GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION

d. Policy Planning and Sustainability Administration

MEMORANDUM

TO: Sarah B. Bardin
Director, Office of Zoning

FROM: Samuel Zimbabwe
Associate Director

DATE: September 10, 2013

SUBJECT: ZC Case No. 13-05 – Forest City Washington - DC Water Occupied Sites

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APPLICATION AND SUMMARY

The Applicant, Forest City Washington is seeking approval for a First and Second Stage Planned Unit Development (PUD) and related Zoning Map amendments from CG/W-2 to CG/CR and CG/W1, for the property located in Square 744S on part of Lot 805 and Square 744SS on part of Lot 801 ("Subject Property"). The PUD, also referenced as "DC Water Occupied Sites" and is bounded by N Place, SE, to the north, 1st Street, SE to the west, Canal Street to the east, and 1 Diamond Teague Park to the south.

The Applicant proposes to redevelop the site in two phases on four new city blocks identified as Parcels G1, G2, G3, and F1. The first phase would include development of Parcel F1 with a 95,000 sf. cinema and 2,026 sf. of flex retail space served by a 337 space parking garage. The proposed movie theater will contain 16 screens and approximately 2,500 seats. Phase II would include development of parcels G1 and G2 with 600 residential dwelling units, 35,000 sf. of retail space and a 300 space parking structure. The third and final phase of the project would include development of Parcel G3 with 15,000 sf. of retail space and expansion of Diamond Teague Park. The retail components of the project would include mixed use development with ground floor retail, eateries, art exhibit space, artist studio space, and entertainment uses. The Applicant seeks first stage PUD approval for the residential and retail components of the PUD and first and second stage approvals for the proposed movie theater, 2,026 sf. of ground floor retail, and the 337 space parking structure. The Applicant proposes a total of 637 parking spaces for phase I and II of the PUD.

The Applicant submitted a Comprehensive Transportation Review (CTR) to DDOT on June 18, 2013. DDOT provided comments on the study to the Applicant on August 13, 2013. Based on this feedback the Applicant provided an updated report and the information below includes a summary of DDOT's findings and recommendations based on all submitted materials.

FINDINGS AND RECOMMENDATIONS IN BRIEF

The purpose of DDOT's review is to assess potential safety and capacity impacts of the proposed action on the District's transportation network, and as necessary propose appropriate mitigations.

After an extensive multi-administration review, DDOT finds:

- The project will generate additional vehicle trips that will exacerbate failing levels of service at multiple intersections within the study area.
- The proposed cinema would only be accessible by N Place in the initial phase of the development.
- The proposed vehicle parking supply in Phase I will be overbuilt by approximately 100 spaces which is likely to lead to a level of vehicle trip generation and thus travel delay that is higher than anticipated in the Applicant's CTR.
- There are several existing surface parking lots and underutilized curbside parking within ¼ mile of the proposed site.
- DDOT expects that a signal will be necessary at 1st Street and O Street and/or 1st Street and N Place by full buildout of the PUD.

Based on these findings, DDOT is supportive of the overall development concept granted the Zoning Commission require the following conditions:

- Redesign intersection of Potomac Avenue and 1st Street to reduce lane configuration offset, and commit to cover all cost related to design and construction of appropriate new signal hardware.
- Relocate the driveway for Parcel F1 on N Place to accommodate safe spacing between the site driveway and the future extension of Canal Street.
- Prohibit subleasing of commercial spaces to adjacent businesses or residents.
- Provision to provide an onsite facility with showers and lockers for employees of the cinema and retail development.
- Exclude the approximately 100 Phase II retail parking spaces included in the Phase I parking garage or incorporate significant performance monitoring that could lead to the construction of a traffic signal at 1st and N Place if certain thresholds are not met.
- Provide an updated CTR for any portion of the PUD submitted for phase II approval.

TRANSPORTATION ANALYSIS

DDOT is committed to achieving an exceptional quality of life in the nation's capital by encouraging sustainable travel practices, constructing safer streets and providing outstanding access to goods and services. As one means to achieve this vision, DDOT works through the zoning process to ensure alternative modes are adequate to accommodate new travel demand while discouraging single occupancy vehicle trips. To facilitate this vision, DDOT requests applicants going before the Zoning Commission for PUD approval, complete a Comprehensive Transportation Review (CTR). The CTR provides the pertinent information to determine what effects the proposed project will have on the overall transportation network. The following analysis evaluates the Applicant's CTR to determine its accuracy and consistency with the City's vision for a safe and efficient multimodal transportation network.

<u>Changes in Land Use Context</u>

DDOT has undertaken two distinct efforts to evaluate and modify the transportation infrastructure along South Capitol Street and M Street SE/SW. The analysis produced for these studies evaluated the potential impacts of future land uses along with proposed changes to the transportation infrastructure.

The studies concluded that the transportation network can accommodate anticipated growth, but will be at capacity.

The transportation improvement projects recommended from these studies provide a framework to help mitigate some levels of congestion and enhance mobility along these two major corridors. Below are brief descriptions of these corridor-wide studies and recommended projects.

1) *South Capitol Street Corridor Improvements* - The purpose of the South Capitol Street Corridor project is to improve safety, multimodal mobility, accessibility, and support economic development. This project will transform the existing corridor by rationalizing capacity, upgrading bridge structures, and modifying traffic patterns to operate more efficiently. When complete, the South Capitol Street Corridor will serve as a major urban gateway to the US Capitol and District of Columbia's Monumental Core.

2) *M Street, SE/SW Transportation Study* - The study identified current and future transportation challenges and needed mitigation measures within an approximately 1.7-square-mile area along M Street SE/SW, and the Southwest waterfront from 12th Street, SE to 14th Street, SW and from the Southeast/Southwest Freeway south to the Anacostia River/Washington Channel. The study analyzed the integration of transit, bicycling and walking with motor vehicle traffic in order to best serve the neighborhoods in this burgeoning section of the City. Safety and access needs were balanced to address the travel needs of residents with those of visitors and workers who will be drawn to new retail and mixed use development planned for the area.

Site Access

At full build-out the site will be accessible via 1st Street, N Place, an extension of Potomac Avenue, and two newly constructed streets, 1½ Street and O Street. Phase I of the project would provide access only from N Place and would construct 1 ½ Street from N Place to just north of the proposed O Street. All direct access to the site will be from private streets except for a single driveway on N Place.

With the extension of Potomac Avenue, DDOT will require that the Applicant redesign the intersection of Potomac Avenue and 1st Street to reduce lane configuration offset and update the signal to accommodate new movements. The Applicant will also need to submit appropriate updated signal timing plans, lane marking plans, and may be subject to replacing the entire signal as deemed necessary by DDOT at the time of public space permitting. Additionally, the proposed curb-cut on N Place that would serve the movie theater is less than 60' from the future intersection with Canal Street. Per DDOT standards, no driveway entrance or exit on any roadway shall be closer than 60 ft. to a roadway intersection. DDOT will work with the Applicant on the design and location of this curb-cut to comply with current standards. Figure 1 provides an illustration of the proposed vehicle access plan for the PUD.

Loading

The Applicant proposes to provide loading docks on each of the individual parcels with the exception of Parcel G3, where relief is being sought from the loading requirement. The proposed loading berths, platforms, and delivery areas proposed for Parcels G1 and G2 will be incorporated in Phase 2 of the PUD, however, the proposed loading for Parcel F1 will be constructed in Phase I. The proposed loading platforms and loading berths for the entire PUD are reasonably adequate for the scale of development. However, DDOT has raised concerns with the Applicant regarding truck maneuvers necessary to access Parcel F1. The AutoTurn diagrams illustrate that trucks would have to swing into travel lanes of opposing

traffic in order to exit Parcel F1. This maneuver could cause conflicts and safety concerns for motorists, pedestrians, and cyclists in the area. As such, the Applicant should design access and routing plans to eliminate this conflict. The Applicant will also be asked to submit loading diagrams for Parcels G1, G2, G3 during the Phase II entitlement process.

Parking

The overall parking demand created by the development is primarily a function of land use, development square footage, and pricing and supply of parking spaces. However in urban areas, other factors contribute to the demand for parking such as the availability of nearby high-quality public transit. Typically when a site is in close proximity to high frequency transit and an abundance of quality multi-modal options DDOT expects to see a relatively low or moderate demand for on-site parking.

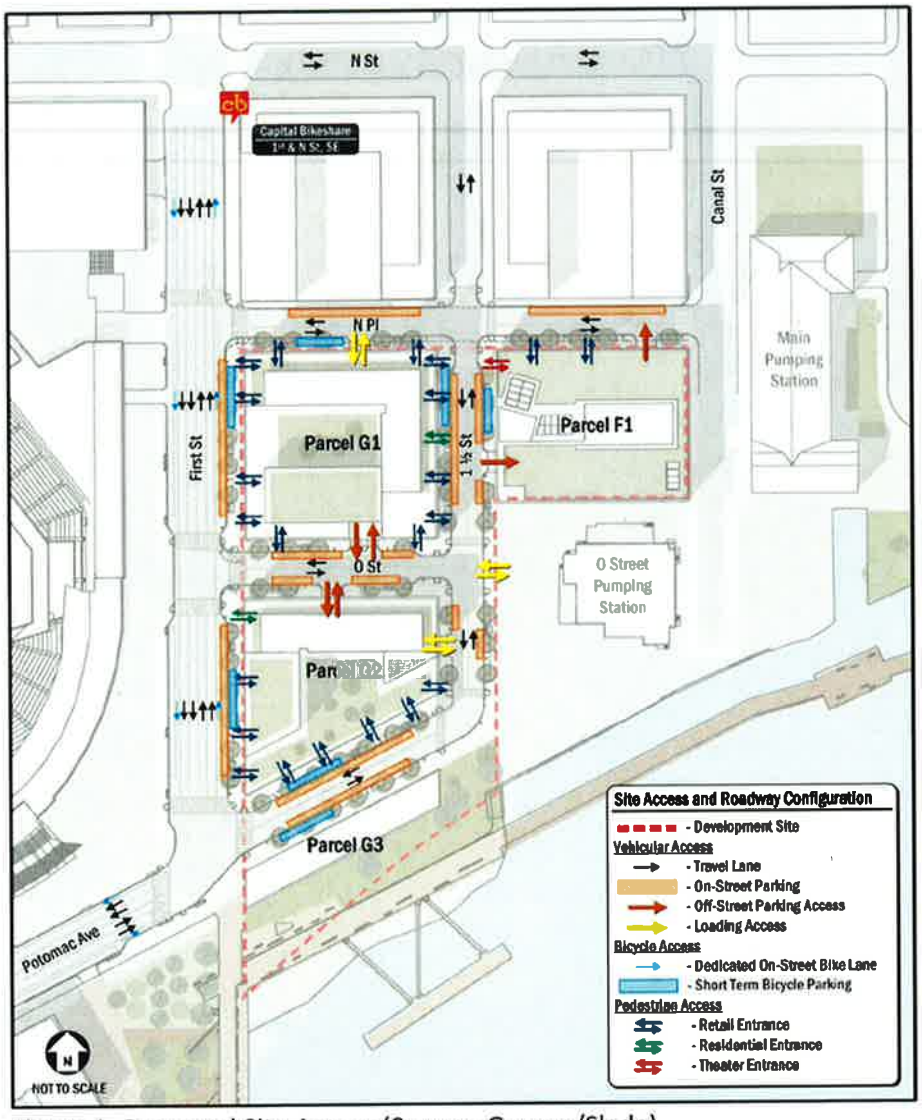

Figure 1- Proposed Site Access (Source: Gorove/Slade)

The Applicant is proposing 637 on-site parking spaces, with 300 residential spaces segregated from 337 spaces allocated for the cinema and other commercial components of the PUD. The Applicant utilized US Census data and the 4th Edition of the Institute of Transportation (ITE) *Parking Generation Manual* to

estimate parking demand and supply needs for the both the residential and commercial element of the PUD. The Applicant also provided parking ratios for similar scaled residential developments in the area. For the residential component of the proposed PUD, the Applicant proposes a ratio of 1 space for every 2 units which is consistent with other recently completed residential developments in the area. For nonresidential uses a parking ratio of .09 spaces per seat was utilized for the multiplex theater and a parking ratio of 1.87 spaces per 1,000 sf. of retail. DDOT typically sees a parking ratio of 1 space per 1,000 sf. of retail space with similar scaled developments within the District. DDOT recommends that the Applicant reduce the parking to meet this ratio for the retail component of the PUD.

Development	Spaces	Units	Spaces/Unit
Florida Rock	438	606	0.72
Camden	276	263	1.05
West Half	225	300	0.75
25 M Street	210	280	0.75
DC Water PUD	300	600	0.50

Table 1: Residential Parking Ratios of Nearby Developments (Source: Gorove/Slade)

Retail parking for buildout of the site is programmed for Phase I. However, the retail component of the PUD is not programmed for buildout until 2027 and if both the cinema and retail parking supply is constructed in Phase I, the site would maintain approximately 100 excess parking spaces for a decade or more. There are several temporary parking lots in close proximity to Parcel F1 that could accommodate some of the parking demand generated by the proposed cinema. Additionally, there is ample curbside parking in the area. As such, DDOT recommends that the Applicant either construct only the parking necessary to support the cinema in Phase I or agree to strict performance monitoring requirements as outlined in the performance monitoring section of this report that could lead to construction of a new signal at 1st Street and N Place.

Trip Generation

The Applicant utilized the ITE Trip Generation manual, 8th Edition to development a methodology for calculating trip generation for the proposed PUD. The projected residential trips were based on ITE Land Use (LU) Code 220 and are reflective of proposed apartment dwelling units, the retail trips were based on LU 820 for Shopping Center. The cinema trips where based on LU 445 for Multiplex Movie Theater, which is a theater with audience seating, 10 or more screens, and lobby with a refreshment area. However, due to the theater-house style format of the proposed cinema with art exhibit space, a sit-down restaurant, and other entertainment uses the 445 ITE Code does not fully capture the higher trip generation that would be expected with these uses. The utilization of this code likely underestimates the trip generation by an order of magnitude in the range of 5% to 10% more trips than what is projected in the CTR. In addition, the excess parking in Phase I could lead to a significantly higher vehicle trip generation than noted in the CTR.

The peak hour trip generation for the residential component of the development coincides with peak travel of the adjacent roadway network, 7-9 AM and 4-6PM during a typical weekday. However the retail development and cinema will not generate peak hour trips during the typical travel peak for the adjacent roadway. The cinema will not operate during AM hours and the retail will generate very few trips during the AM hours. Trip generation on Saturday for both the cinema and retail will have the most impact on the network. Based on the traffic analysis the highest volumes of trips for the residential

component will be during the PM peak with 365 trips, the retail will generate most trips during the Saturday peak hour with 232 trips, and the cinema will also generate the highest level trips on Saturday with 750 trips. The table below illustrates the estimated trip generation by mode of travel.

Land-Use/Mode	Trip Generation by Mode										
	AM Peak Hour			PM Peak Hour			Daily	Saturday Peak Hour			Saturday
	In	Out	Total	In	Out	Total	Total	In	Out	Total	Total
Vehicle Trips											
Residential	27	108	135	107	58	165	1,749	65	62	127	1,890
Cinema	-	-	-	43	77	120	1,200	234	216	450	4,500
Retail	11	8	19	35	36	71	810	48	45	93	941
Total New Vehicle Trips	38	116	154	185	171	356	3,759	347	323	670	7,331
Transit Person-Trips											
Residential	27	109	136	108	57	165	1,756	65	64	129	1,898
Cinema	-	-	-	47	85	132	1,320	257	238	495	4,950
Retail	20	14	34	62	64	126	1,441	86	79	165	1,675
Total New Transit Person-Trips	47	123	170	217	206	423	4,517	408	381	789	8,523
Walking Person-Trips											
Residential	8	33	41	32	17	49	527	19	20	39	570
Cinema	-	-	-	8	14	22	220	43	40	83	825
Retail	8	5	13	23	24	47	540	32	30	62	628
Total New Walking Person-Trips	16	38	54	63	55	118	1,287	94	90	184	2,023
Bicycling Person-Trips											
Residential	2	8	10	8	4	12	132	5	5	10	142
Cinema	-	-	-	8	14	22	220	43	40	83	825
Retail	3	1	4	8	8	16	180	11	10	21	209
Total New Bicycling Person-Trips	5	9	14	24	26	50	532	59	55	114	1,176
Total Trips*	106	286	392	489	458	947	10,095	908	849	1,757	19,053

** - Combination of person-trips and vehicle-trips*

Table 2: Site Trips by Mode (Source: Gorove/Slade)

Mode Split

The Applicant utilized the 2005 WMATA Development-Related Ridership Survey, 2009 National Household Travel Survey, MWCOG 2010 State of the Commute Survey, and results from the 2006-2010 American Community Survey as a basis for estimating expected mode splits. WMATA's transit ridership data, availability of on-site and off-site parking, proximity to transit facilities, and physical conditions of the pedestrian and bicycle facilities in the vicinity of the proposed development were all taken into consideration. The Applicant also examined the comparable mode splits of similar scaled residential and retail developments in the Navy Yard and SW Waterfront areas, as well as other entertainment sites and theaters within the DC metropolitan area. While DDOT believes the Applicant underestimates the overall trip generation, the suggested mode split for the residential, retail and cinema are generally on target for how trips are likely to distribute by mode as noted below.

Land Use	Mode Split				Average Vehicle Occupancy
	Vehicle	Transit	Walk	Bike	
Residential	45%	45%	7%	3%	1.13
Retail	40%	40%	15%	5%	1.78
Theater	60%	30%	5%	5%	2.20

Table 3: Mode Split Assumptions (Source: Gorove/Slade)

Roadway Capacity and Operations

DDOT and the Applicant agreed that 16 intersections and all site driveways would be included in the study area. The Applicant used the Highway Capacity Manual methods to evaluate the intersection capacities under the existing conditions (2013), background with and without the proposed PUD (2016),

and full build-out conditions (2027). The timeframe analyzed included AM and PM Peak Hour, Saturday Peak Hour, Game Day (Nationals Baseball) Peak Hour.

Figure 2: CTR Study Intersections (Source: Gorove/Slade)

The Applicant also examined traffic conditions with and without improvements to Canal Street in conjunction with the opening of the cinema. Improvements to Canal would permit site traffic to be more evenly distributed to the larger travel network. Without these improvements vehicles can only access the site from 1st Street and N Place which will result in increased delays for motorists entering and exiting the site, particularly during peak time periods.

Existing Conditions- Based on the analysis results under the existing traffic conditions, all of the study area intersections are operating at acceptable Levels of Service (LOS) "D" or better, as outlined in the DDOT Design and Engineering Manual §45.1, with the exception of two intersections. The intersection of Potomac Avenue/South Capitol Street operates at LOS "F" during the PM peak hour and LOS E during the AM Peak. Additionally, the intersection of N Street/South Capitol Street operates at LOS "E" during Game Day events and the southeast approach operates at LOS "F" during the PM peak hour.

Future Background Conditions – As part of the analysis of future conditions, DDOT requires applicants to account for two types of growth: 1) growth in regional traffic which has neither origin nor destination in

the study area, and 2) future growth of traffic on the roadway network that has either an origin or destination in the study area due to planned/approved developments, which is referred to as 'background growth'. The CTR identified thirty-nine (39) background developments, whose generated trips would be expected to impact the study area roadway network.

Based on the analysis results, under the background traffic conditions, all of the study area intersections are projected to continue operating at acceptable Levels of Service (LOS) "D" or better, except the intersections of Potomac Avenue/South Capitol Street and N Street at the South Capitol Street Ramp. The Applicant also examined the impact of Canal Street being constructed from N Street to N Place in conjunction with development of Parcel F1. Based on the traffic analysis provided by the Applicant, improvements to Canal Street would help distribute traffic volume at First Street and N Place and would significantly reduce delay. At this intersection all approaches would experience a decrease in delay and the westbound approach would improve from a LOS "C" without Canal Street to LOS "B" with the construction of Canal Street to DDOT Standards.

Build-out Conditions – Due to the extensive volume of development expected within the study area by 2027 several intersections are projected to operate with levels of service below D, particularly along South Capitol Street and M Street. These issues will be addressed as part of DDOT's M Street SE/SW and South Capitol Street Corridor improvements. However, DDOT expects that a signal will be necessary at 1st Street and N Place and/or O Street by full buildout of the PUD and depending on the level of trip generation of the initial phase of the project, after Phase I opening. A performance monitoring program will address unanticipated impacts of the Phase I project and an updated CTR for Phase II will address the need for a signal prior to constructing the Phase II project.

Safety

DDOT policy requires that Applicants conduct safety analyses to demonstrate that specific land developments will not create or exacerbate new or existing safety issues for all modes of travel.
Due to the fact that DDOT is in the process of validating the crash data for the year 2011, the Applicant used the available data for the most recent three years for safety evaluations (i.e., 2008-2010). Based on the crash rate calculations, three of the study intersections are above DDOT's accepted crash rate criteria of 1.0 per Million Entering Vehicles (MEV); N Street with South Capitol Street, and the intersections of M Street at South Capitol Street, New Jersey Avenue, and 4th Street. These intersections experienced 1.06, 3.69, 1.15, and 1.01 crash rates per MEV, respectively.

DDOT has evaluated the traffic conditions and transportation needs from a broader perspective to develop and implement long-term transportation solutions that include operational and safety measures to improve mobility, access, and safety of the roadway network in this area as identified in the South Capitol Street Environmental Impact Statement and M Street, SE/SW Transportation Study. Since geometric and traffic control modifications will be underway for the M Street SE/SW and South Capitol Street in the near future, the safety issues highlighted by the Applicant's CTR will be addressed during the redesign and planning stages of these facilities.

Transit

DDOT and the Washington Metropolitan Transportation Authority (WMATA) have partnered to provide extensive public transit service in the District. DDOT's vision is to leverage these investments to increase the share of non-automotive travel modes so that economic development opportunities increase with minimal infrastructure investment. The site is within ¼ mile of the Navy Yard Metrorail station and is directly served by several local and regional bus routes. Over 30 buses service the area via 13 bus routes

during peak hour periods. These routes include the A42, A46, A48, A9, P6, V7, V8, V9, 74, and the DC Circulator Union Station to Navy Yard. Collectively, these bus routes provide connecting service to Metrorail stations on every line. Many of these routes offer cross city service to major employment centers, regional retail centers, entertainment and sporting venues, major universities, and national landmarks. Most of the routes operate with frequencies of 20 minutes or less in the peak periods.

Bicycle Facilities

In Phase I of the PUD the Applicant proposes 12 short-term bicycle spaces and 40 long term spaces. Long term bicycle parking proposed for Phase I are adequate, but due to the anticipated heavy demand for short-term parking for the cinema, DDOT recommends 24 short-term spaces. DDOT will work with the Applicant during the Public Space permitting process to finalize the number and location of bicycle racks for the Phase I project. In regards to Phase II, the Applicant proposes 25 short term spaces and 205 long term spaces. The Zoning Commission is considering updated standards for long-term bicycle parking for residential and commercial uses. The Applicant will be responsible for adhering to the standards that are in place at the time of submitting for Phase II approval for any portion of the project. The table below provides an illustration of the bicycle parking as proposed by the Applicant for each parcel included in the PUD.

Bicycle Parking Proposed by Applicant			
Parcel	Short Term	Long Term	Total
FI	12	40	52
G1	10	120	130
G2	10	85	95
G3	5	0	5
TOTAL	**37**	**245**	**282**

Table 4: Bicycle Parking (Source: Gorove/Slade)

Transportation Demand Management (TDM)

As part of all major development review cases, DDOT requires the Applicant to produce a comprehensive Transportation Demand Management (TDM) plan. TDM is a set of strategies, programs, services, and physical elements that influence travel behavior by mode, frequency, time, route, or trip length in order to help achieve highly efficient and sustainable use of transportation facilities. In the District, this involves implementing infrastructure or programs to maximize the use of mass transit, bicycle and pedestrian facilities, and reduce single occupancy vehicle trips during peak periods.

In addition to the TDM measures offered in the CTR, the Applicant should also be required to include the following proposed TDM strategies with the TDM Plan for the site:

- Provision prohibiting subleasing of commercial spaces to adjacent businesses or residents, and
- Provision to provide an onsite facility with showers and lockers for employees of the cinema and retail component of the PUD.

The Applicant will be required to submit an updated TDM Plan in conjunction with the updated CTR that will be required with any Phase II approvals.

Performance Monitoring

Due to the excess supply of parking provided by the Applicant in Phase I and the slightly inconsistent ITE trip generation code, the trip generation estimates for Phase I are likely underestimated. Accordingly, DDOT requests of the Zoning Commission, and will require in the Public Space permitting process, a robust monitoring program designed to limit trips entering the site as follows:

- The Applicant shall report on vehicle trip generation for Phase I for two 6 month monitoring cycles.
- The Applicant shall conduct intersection turn movement counts at N Place and First Street on three successive days – Thursday to Saturday.
- The Applicant shall evaluate conditions in the fall and spring on days during baseball events to be submitted by December 1 and July 1 of each year.
- If traffic counts of any approach are 10% or higher than reported in the CTR, the Applicant would be responsible for conducting a warrant study, and as necessary designing and installing a new traffic signal.

This monitoring program should only apply to Phase I development. All subsequent phases should be evaluated in separate CTR documents and as necessary include a monitoring program.

Streetscape

Consistent with District policy and practice, any substantial new building development or renovation is expected to rehabilitate streetscape infrastructure between the curb and the property lines. This includes curb & gutter, street trees and landscaping, street lights, sidewalks, and other appropriate features within the public rights of way bordering the site. The Applicant must work closely with DDOT to ensure that the design of the public realm meets all current standards and will substantially upgrade the appearance and functionality of the streetscape for public users needing to access the property or circulate around it. The *DDOT Public Realm Design Manual* will serve as the main public realm references for the Applicant. DDOT staff will be available to provide additional guidance during the Public Space permitting process. Specifically, DDOT suggests that the Applicant participate in a Preliminary Design Review Meeting (PDRM) to address design related issues prior to the submission of public space permit applications.

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