Over 20 Metrobus lines are accessible within a quarter-mile of the site. Three Metro lines that provide connectivity between the District, Maryland, and Virginia are also located within a quarter-mile of the site. Due to the large

amount of transit options available near the study area, there is heavy pedestrian traffic walking to transfer points in addition to pedestrians walking to or from transit stops.

A detailed review of pedestrian facilities near the site shows that most facilities meet DDOT standards, and provide a quality walking environment. Sidewalks, crosswalks, and curb ramps are evaluated based on the guidelines set forth by DDOT's Public Realm Design Manual in addition to ADA standards, summarized below in Table 4. Within the quarter-mile walkshed, all roadways would be considered downtown. Therefore, a 16 foot sidewalk with a 6 foot buffer is required. As can be seen in the figure, most sidewalks comply with standards; however, it should be noted in most locations the buffer is the parking lane, which is converted to a through lane during the AM and PM peak hours. Therefore, for approximately five hours of each day, there is no continuous barrier between the roadway and sidewalk. ADA standards require that all curb ramps be provided wherever an accessible route crosses a curb and must have a detectable warning. Additionally, curb ramps shared between two crosswalks in not desired. As shown in the figure, under existing conditions there are some issues with curb ramps in the area complying with ADA standards.

Table 4: Sidewalk Requirements

Street Type	Minimum Sidewalk Width	Minimum Buffer Width
Residential (Low to Moderate Density)	6 ft	4 ft (6 ft preferred for tree space)
Residential (High Density)	8 ft	4 ft (6 ft preferred for tree space)
Commercial (Non-downtown)	10 ft	4 ft
Downtown	16 ft	6 ft