# Endnotes & Appendices

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#### **Endnotes**

The endnotes and appendices contain pertinent additional information for the Urban Design Streetscape Framework, Vertical Elements, Surface Elements, and Small-Scale Elements. As this is a dynamic document, adjustments to the appendices will continue to occur, including to the character area descriptions and construction manual.

- 1 Roadways include various elements within the public right-of-way, including but not limited to travel lanes, sidewalks, and public open spaces. For the purposes of this document, the terms roadways and streets or streetscapes are used interchangeably.
- The monumental core is the spatial and symbolic center of the city, which includes the U.S. Capitol Grounds, White House, Arlington National Cemetery, National Mall, Federal Triangle, and the surrounding government offices and civic, cultural, and symbolic structures. The monumental core is most closely linked to the distinctive image of the capital city and the functions of federal government. While the major landmarks and resources within the core are perceived, the monumental core does not have a rigid geographic or jurisdictional boundary and continues to evolve.
- Interagency Working Group (IWG) Members include: Architect of the Capitol (AOC); U.S. Commission of Fine Arts (CFA); District of Columbia Office of Planning (DCOP); Government of the District of Columbia, District Department of Transportation (DDOT); U.S. Department of Transportation Federal Highway Administration (FHWA); U.S. General Services Administration (GSA); John F. Kennedy Center for the Performing Arts (Kennedy Center); National Capital Planning Commission (NCPC); National Gallery of Art (NGA); U.S. Department of the Interior, National Park Service, National Capital Region (NPS); and Smithsonian Institution (SI).
- 4 Landscape public parking (or public parking) is the area of public space devoted to open space, greenery, parks, or parking that lies between the property line, which may or may not coincide with the building restriction line, and the edge of the actual or planned sidewalk that is nearer to the property line, as the property line and sidewalk are shown on the records of the District. This area often includes spaces that appear to be front yards with private landscaping that create park-like settings on residential streets.
- 5 Streetlight fixtures are also referred to as streetlighting units.
- The monumental core area contains 17 historic districts: (1) National Mall, (2) Washington Monument Grounds, (3) East and West Potomac Parks, (4) Northwest Rectangle, (5) GWU/Old West End, (6) Foggy Bottom, (7) Seventeenth Street, (8) Lafayette Square, (9) Sixteenth Street, (10) Financial, (11) Pennsylvania Avenue, (12) Federal Triangle, (13) Downtown, (14) Judiciary Square, (15) Mount Vernon Triangle, (16) Mount Vernon Square, and (17) Capitol Hill.
- 7 Streetlight fixtures are contributing elements to the following cultural landscapes: Capitol Square, Library of Congress, Lincoln Memorial Grounds, National Mall, Pennsylvania Avenue, President's Park South, Senate Parks, Union Square, Washington Monument Grounds.
- Noreen, Sarah Pressey. Public Street Illumination in Washington, D.C. GW Washington Studies Series, No. 2. Washington, D.C.: George Washington University, 1975.
- 9 Ibid.
- 10 The Mall: National Mall and Memorial Parks Cultural Landscape Inventory, NPS (2006).
- 11 East and West Potomac Parks Historic District Nomination, NPS (1999).
- 12 Benjamin Banneker Park Cultural Landscape Inventory, NPS (2013).

- 13 Pennsylvania Avenue Cultural Landscape Inventory, NPS (2016).
- Pedestrian is defined as a person who is on foot or who is operating a self-propelled wheelchair, motorized tricycle, or motorized quadricycle and, by reason of physical disability, is otherwise unable to walk about. A pedestrian does not include persons using self- or electric- propelled, bicycles, scooters, segways, skateboards, or other micromobility vehicles.
- Refers to height reached by the tree species upon maturity. Does not refer to tree height upon planting/installation.
- 16 Use multiple tree species with similar shapes, branching structures, and mature heights to develop a species polyculture rather than monoculture.
- 17 American Elms are susceptible to Dutch Elm Disease, Elm Yellows, and the Elm Leaf Beetle.
- 18 Green infrastructure is stormwater management practices designed to reduce and treat stormwater at its source using plant or soil systems, permeable pavement, or other permeable surfaces.
- The L'Enfant Plan for the city of Washington (1791) called for a double row of trees on 160-foot-wide avenues. President Thomas Jefferson's plan for Pennsylvania Avenue, NW (1803) called for a double row of Lombardy Poplar trees. The DC Commissioner's Shade Tree Plan (1880) identified double rows of trees on K Street NW and NE, Massachusetts Avenue NW and NE, New York Avenue NW, and Pennsylvania Avenue SE. The Olmsted Brothers (1903) recommended a double row of trees on 16th Street, NW to frame the White House vista.
- 20 Planting a double row of trees on Independence Avenue, SW would require significant changes. Further study is needed to balance the aspiration for additional tree canopy with other planning considerations such as roadway reduction, demand for pedestrian walking space and curbside drop-offs, universal accessibility, additional travel modes, and stormwater management.
- 21 Red Maples are currently plentiful in Washington, D.C.
- 22 Verges are landscape areas between the curb and sidewalk and may include street trees, landscape plantings, street furnishings, and step-out zones.
- A step-out is a narrow strip of sidewalk along the back of curbs that provide space to step out of a vehicle parked adjacent to a furnishing zone.
- 24 Beautified areas may include, but are not limited to, other tree boxes, stormwater management, landscaped public parking, or building yards.
- Temporary use of flexible porous pavement is defined as the length of construction requiring flexible porous pavement to maintain open sidewalk, not lasting more than five to ten years, while a more durable long-term plan is implemented.
- Detail drawings can be found in DDOT's Standard Drawings (2015). Some details are in progress as the IWG advances work to update the Streetscape Construction Manual.
- 27 The root flare is the area at the base of a tree where the trunk transitions from trunk and bark tissues into the root system.
- Understory plantings refers to plants that may be planted under the trees as well as shrubs, perennials, groundcovers, and grass that may be planted in landscape design either under the trees or not.

- 29 See presidential memorandum, Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators (June 2014) and the Pollinator Health Task Force National Strategy to Promote the Health of Honey Bees and Other Pollinators (May 2015).
- 30 A combined sewer overflow is a sewer system which collects rainwater runoff, domestic sewage, and wastewater into one pipe.
- 31 Permeable pavers are a paver system which uses solid pavers with joins that allow water to infiltrate in between pavers, and into the sub surface system below. Due to maintenance challenges, permeable pavers are recommended because they are the most durable and easiest to maintain amongst permeable, porous, and pervious types of paving.
- 32 These areas are under federal jurisdiction, except L'Enfant Promenade/10th Street, SW and the at-grade roadway through the 4th Street Plaza, which are under the District's jurisdiction. Note: the National Gallery of Art below-grade building is underneath the 4th Street Plaza.
- Typically, at L'Enfant Plan circles and squares, a quarter-round curb circumscribes lands under NPS jurisdiction.

  Often, the sidewalks outside the quarter-round curb are under the District's jurisdiction.
- A Barnes-Dance intersection or pedestrian scramble is a type of intersection where car traffic halts for pedestrians to cross in all directions including diagonally and usually at the same time.
- Albedo (al-bee-doh) is a measure of how much light that hits a surface is reflected without being absorbed. Albedo is typically measured on a scale of zero to one. Something that appears white reflects most of the light that hits it and has a high albedo, while something that looks dark absorbs most of the light that hits it, indicating a low albedo. Pavements with lower albedo tend to absorb more solar energy, resulting in higher pavement temperatures, whereas pavements with higher albedo typically absorb less solar energy, resulting in cooler pavement temperatures.
- Porous asphalt is a pavement surface, which uses coarser medium than traditional asphalt to allow water filtration over a continuous surface. Porous pavers are paver blocks made of a cellular grid system with the gaps filled with soil, sand, or gravel, which allows water infiltration.
- 37 Pervious pavers are paver materials, which allows water to flow directly through the paver material.
- More information about the differences and uses for permeable, porous, and pervious pavements available at: https://stormwater.wef.org/2013/10/pervious-permeable-porous-pavers-really/
- 39 Multi-use trails typically carry pedestrians, bicyclists, and other micromobility vehicles. On the National Mall, NPS plans to change the use of the multi-use trails to prioritize pedestrian circulation and provide separate dedicated facilities for bicycles and other travel modes.
- 40 Micromobility is defined as shared or private electric scooters, bikeshare, or other small, lightweight, wheeled conveyances that typically travel at high- to mid- speeds (faster than pedestrian travel).
- 41 For more information on pedestrian safety improvements, see https://highways.dot.gov/sites/fhwa.dot.gov/files/2020-11/FHWA\_PedSafety\_ActionPlan\_Nov2020.pdf
- 42 Step-Out areas are also referred to as Curb Walk areas in the District's Design and Engineering Manual.

- 43 For more information, see:
  - (Proposed) Public Rights-of-Way Accessibility Guidelines (PROWAG) available at: https://www.access-board.gov/prowag/
  - Public Rights-of-Way Access Advisory Committee (PROWACC) Accessible Public Rights-of-Way: Planning and Designing for Alterations available at: https://www.access-board.gov/files/prowag/planning-and-design-for-alterations.pdf
- Pedestrian level of comfort (PLOC), developed by the Montgomery County Planning Department, describes how comfortable pedestrians feel when circulating along sidewalks and pathways. PLOC can be assessed based on factors such as traffic speed, number of lanes, and whether there is a buffer between the street and the pedestrian.
- To establish a baseline understanding of typical pedestrian circulation and inform the application of Streetscape Guidelines (see Tree Box Treatments), landholding agencies documented observed annual average daytime pedestrian volumes. These observations are not based on pedestrian counts or other quantitative data.
- Pedestrian Paths show pedestrian connections within public ROWs and through grade-level landscaped open spaces generally open to the public that are important to the daytime circulation network. Pedestrian Paths outside of public ROWs are shown for context and are not subject to the Pedestrian Circulation Guidelines.
- 47 Restricted Access Roadways limit vehicle circulation, often controlled by security checkpoints and retractable vehicle barriers. Typically, pedestrian circulation is permitted through restricted access roadways.
- 48 WMATA's Station Area Planning Guide, available at: https://www.wmata.com/business/real-estate/upload/Station-Area-Planning- Guide-October-2017.pdf
- 49 Pedestrian Clear Zone refers to the space within the sidewalk area that is clear of any and all obstructions for pedestrian use.
- Total Sidewalk Width refers to the sidewalk area inclusive of the step-out, tree/furnishing zone, and Pedestrian Clear Zone. This does not include landscaped public parking.
- Pedestrian protection means buffering pedestrians located on sidewalks, medians, refuge islands, walkways, or pedestrian pathways or trails from vehicle conflicts.
- 52 Geofence is a virtual perimeter around a physical geographic area.
- 53 See Traffic Regulations for the U.S. Capitol Grounds (2019) for more information: https://www.uscp.gov/sites/uscapitolpolice.house.gov/files/wysiwyg\_uploaded/US%20Capitol%20Grounds%20 Traffic%20Regulations\_Amended%20February%202019.pdf
- 54 Unless designated as multi-use trail.

# Streetscape Elements Appendices

The Appendices contain resources that support the Streetscape Design Guidelines: Vertical and Surface Elements.

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#### **Streetlights**

A-S-1: DDOT's Streetlight Policy and Design Guidelines (2013) 88

#### A-S-1: DDOT's Streetlight Policy and Design Guidelines (2013)

The following excerpt reflects federal-local interagency coordination to develop streetlight fixture guidance. The Boundary area is exempt from DDOT's guidance. However, the following excerpt is included to address transitions between the monumental core and other areas of the city. The excerpt includes the map of Special and Historic streets as well as tables identifying appropriate streetlight fixtures for these street designations. Generally, the monumental core area has underground power lines. For current information and guidance on streetlighting, see the Monumental Core LED Streetlight Performance Criteria (2024), a component of the Monumental Core Construction Manual.

Figure 12. Special and Historic Streets in Washington, DC

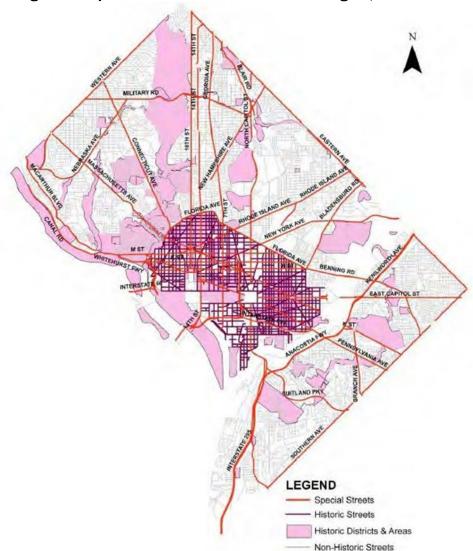


Table 20. Standards for Historic Streets with Underground Power Lines

	Ro	adway/Area Typ	oe .				Tunnels/	
Criteria	Commercial	Intermediate (Mixed Use)	Residential	Bridges°	Alley	Freeway	Underpasses	Comments
Lighting Hardware Type	#14, #16, #18, Twin 20 <sup>b</sup>	#14, #16, #18, Twin 20 <sup>b</sup>	#14, #16, #18	#14, #16, #18, Twin 20 <sup>b</sup> (Note: Replace Historic Upright in kind)	Cobra- head (5A)	Cobra- head	Wall packs or other viable options (Note 4) for vehicular Tunnels #14, #16, #18 for pedestrian tunnels	Upright poles are currently used for historic areas. They are truly historical to DC and aesthetically more pleasing
Cutoff Criteria	Full Cutoff or Cutoff	Full Cutoff or Cutoff	Full Cutoff or Cutoff	Full Cutoff or Cutoff	Full Cutoff or Cutoff	Full Cutoff or Cutoff	N/A	
Color of Pole	Black	Black	Black	Depends on Bridge Design	Black	Black	N/A	Existing color
Preferred Orientation	Staggered	Staggered	Staggered	Opposite	Staggered	Staggered	N/A	Staggered chosen because of uniformity of light     Opposite for bridge for aesthetics and symmetry
Min Spacing between Poles <sup>a</sup>		60 ft m	nin (on one side)	) – all orientations		342	N/A	
Height of Pole			Depends on F	ole Type			N/A	
Base of Pole			Depends on F				N/A	
Material of Pole		Depe		ailing technology			N/A	

a For Special Case, the spacing can be less than recommended, but it must be justified. Minimum spacing between the poles (60 ft) is not a recommendation but only an absolute

For Signalized Intersections, if mast arm is required, Pendant pole should be used as combination pole; decorative arm with Teardrop fixture can be used.

Table 22. Standards for Special Streets with Underground Power Lines

	R	oadway/Area Ty	pe				Tunnels/	
Criteria	Commercial	(Mixed Use)	Residential	Bridges <sup>c</sup>	Alley	Freeway	Underpasses	Comments
Lighting Hardware Type	Twin 20	Cobrahead (Alt. Decorative Teardrop*)	Cobrahead (Alt. Decorative Teardrop <sup>a</sup> )	Twin 20	N/A	Cobrahead (Alt. Decorative Teardrop <sup>a</sup> )	Wall packs or other viable options (Note 4) for vehicular Tunnels #14, #16, #18 for pedestrian tunnels	Twin 20s are DC signature poles and aesthetically more pleasing
Cutoff Criteria	Full Cutoff or Cutoff	Full Cutoff or Cutoff	Full Cutoff or Cutoff	Full Cutoff or Cutoff	N/A	Full Cutoff or Cutoff	N/A	
Color of Pole	Black	Black	Black	Depends on Bridge Design	N/A	Black	N/A	
Preferred Orientation	Opposite	Opposite	Opposite	Opposite	N/A	Staggered	N/A	<ul> <li>Opposite may be aesthetically more pleasing</li> </ul>
Min Spacing between Poles <sup>b</sup>	60 ft, min (on one side) - all orientations		N/A	60 ft, min (on one side) - all orientations	N/A			
Height of Pole		Depends o	n Pole Type		N/A	Depends on Pole Type	N/A	
Base of Pole		Depends o	n Pole Type		N/A	Depends on Pole Type	N/A	
Material of Pole	D	epends on the pr	evailing technol	ogy	N/A	Depends on the prevailing technology	N/A	

Twin 20 not necessarily desirable unless it is a Special Case.

Bridges may deviate from these guidelines and may be designed with special decorative streetlight hardware to signify their importance, especially in the entry to the City.

<sup>1.</sup> For Signalized Intersections, if mast arm is not required, for upright poles (#14, #16 & #18), #18 combination pole should be used; and for Twin 20, the same should be used as

For Unsignalized Intersections, the same pole should be used at the intersections. If the selected pole doesn't illuminate the intersection uniformly, the next taller pole that illuminates the intersection uniformly should be selected.

DDOT-Approved LED fixtures, if available, are an option for all above-mentioned lighting alternatives.

b For Special Case, the spacing can be less than recommended, but it must be justified. Minimum spacing between the poles (60 ft) is not a recommendation but only an absolute

c Bridges may deviate from these guidelines and may be designed with special decorative streetlight hardware to signify their importance, especially in the entry to the City.

For Signalized Intersections, if mast arm is not required, Twin 20 should be used as combination pole.

For Signalized Intersections, if mast arm is required, Pendant pole should be used as combination pole; decorative arm with Teardrop fixture can be used

For Unsignalized Intersections, the same pole should be used at the intersections. If the selected pole doesn't illuminate the intersection uniformly, the next taller pole that

illuminates the intersection uniformly should be selected.

4. DDOT-Approved LED fodures, if available, are an option for all above-mentioned lighting alternatives.

#### **Trees**

A-T-1: Tree List

A-T-2: National Mall and Memorial Parks Bird
and Bat Best Management Practices

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#### A-T-1: Tree List

**Chart A-T-1: Street Tree List.** Trees in the following chart are good examples of urban-tolerant street trees to plant in each form category, as shown on **Map T-1: Recommended Tree Form.** It is more important for street trees to have the recommended tree form characteristics, than match the exact species listed in the Table. The Tree List is not exclusive, and other tree species may be identified that match the intended form characteristics.

Tree forms include Large Vase-Shaped Canopy: Similar to American Elm, Vase and Spreading, Pyramidal, and Round and Oval. The tree height reflects the mature height of a species: large (60-80 feet tall); medium (40-60 feet tall); small (less than 40 feet tall). Trees listed in bold letters are inundation tolerant and suitable for bioretention facilities according to DDOT and DOEE. Trees listed in italics are large vase-shaped trees that are similar to the American Elm and recommended for the National Mall according to The State of the Elms on the National Mall in Washington, D.C. Operations and Maintenance Guide (March 2019).

Trees are categorized by form and height according to the *Manual* of *Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation, and Uses* 6th Ed. 2009 by Michael A. Dirr, *Urban Tree Selection Guide: A Designer's List of Appropriate Trees for the Urban Mid-Atlantic 2015* by Casey Trees, and consultations with federal arborists.

# A-T-2: National Mall and Memorial Parks Bird and Bat Best Management Practices

The National Mall and Memorial Parks (NAMA) supports several District of Columbia (DC) avian and mammal species of concern (**Table 1**). Most birds at NAMA are protected by the Migratory Bird Act. In addition Executive Order 13186 (2009), directs Federal agencies to minimize negative impact to birds and promote conservation. Since birds nest in locations other than trees, such as bare ground and shrubs, construction projects should consider the entire project area and inspect for nesting birds and other denned/roosted wildlife. **Table 2**, not only highlights the U.S. Fish and Wildlife Services'list of birds of conservational concern, but where these species nest. Although NAMA is not occupied byany federally threatened or endangered species it is adjacent to critical habitat for the

CHART A-T-1: STREET TREE LIST		
LARGE VASE-SHAPED CANOPY: SIMILAR TO AMERICAN ELM		10
Large (60-80 feet mature height)	Medium (40-60 feet mature height)	Small (less than 40 feet mature height)
Ulmus japonica x wilsoniana [Accolade] / Accolade Elm	Ulmus [Morton Glossy] / Triumph Elm	
Ulmus Americana [Jefferson]	Ulmus [Patriot] / Patriot Elm	·
*	Zelkova serrata [Green Vase] / Green Vase Zelkova	9.
VASE & SPREADING		
Large (60-80 feet mature height)	Medium (40-60 feet mature height)	Small (less than 40 feet mature height)
Celtis laevigata / Sugar Hackberry	Celtis occidentalis / Common Hackberry	Amelanchier species and cultivars
Ulmus americana [Colonial Spirit]	Chionanthus retusus and cultivars	Cercis canadensis and cultivars
Ulmus Americana [Jefferson]	Eucommia ulmoides / Hardy Rubber Tree	Crataegus viridis 'Winter King'
Ulmus americana 'New Harmony'	Gleditsia triacanthos / Thornless Honeylocust	Koelreuteria paniculata / Golden Raintree
Ulmus americana 'Valley Forge'	Gymnocladus dioicus / Kentucky Coffee Tree	Lagerstroemia indica / Common Crapemyrtle
Ulmus japonica x wilsoniana [Accolade] / Accolade Elm	Gymnocladus dioicus [Espresso-JFS] / Espresso Kentucky Coffee Tree	Prunus serrulata / Japanese Cherry [Kwanzan]
Ulmus parvifolia / Chinese Elm	Ulmus [Morton Glossy] / Triumph Elm	Prunus x yedoensis / Yoshino Cherry
Zelkova serrata / Japanese zelkova	Ulmus [Patriot] / Patriot Elm	i i
	Zelkova serrata [Green Vase] / Green Vase Zelkova	
PYRAMIDAL	· · · · · · · · · · · · · · · · · · ·	
Large (60-80 feet mature height)	Medium (40-60 feet mature height)	Small (less than 40 feet mature height)
Ginkgo biloba / Maiden hair tree	Betula nigra / River Birch	Illex x atenuata / Topal Holly
Liriodendron tulipifera / Tulip Poplar	Ilex opaca / American Holly	Magnolia virginiana / Sweetbay Magnolia
Magnolia grandiflora / Southern Magnolia	Liquidambar styraciflua / American sweetgum	F
Metasequoia glyptostroboides / Dawn Redwood	Nyssa sylvatica / Black Tupelo	
Platanus x acerifolia / London Planetree	Quercus bicolor / Swamp White Oak	
Platanus occidentalis / American Sycamore	Quercus lyrata / Overcup Oak	
Quercus coccinea / Scarlet Oak	Tilia tomentosa / Silver Linden	
Quercus falcata / Southern Red Oak		
Quercus imbricaria / Shingle Oak		
Quercus nigra / Water Oak		
Quercus nuttalli / Nuttall Oak		
Quercus palustris / Pin Oak		
Quercus phellos / Willow Oak		
Quercus rubra / Red Oak		
Quercus shumardii / Shumard Oak		
Taxodium distichum / Common Baldcypress		
Tilia americana / American Linden		
Tilia cordata / Littleleaf Linden		
ROUND & OVAL		
Large (60-80 feet mature height)	Medium (40-60 feet mature height)	Small (less than 40 feet mature height)
Acer saccharinum / Silver Maple	Acer buergerianum and cultivars	Acer barbatum / Florida Maple
Acer saccharum / Sugar Maple cultivars that do well in this region	Acer rubrum / Red Maple	Acer campestre / Hedge Maple [Queen Elizabeth]
Aesculus flava / Yellow Buckeye	Catalpa speciosa / Northern Catalpa	Carpinus caroliniana / American Hornbeam
Aesculus hippocastanum / Common Horse Chestnut	Celtis occidentalis / Common Hackberry	Catalpa bignonioides / Southern Catalpa
Quercus coccinea / Scarlet Oak	Cladrastis kentukea / American Yellowwood	Chionanthus virginicus / White Fringetree
Quercus macrocarpa / Bur Oak	Diospyros virginiana / Common Persimmon	Magnolia stellata / Star Magnolia
Quercus robur / English Oak	Pistacia chinensis and cultivars / Chinese pistache	Prunus x incamp / Okame Cherry [Okame]
Quercus rubra / Red Oak	Quercus bicolor / Swamp White Oak	Malus x arnoldiana / Flowering crabapple
Sophora japonica or Styphnolobium japonicum / Japanese Pagodatree	Quercus lyrata / Overcup Oak	Magnolia virginiana / Swamp Magnolia
		Prunus virginiana / Common chokecherry

endangered AtlanticSturgeon (Acipenser oxyrinchus oxyrinchus). We suggest the following recommendations for tree/shrub removal to ensure compliance with The Migratory Bird Act (1918), The Bald and Golden Eagle Protection Act (1940), and District of Columbia regulations (2015):

To protect migratory birds, tree/shrub removal should not occur between March 15 – August 15. If this can not be accommodated, a survey will be conducted to ensure that the trees/shrubs to be removed do not contain any nesting birds (eggs/nestlings). There are also species-specific guidelines:

- **Bald Eagle**: December 15th July 15th, 0.25 mile buffer around the nest, during breeding season, restricting vehicle/pedestrian access.
- **Black-Crowned NightHeron**: (listed as Tier Priority 1 for D.C. Species of Greatest Conservation Need 2015 see Table 1) nesting restrictions are April 1 August 15, activities should be restricted within 0.25 miles of the rookery and maintain undisturbed vegetated buffer of at least 500' around rookery.

To protect bats in the area, between June 1st and July 31st, roosting trees and a 150-foot radius buffer will have no tree removal, or other disturbance within the zone. If this can not be accommodated a survey will be conducted to ensure that the trees to be removed are not utilized by roosting bats. Please see Appendix A for additional information regarding construction and bird conservation provided by the U.S. Fish and Wildlife Service.

#### **Pruning trees and shrubs**

When pruning, you should modify your work to not disturb, injure, or kill protected wildlife (Tree Care Industry Association, 2017). The following information on tree and shrub pruning has been adapted from "Tree Care for Birds and Other Wildlife, Best Management Practices in California" (2018) and "Avoiding Impacts on Nesting Birds, Best Management Practices, Vegetation and Construction Projects" (2016). Dates for pruning follow the guidelines for tree/shrub removal listed above.

- 1. Plan work accordingly to avoid bird/bat breeding season (March 15 August 15, for most bird species).
  - a. Birds and other wildlife not only utilize tree/shrub limbs as breeding/resting/foraging areas, but use tree cavities, leaves, bark, and standing dead trees (**Figure 1**). Regardless if a nest is present the tree/shrub may be providing nesting/denning habitat for wildlife.
  - Nests and wildlife dens/habitat can also be found in human structures and should be considered when planning construction and other projects (Figure 2).

**Table 1:** District of Columbia listed species of concern (Last updated in 2015).

Scientific Name	Common Name	Category of Concern*	Status	Nest Location
Haliaeetus leucocephalus	Bald Eagle	Non-BCC Vulnerable	Year round	Tree
Coccyzus erythropthalmus	Black-billed Cuckoo	BCC Rangewide (CON)	Migration	Tree
Dolichonyx oryzivorus	Bobolink	BCC Rangewide (CON)	Migration	Ground
Cardellina Canadensis	Canada Warbler	BCC Rangewide (CON)	Migration	Ground
Dendroica cerulean	Cerulean Warbler	BCC Rangewide (CON)	Breeding	Tree
Calidris alpine arcticola	Dunlin	BCC-BCR	Migration	Ground N/A
Antrostomus vociferous	Eastern Whip-poor-will	BCC Rangewide (CON)	Not Found Past 10yrs	Ground
Aquila chrysaetos	Golden Eagle	Non-BCC Vulnerable	Migration	Cliff N/A
Vermivora chrysoptera	Golden-winged Warbler	BCC Rangewide (CON)	Migration	Ground
Oporonis formosus	Kentucky Warbler	BCC Rangewide (CON)	Breeding	Ground
Sterna antillarum	Least Tern	BCC-BCR	Breeding nearby	Ground N/A
Tringa flavipes	Lesser Yellowlegs	BCC Rangewide (CON)	Migration	Ground
Dendroica discolor	Prairie Warbler	BCC Rangewide (CON)	Breeding	Shrub
Protonotaria citrea	Prothonotary Warbler	BCC Rangewide (CON)	Breeding	Cavity
Melanerpes erythrocephalus	Red-headed Woodpecker	BCC Rangewide (CON)	Breeding & wintering	Cavity
Gavia stellata	Red-throated Loon	BCC Rangewide (CON)	Nonbreeding	Ground N/A
Arenaria interpres morinella	Ruddy Turnstone	BCC-BCR	Nonbreeding	Ground N/A
Euphagus carolinus	Rusty Blackbird	BCC Rangewide (CON)	Nonbreeding	Tree N/A
Calidris pusilla	Semipalmated Sandpiper	BCC Rangewide (CON)	Migration	Ground N/A
Limnodromus griseus	Short-billed Dowitcher	BCC Rangewide (CON)	Migration	Ground N/A
Bubo scandiacus	Snowy Owl	BCC Rangewide (CON)	Winter (irruptive)	Ground N/A
Numenius phaeopus	Whimbrel	BCC Rangewide (CON)	Migration	Ground N/A
Tringa semipalmata	Willet	BCC Rangewide (CON)	Not Found Past 10yrs	Ground N/A
Hylocichla mustelina	Wood Thrush	BCC Rangewide (CON)	Breeding	Tree

**Table 2:** U.S. Fish and Wildlife Service Birds of Conservation Concern at the National Mall and Memorial Parks.

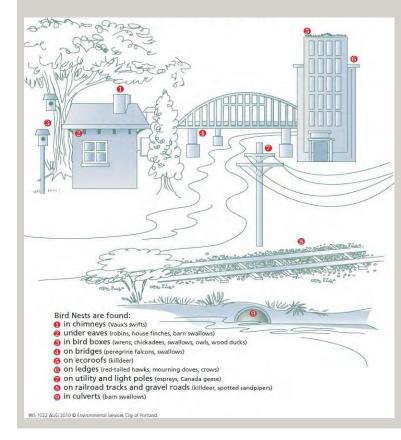
Scientific Name	Common Name	Tier Priority
Icterus galbula	Baltimore Oriole	1
Nycticorax nycticorax	Black-crowned Night Heron	1
Empidonax trailii	Willow flycatcher	1
Hylocichla mustelina	Wood Thrush	1
Myotis lucifugus	Little Brown Bat	1
Perimyotis subflavus	Tri-colored Bat	1
Lasiurus cinereus	Hoary Bat	1
Lasiurus borealis	Eastern Red Bat	1
Eptesicus fuscus	Big Brown Bat	1
Lasionycteris notivagans	Silver Haired Bat	1

- "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
- "BCC BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
- 3. "Non-BCC Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

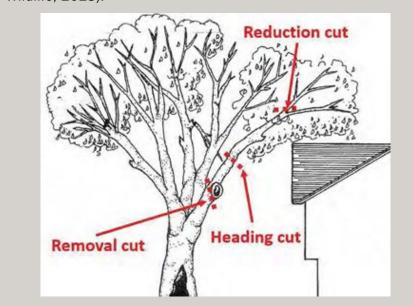
**Figure 1:** Common nest locations (Illustration from *Tree Care for Birds & Other Wildlife, 2018*).



**Figure 2:** Human structure related bird nest/wildlife habitat locations (Illustration from Avoiding Impacts on Nesting Birds, Best Management Practices, Vegetation and Construction Projects, 2016)



**Figure 3:** Different cuts used to remove the hazard but retain the dead/dying tree (Illustration from Tree Care for Birds & Other Wildlife, 2018).



- 2. If work is near a nesting bird/wildlife den, minimize disturbance in the area, especially during inclement weather.
- 3. If risk is managed and human safety is not an issue, consider keeping dead or dying trees since they provide habitat for insects/birds/wildlife. Different pruning techniques can be used to reduce the risk to human safety while still preserving the snag for wildlife habitat (Figure 3). If all branches are unsafe, remove the branches and leave the trunk.

#### **Literature Cited**

City of Portland Environmental Services. 2016. Avoiding Impacts on Nesting Birds: Best Management Practices for Vegetation and Construction Projects. City of Portland, Portland, OR.

District of Columbia Department of Energy and Environment. 2015. District of Columbia Wildlife Action Plan. Government of the District of Columbia.

Donohue, K., R. Gilpin, and C. Bassett. 2018. Tree Care for Birds & Other Wildlife, Best Management Practices in California.

Tree Care Industry Association. 2017. American National Standard, Tree, Shrub, and Other Woody Plant Management – Standard Practices (Pruning).

#### **Laws Protecting Birds**

Migratory Bird Treaty Act (1918): Makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations.

The Bald and Golden Eagle Protection Act (1940): Prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. There are criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner any bald eagle... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act also defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

Executive Order 13186 (2001): Support bird conservation by enhancing or restoring habitat, reducing negative impacts, integrate migratory birds in educational activities, etc. A memorandum of understanding between the National Park Service and Fish and Wildlife Service was signed 04/10/2010.

District of Columbia Regulations (2015): Chapter 15 Title 19 Section 1574.5

A migratory bird shall be controlled only in accordance with the federal Migratory Bird Treaty Act (16 U.S.C. §§703-712) and its' implementing regulations, and as follows:

- (a) A nest with eggs or young may not be moved, relocated, destroyed, or altered in any way without first obtaining a federal permit.
- (b) A nest with no eggs or young may be removed from structures such as boats, docks, and construction equipment, or relocated without a federal permit.

# Nationwide Standard Conservation Measures for Construction Sites, U.S. Fish and Wildlife Service.

#### **NATIONWIDE STANDARD CONSERVATION MEASURES**

Listed below are effective measures that should be employed at all project development sites nationwide with the goal of reducing impacts to birds and their habitats. These measures are grouped into three categories: General, Habitat Protection, and Stressor Management. These measures may be updated through time. We recommend checking the Conservation Measures website regularly for the most up-to- date list.

#### 1. General Measures

- a. Educate all employees, contractors, and/or site visitors of relevant rules and regulations that protect wildlife. See the Service webpage on Regulations and Policies for more information on regulations that protect migratory birds.
- b. Prior to removal of an inactive nest, ensure that the nest is not protected under the Endangered Species Act (ESA) or the Bald and Golden Eagle Protection Act (BGEPA). Nests protected under ESA or BGEPA cannot be removed without a valid permit.
- See the Service Nest Destruction Policy
- c. Do not collect birds (live or dead) or their parts (e.g., feathers) or nests without a valid permit. Please visit the Service permits page for more information on permits and permit applications.
- d. Provide enclosed solid waste receptacles at all project areas. Non-hazardous solid waste (trash) would be collected and deposited in the on-site receptacles. Solid waste would be collected and disposed of by a local waste disposal contractor. For more information about solid waste and how to properly dispose of it, see the EPA Non-Hazardous Waste website.
- e. Report any incidental take of a migratory bird, to the local Service Office of Law Enforcement.
- f. Consult and follow applicable Service industry guidance.

#### 2. Habitat Protection

- a. Minimize project creep by clearly delineating and maintaining project boundaries (including staging areas).
- b. Consult all local, State, and Federal regulations for the development of an appropriate buffer distance between development site and any wetland or waterway. For more information on wetland protection regulations see the Clean Water Act sections 401 and 404.
- c. Maximize use of disturbed land for all project activities (i.e., siting, lay-down areas, and construction).
- d. Implement standard soil erosion and dust control measures. For example:
  - i. Establish vegetation cover to stabilize soil
  - ii. Use erosion blankets to prevent soil loss
  - iii. Water bare soil to prevent wind erosion and dust issues

#### 3. Stressor Management

#### **Stressor: Vegetation Removal**

Conservation Goal: Avoid direct take of adults, chicks, or eggs.

**Conservation Measure 1:** Schedule all vegetation removal, trimming, and grading of vegetated areas outside of the peak bird breeding season to the maximum extent practicable. Use available resources, such as internet-based tools (e.g., the FWS's Information, Planning and Conservation system and Avian Knowledge Network) to identify peak breeding months for local bird species; or, contact local Service Migratory Bird Program Office for breeding bird information.

**Conservation Measure 2:** When project activities cannot occur outside the bird nesting season, conduct surveys prior to scheduled activity to determine if active nests are present within the area of impact and buffer any nesting locations found during surveys.

- 1) Generally, the surveys should be conducted no more than five days prior to scheduled activity.
- 2) Timing and dimensions of the area to be surveyed vary and will depend on the nature of the project, location, and expected level of vegetation disturbance.
- 3) If active nests or breeding behavior (e.g., courtship, nest building, territorial defense, etc.) are detected during these surveys, no vegetation removal activities should be conducted until nestlings have fledged or the nest fails or breeding behaviors are no longer observed. If the activity must occur, establish a buffer zone around the nest and no activities will occur within that zone until nestlings have fledged and left the nest area. The dimension of the buffer zone will depend on the proposed activity, habitat type, and species present and should be coordinated with the local or regional Service office.
- 4) When establishing a buffer zone, construct a barrier (e.g., plastic fencing) to protect the area. If the fence is knocked down or destroyed, work will suspend wholly, or in part, until the fence is satisfactorily repaired.
- 5) When establishing a buffer zone, a qualified biologist will be present onsite to serve as a biological monitor during vegetation clearing and grading activities to ensure no take of migratory birds occurs. Prior to vegetation clearing, the monitor will ensure that the limits of construction have been properly staked and are readily identifiable. Any associated project activities that are inconsistent with the applicable conservation measures, and activities that may result in the take of migratory birds will be immediately halted and reported to the appropriate Service office within 24 hours.
- 6) If establishing a buffer zone is not feasible, contact the Service for guidance to minimize impacts to migratory birds associated with

the proposed project or removal of an active nest. Active nests may only be removed if you receive a permit from your local Migratory Bird Permit Office. A permit may authorize active nest removal by a qualified biologist with bird handling experience or by a permitted bird rehabilitator.

**Conservation Measure 3:** Prepare a vegetation maintenance plan that outlines vegetation maintenance activities and schedules so that direct bird impacts do not occur.

#### **Stressor: Invasive Species Introduction**

**Conservation Goal: Prevent the introduction of invasive plants.** 

**Conservation Measure 1:** Prepare a weed abatement plan that outlines the areas where weed abatement is required and the schedule and method of activities to ensure bird impacts are avoided.

**Conservation Measure 2:** For temporary and permanent habitat restoration/enhancement, use only native and local (when possible) seed and plant stock.

**Conservation Measure 3:** Consider creating vehicle wash stations prior to entering sensitive habitat areas to prevent accidental introduction of non-native plants.

**Conservation Measure 4:** Remove invasive/exotic species that pose an attractive nuisance to migratory birds.

#### **Stressor: Artificial Lighting**

Conservation Goal: Prevent increase in lighting of native habitats during the bird breeding season. Conservation Measure 1: To the maximum extent practicable, limit construction activities to the time between dawn and dusk to avoid the illumination of adjacent habitat areas.

**Conservation Measure 2:** If construction activity time restrictions are not possible, use down shielding or directional lighting to avoid light trespass into bird habitat (i.e., use a 'Cobra' style light rather than an omnidirectional light system to direct light down to the roadbed). To the maximum extent practicable, while allowing for public safety, low intensity energy saving lighting (e.g. low pressure sodium lamps) will be used.

**Conservation Measure 3:** Minimize illumination of lighting on associated construction or operation structures by using motion sensors or heat sensors.

**Conservation Measure 4:** Bright white light, such as metal halide, halogen, fluorescent, mercury vapor and incandescent lamps should not be used.

#### **Stressor: Human Disturbance**

**Conservation Goal: Minimize prolonged human presence near nesting** birds during construction and maintenance actions.

**Conservation Measure 1:** Restrict unauthorized access to natural areas adjacent to the project site by erecting a barrier and/or avoidance buffers (e.g., gate, fence, wall) to minimize foot traffic and off-road vehicle uses.

#### **Stressor: Collision**

**Conservation Goal: Minimize collision risk with project infrastructure** and vehicles.

**Conservation Measure 1:** Minimize collision risk with project infrastructure (e.g., temporary and permanent) by increasing visibility through appropriate marking and design features (e.g., lighting, wire marking, etc.).

Conservation Measure 2: On bridge crossing areas with adjacent riparian, beach, estuary, or other bird habitat, use fencing or metal bridge poles (Sebastian Poles) that extend to the height of the tallest vehicles that will use the structure.

**Conservation Measure 3:** Install wildlife friendly culverts so rodents and small mammals can travel under any new roadways instead of over them. This may help reduce raptor deaths associated with being struck while tracking prey or scavenging road kill on the roadway.

**Conservation Measure 4:** Remove road-kill carcasses regularly to prevent scavenging and bird congregations along roadways.

**Conservation Measure 5:** Avoid planting "desirable" fruited or preferred nesting vegetation in medians or Rights of Way.

**Conservation Measure 6:** Eliminate use of steady burning lights on tall structures (e.g., >200 ft).

#### **Stressor: Entrapment**

Conservation Goal: Prevent birds from becoming trapped in project structures or perching and nesting in project areas that may endanger them.

**Conservation Measure 1:** Minimize entrapment and entanglement hazards through project design measures that may include:

- 1. Installing anti-perching devices on facilities/equipment where birds may commonly nest or perch
- 2. Covering or enclosing all potential nesting surfaces on the structure with mesh netting, chicken wire fencing, or other suitable exclusion material prior to the nesting season to prevent birds from establishing new nests. The netting, fencing, or other material must have no opening or mesh size greater than 19 mm and must be maintained until the structure is removed.
- 3. Cap pipes and cover/seal all small dark spaces where birds may enter and become trapped.

**Conservation Measure 2:** Use the appropriate deterrents to prevent birds from nesting on structures where they cause conflicts, may endanger themselves, or create a human health and safety hazard.

- 1. During the time that the birds are trying to build or occupy their nests (generally, between April and August, depending on the geographic location), potential nesting surfaces should be monitored at least once every three days for any nesting activity, especially where bird use of structures is likely to cause take. It is permissible to remove non-active nests (without birds or eggs), partially completed nests, or new nests as they are built (prior to occupation). If birds have started to build any nests, the nests shall be removed before they are completed. Water shall not be used to remove the nests if nests are located within 50 feet of any surface waters.
- 2. If an active nest becomes established (i.e., there are eggs or young in the nest), all work that could result in abandonment or destruction of the nest shall be avoided until the young have fledged or the nest is unoccupied. Construction activities that may displace birds after they have laid their eggs and before the young have fledged should not be permitted. If the project continues into the following spring, this cycle shall be repeated. When work on the structure is complete, all netting shall be removed and properly disposed of.

#### **Stressor: Noise**

**Conservation Goal: Prevent the increase in noise above ambient** levels during the nesting bird breeding season.

**Conservation Measure 1:** Minimize an increase in noise above ambient levels during project construction by installing temporary structural barriers such as sand bags.

**Conservation Measure 2:** Avoid permanent additions to ambient noise levels from the proposed project by using baffle boxes or sound walls.

#### **Stressor: Chemical Contamination**

**Conservation Goal: Prevent the introduction of chemicals** contaminants into the environment.

**Conservation Measure 1:** Avoid chemical contamination of the project area by implementing a Hazardous Materials Plan. For more information on hazardous waste and how to properly manage hazardous waste, see the EPA Hazardous Waste website.

**Conservation Measure 2:** Avoid soil contamination by using drip pans underneath equipment and containment zones at construction sites and when refueling vehicles or equipment.

**Conservation Measure 3:** Avoid contaminating natural aquatic and wetland systems with runoff by limiting all equipment maintenance, staging laydown, and dispensing of fuel, oil, etc., to designated upland areas.

**Conservation Measure 4:** Any use of pesticides or rodenticides shall comply with the applicable Federal and State laws.

- 1. Choose non-chemical alternatives when appropriate
- 2. Pesticides shall be used only in accordance with their registered uses and in accordance with the manufacturer's instructions to limit access to non-target species.
- 3. For general measures to reducing wildlife exposure to pesticides, see EPA's Pesticides: Environmental Effects website.

#### **Stressor: Fire**

**Conservation Goal: Minimize fire potential from project-related** activities.

**Conservation Measure 1:** Reduce fire hazards from vehicles and human activities (e.g., use spark arrestors on power equipment, avoid driving vehicles off road).

**Conservation Measure 2:** Consider fire potential when developing vegetation management plans by planting temporary impact areas with a palate of low-growing, sparse, fire resistant native species that meet with the approval of the County Fire Department and local FWS Office.

#### **Landscapes and Plantings**

A-L-1: Preliminary Native Plant Palette 94

#### **A-L-1: Preliminary Native Plant Palette**

The following native plant list incorporates recommendations from *Toward a Comprehensive Landscape Plan for Washington*, D.C. by the firm Wallace, Mcharg, Roberts, and Todd, 1967.

#### **CANOPY TREES**

Liquidambar stryaciflua Sweetgum Acer rubrum Red maple Shingle oak Quercus imbricaria Willow oak Quercus phellos Swamp oak Quercus bicolor Platanus occidentalis Sycamore Black willow Salix nigra Fagus grandiflora American beech Hickories

Carya ( spp .) Hickories
Fraxinus Americana White ash
Nyssa Sylvatica Sour gum
Liriodendron Tulipifera Tulip tree
Ulmus Americana White elm

#### **UNDERSTORY TREES**

Carpinus Caroliniana Ironwood
Celtis laevigata Sugarberry
Alnus rugosa Speckled alder

#### **SHRUBS**

Sambucus canadensis Sweet elder

Cephalanthus occidentalis Common buttonbush

llex verticillata Black alder

Clethra alnifolia Sweet pepper bush

#### **Stormwater Management**

A-SM-1: 100-Year & 500-Year Floodplains,	
And Anacostia Waterfront Development Zone	95
A-SM-2: District of Columbia Government	
Stormwater Permitting	95
A-SM-3: Sample Maintenance Agreements	95

#### A-SM-2: District of Columbia Government Stormwater Permitting

Construction of Green Infrastructure in a DDOT right-of-way requires several permits from the District of Columbia. For ease of reference, they are listed here. Permitting requirements may change, please consult the District of Columbia Government's website or with a District agency when preparing to submit for a permit.

- 1. DCRA Building Permit https://dcra.dc.gov/service/get-building-permit-0
- 2. DDOT Occupancy Permit for Construction Activities https://tops.ddot.dc.gov/DDOTPermitSystem/DDOTPermitOnline/ Reports/PublicOccupancyPermitRepo rt.aspx?appType=OPA
- 3. DDOT Construction Permit https://tops.ddot.dc.gov/DDOTPermitSystem/DDOTPermitOnline/Reports/PublicConstructionPermitRep ort.aspx
- 4. DOEE Erosion and Sediment Control Plan https://doee.dc.gov/node/619312
- 5. DOEE Stormwater Management Plan https://octo.quickbase.com/up/bjezqjzuy/g/rbe/eg/va/Log\_In.html
- 6. DCWater Water and Sewer Availability Certificate https://www.dcwater.com/water-and-sewer-availability-certificate

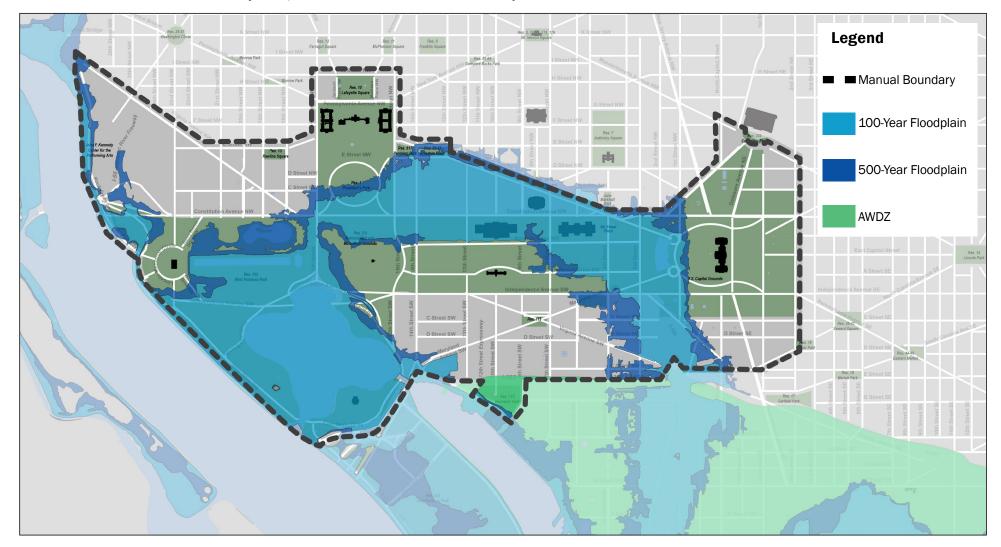
#### **A-SM-3: Sample Maintenance Agreements**

#### Introduction:

Federal and local agencies sometimes share maintenance responsibilities on monumental core streets. For example, Smithsonian may trim street trees or plow snow on sidewalks that are under NPS jurisdiction. Like other streetscape elements, stormwater facilities require regular maintenance to function effectively.

On monumental core streets, agencies may need an interagency maintenance agreement when implementing stormwater management in a section of the right-of-way that is not under their jurisdiction, or an area

#### A-SM-1: 100-Year & 500-Year Floodplains, and Anacostia Waterfront Development Zone



Note: This map shows the locations of the 100-year floodplain, the 500-year floodplain, and the Anacostia Waterfront Development Zone to provide reference for locations of stormwater Best Management Practices.

of the right-of- way where they have agreed to share responsibilities with another agency.

The following sample maintenance agreements are for agencies to use as a reference when developing new interagency stormwater maintenance agreements wherein maintenance responsibilities are transferred to or shared with other agencies:

- 2.A District Department of Transportation Covenant for Maintenance of Stormwater Facilities in Public Space
- 2.B Department of Energy and Environment Covenant for Maintenance of Stormwater Facilities in Public Space
- 2.C Cooperative Management Agreement between the National Park Service and the District of Columbia for the Revitalization of Franklin Park (Excerpt regarding maintenance and operation)

## 2.A DISTRICT DEPARTMENT OF TRANSPORTATION COVENANT FOR MAINTENANCE OF STORMWATER FACILITIES IN PUBLIC SPACE

#### GOVERNMENT OF THE DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION WASHINGTON, D.C.

#### COVENANT FOR MAINTENANCE OF STORMWATER FACILITIES IN PUBLIC SPACE

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS.

is the Owner of the following described property in Washington, D.C., located at the following street address:

Lot \_\_\_\_\_, Square \_\_\_\_\_ hereafter referred to as "said property"; and

WHEREAS, the Owner of said property has, either on his/her on behalf or through the efforts of his/her duly authorized agent, applied to the District for the issuance of a public space permit in accordance with the provisions of 24, DCMR Chapter 1 100.1 et seq. (1985), as amended; and

WHEREAS, the Owner of said property has requested that the District authorize stormwater facilities in public space, hereinafter referred to as "abutting public space", as described in <a href="Exhibit A">Exhibit A</a> and shown on <a href="Exhibit B">Exhibit B</a> attached hereto; and

WHEREAS, the Owner of said property has submitted a site plan and application, hereinafter referred to as "the proposal" attached hereto as Exhibit C, for the use of said abutting public space; and

WHEREAS, the rules and regulations of the District of Columbia authorize the Mayor, or his agent, designee, or representative to impose such conditions on the issuance of said permit as the Mayor may require, 24 DCMR Chapter 1, §100 et seq. (1985), as amended; and

WHEREAS, the District has reviewed and accepted said proposal (as amended); and

WHEREAS, the Owner of said property desires to meet the conditions and requests of the District by complying with all of the terms and conditions of said permit

NOW, THEREFORE, in consideration of the foregoing and in consideration of the issuance of the permit for construction, the Owner, for themselves, their heirs, successors and assigns does hereby declare that said property shall be held, transferred, sold and conveyed subject to the restrictions herein set forth to wit:

- That no right, title, or interest of the public is thereby acquired, waived or abridged.
- That the Owner shall construct the stormwater facilities in accordance with the requirements set forth in the permit conditions and in accordance with the proposal attached hereto as Exhibit C.
- That the District has the legal right to authorize work and/or issue permits for cuts to be made in the said stormwater facilities and will do so without the permission of, or notice to, the property owner.
- That, without prior notice from the District of Columbia, the Owner shall maintain and repair the abutting public space in accordance with the maintenance schedule as described

- and attached hereto as Exhibit D, until such time, and upon such conditions as the District may require to extinguish said covenant;
- That the Owner shall maintain and keep abutting public space in a clean and safe condition at all times, without the need for prior notice by the District.
- 6. That repair(s) of aforesaid public space undertaken by the Owner shall be made pursuant to a permit issued by the District of Columbia. Repairs shall be made by and at the expense and risk of the Owner.
- 7. That whenever the Mayor finds that said stormwater facilities is in such condition as to be imminently dangerous to persons or property, upon notice so to do, the Owner will make the stormwater facilities safe and secure within 72 hours of the date said notice is served. That in a case where the public safety requires immediate action, the Mayor may use such materials, equipment, workmen, and assistants as may be necessary, to make the stormwater facilities safe and secure.
- 8. That if the District must authorize excavations in said public space for the purpose of maintaining, repairing, or installing utilities in said abutting public space, or for any other purpose, the excavating party must restore the system to its existing condition
- That if the District must perform excavations in said public space for any purpose, the District may choose to restore the system or replace the system with standard materials.
- That the Owner hereby relieves the District of all duty to repair or

- maintain said abutting public space in a safe condition. Upon the failure of the Owner to repair or maintain said abutting public space in a safe condition, the District has the right to cause temporary or permanent repairs using standard materials.
- 11. That the Owner shall reimburse the District for any reasonable expense the District incurs in making any repairs to the abutting public space by virtue of Owner's default of its obligations set forth herein.
- 2. That the Owner shall indemnify and save harmless the District and all of its officers, agents, and servants against any and all claims or liability from whatever source whatsoever, arising from, based on or, as a result of any negligence or willful misconduct of the Owner in designing, constructing, paving maintaining, installing or repairing said abutting public space.
- 13. That the District shall have the right, after reasonable prior written notice to the Owner (which shall not be less than 90 days), to extinguish this Covenant at any time, and replace or remove, at the District's sole cost and expense, the stormwater facilities using District standard materials at the District's sole discretion.
- 14. That the written consent of the District shall be required prior to the extinguishment of any of the covenants described herein in a document recordable at the office of the Recorder of Deeds for the District of Columbia and recorded at no expense to the District. Such consent to extinguishment shall be given at such time as the District shall issue a permit enabling the

Owner to replace the stormwater facilities with District standard materials. If Owner requests that District consent to extinguishment pursuant to this Section 14, the cost of replacement of said abutting public space with standard District materials shall be borne by the Owner.

- 15. That the covenants contained herein shall be deemed real covenants and shall run with the land and shall bind the Owner and their heirs, successors and assigns. The extinguishment of this Covenant pursuant to Section 13 and 14 hereof shall terminate all obligations of Owner set forth in this Covenant.
- That the District shall have the right to specifically enforce this Declaration.

[SIGNATURES ON FOLLOWING PAGE]

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1

# 2.A DISTRICT DEPARTMENT OF TRANSPORTATION COVENANT FOR MAINTENANCE OF STORMWATER FACILITIES IN PUBLIC SPACE

# [SIGNATURE PAGE - Individual Owner(s)] IN WITNESS WHEREOF, the undersigned owner(s) of Lot \_\_\_\_\_\_ in Square \_\_\_\_\_ has (have) caused these presents to be executed. WITNESS: Owner Owner I\_\_\_\_\_\_\_, a Notary Public, in and for the District of Columbia, do hereby certify that \_\_\_\_\_\_\_ party(ies) to the foregoing attached Covenant bearing the date of the \_\_\_\_\_\_ day of \_\_\_\_\_\_ 200 \_\_\_\_ being personally well-known to me as the owner(s) of Lot \_\_\_\_\_ in Square \_\_\_\_\_ appeared before me and acknowledged said Declaration to be (his) (her) or (their) act and deed. Given under my hand and seal this \_\_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_ Notary Public Notary Public

#### [SIGNATURE PAGE - L.L.C., a Limited Liability Company]

in Square has causereby constitute and appoint tomey-in-fact for itself and in its name to	ed limited liability company, the owner of Lot(s) ed these presents to be executed in its name, and does as its true and lawful appear before any officer authorized by law to take I there to acknowledge and deliver these presents as	in Square has cau- constitute and appoint attorney-in-fact for itself a and certify acknowledgem its act and deed.
VITNESS:	( <u>)</u>	WITNESS:
	L.L.C., a Limited Liability Company	Secretary
ecretary	By:	
	Title	
L.L.C., a tached Covenant bearing the date of the _ eing personally well-known to me as the o	a Notary Public, in and for the District of Columbia, the authorized representative of a limited liability company, a party to the foregoing day of 200 owner of Lot in Square appeared before me the limited liability company's act and deed.	(Corporate Seal)  DISTRICT OF COLUM  L,  do hereby certify that _
	day of20	attached Covenant bearing being personally well-kn appeared before me and a
	Notary Public	Given under my ha
y Commission expires	_	
5930		
		My Commission expires

#### [SIGNATURE PAGE - Corporation]

constitute and appoint attorney-in-fact for itself and in its name to a	as its true	and lawful i by law to take
and certify acknowledgements and then and t		
ts act and deed.		
WITNESS:		
	Corporation	
Secretary		
Jedenay	D.	
	By:	
	Title	
(Corporate Seal)		
(Corporate Seal)  DISTRICT OF COLUMBIA, 25:		
DISTRICT OF COLUMBIA, 55:		
DISTRICT OF COLUMBIA, 55:	Notary Public, in and for the Dis	
DISTRICT OF COLUMBIA, 55:  I,, a do hereby certify that	the authorized	representative of
DISTRICT OF COLUMBIA, 55:  I,, a  do hereby certify that  attached Covenant bearing the date of the	the authorized a corporation, a party t day of	representative of to the foregoing , 200
DISTRICT OF COLUMBIA, 25:  I,, a do hereby certify that attached Covenant bearing the date of the being personally well-known to me as th	the authorized a corporation, a party t day of e owner of Lot(s)	representative of to the foregoing , 200 n Square
DISTRICT OF COLUMBIA, 55:  I,, a  do hereby certify that	the authorized a corporation, a party to day of e owner of Lot(s) in Declaration to be the corporation's	representative of the foregoing

# 2.A DISTRICT DEPARTMENT OF TRANSPORTATION COVENANT FOR MAINTENANCE OF STORMWATER FACILITIES IN PUBLIC SPACE

#### [SIGNATURE PAGE - Joint Venture] IN WITNESS WHEREOF, the undersigned joint venture, the owner of Lot(s)\_ in Square \_\_\_\_\_ has caused these presents to be executed in its name, and does hereby constitute and appoint \_\_\_ attorney-in-fact for itself and in its name to appear before any officer authorized by law to take and certify acknowledgements and then and there to acknowledge and deliver these presents as its act and deed. Witness: Joint Venture Corporate Seal (if applicable) Title Witness: By: Title Corporate Seal (if applicable) DISTRICT OF COLUMBIA, 55: \_ a Notary Public, in and for the District of Columbia, the authorized representative of \_ a joint venture, a party to the foregoing attached Covenant bearing the date of the \_\_\_\_\_\_ day of \_\_\_\_\_ 200 \_\_\_\_ being personally well-known to me as the owner of Lot(s) \_\_\_\_\_ in Square \_\_\_\_\_ appeared before me and acknowledged said Declaration to be the joint venture's act and deed. Given under my hand and seal this My Commission expires

#### [SIGNATURE PAGE - Limited Partnership]

hereby constitute and appoint lawful attorney-in-fact for itself and in its nar	d these presents to be execu	The state of the s
lawful attorney-in-tact for itself and in its nai take and certify acknowledgements and then as its act and deed.		
WITNESS:		
	Limited Partnership	
	By:	
	General Partner	
DISTRICT OF COLUMBIA, 55:		
I, a do hereby certify that	Notary Public, in and for	the District of Columbi
	a limited partnership	, a party to the foregoin
attached Covenant bearing the date of the	day of	, 200
being personally well-known to me as th appeared before me and acknowledged said deed.	Declaration to be the lim	in Square iited partnership's act ar
Given under my hand and seal this	day of	20 .
M. Commission and the	Notary Public	
My Commission expires	Notary Public	
My Commission expires	Notary Public	
My Commission expires	Notary Public	
My Commission expires	Notary Public	

#### [SIGNATURE PAGE - Partnership]

constitute and appoint attorney-in-fact for itself and in its name to and certify acknowledgements and then and its act and deed.	as its true and l appear before any officer authorized by l i there to acknowledge and deliver these	awful aw to take presents as
WITNESS:		
	Partnership	
	Ву:	
	Partner	
	Ву:	
	Partner	
	Ву:	
	Partner	
DISTRICT OF COLUMBIA, 55:		
do neredy certify mat	a Notary Public, in and for the District of the authorized representations.	esentante of
	a partnership, a party to the forego	oing attached
Covenant bearing the date of the personally well-known to me as the own before me and acknowledged said Declarat	er of Lot(s) in Square ion to be the partnership's act and deed.	appeared
Given under my hand and seal this	day of	20

- 17

## 2.B DEPARTMENT OF ENERGY AND ENVIRONMENT COVENANT FOR MAINTENANCE OF STORMWATER FACILITIES IN PUBLIC SPACE

#### GOVERNMENT OF THE DISTRICT OF COLUMBIA

Department of Energy and Environment NATURAL RESOURCES ADMINISTRATION REGULATORY REVIEW DIVISION

#### DECLARATION OF COVENANTS

For a Stormwater Management Facility

THIS DECLARATION OF COVENANTS (the "Declaration") is made as of this day of \_\_\_\_\_\_, 20\_\_, by and between NAME OF PROPERTY OWNER, a LIST TYPE OF CORPORATE ENTITY (if applicable), and its successors and assigns ("Owner"), for the benefit of the DISTRICT OF COLUMBIA, a municipal corporation (the "District").

#### RECITALS

- A. The Owner is the owner in fee simple of certain real property and improvements (collectively, the "Property") located in the District of Columbia and more particularly described in <a href="Exhibit A">Exhibit A</a> attached hereto and made a part hereof. No other person or entity has an ownership interest in the Property.
- B. In order to manage stormwater flow conditions resulting from certain improvements Owner will make to the Property, the regulations of the District, found at Title 21, Chapter 5, of the District of Columbia Municipal Regulations ("DCMR") require that Owner develop and submit for approval a Stormwater Management Plan ("SWMP") for the installation and maintenance of all stormwater best management practices ("BMPs"), stormwater infrastructure, and land covers on the Property (collectively, the "Facility"), and including any obligation to achieve Off-Site Retention Volume (Offv).
- C. Section 529 of Title 21 of the DCMR requires that Owner execute and record, with the District of Columbia Recorder of Deeds, a declaration of covenants running with the land that set forth Owner's responsibilities under the SWMP.
- NOW, THEREFORE, for and in consideration of the issuance of building permits and approval of Owner's plans by the District, and other good and valuable consideration the sufficiency of which is hereby acknowledged, for the benefit of and limitation upon Owner and all future owners of the Property, and for the benefit of the District, Owner for itself, its successors and assigns, does hereby acknowledge, represent, covenant, agree, and warrant to the District as follows:
- The foregoing Recitals and attached Exhibits are all hereby incorporated in and made a part of this Declaration to the same extent as if herein set forth in full, provided however, that said Recitals shall not be deemed to modify the express provisions hereinafter set forth.
- The Facility and any responsibility to achieve Off-Site Retention Volume (Offv), as stated in gallons, is shown on the plans approved by the District attached hereto as <u>Exhibit B</u>. the Site Plan, as the same may be amended pursuant to the District's approval.

- 3. Owner, at its sole expense, shall construct and perpetually operate and maintain the Facility in such manner as to comply with the provisions of Title 21, Chapter 5 of the DCMR and in strict accordance with the SWMP, including the Maintenance Plan, attached hereto as **Exhibit C**, as the same may be amended pursuant to the District's approval.
- 4. Owner shall, at its sole expense, make such changes or modifications to the Facility as the District, in its discretion, may determine necessary to ensure that the Facility is maintained in good condition and continues to operate as designed and approved.
- 5. The District and its agents, employees, and contractors shall have the right to enter the Property for the purpose of inspecting the Facility in accordance with established inspection procedures and Section 16 of the Water Pollution Control Act of 1984 (D.C. Law 5-188; 32 DCR 919; D.C. Official Code § 8-103.01, et seq. (2013 Repl.), as amended (the "Act"), at reasonable times and in a reasonable manner, in order to ensure that the Facility is being properly maintained and is continuing to perform in the manner approved by the District.
- 6. Should Owner fail to perform its responsibilities as required herein, or fail to operate and restore the Facility in accordance with approved design standards, as the same may be amended from time to time, the District shall be entitled to pursue any and all enforcement actions available to it pursuant to the Act, and Title 21, Chapter 22 of the DCMR, as the same may be amended from time to time. Without limiting the generality of the foregoing, in the event that a discharge or threat of discharge from the Facility poses an imminent and substantial danger to the environment or the public health or welfare, the District may take immediate action against Owner pursuant to D.C. Official Code § 8-103.08(b).
- 7. If Owner's failure or refusal to maintain the Facility in accordance with the covenants and warranties contained in this Declaration ultimately results in corrective action by the District, Owner shall bear all costs incurred by the District for such corrective measures, such costs may be assessed against the Property, and Owner may be fined in accordance with the Act and Title 21, Chapter 5 of the DCMR.
- 8. The provisions of this Declaration shall be deemed warranties by Owner and covenants running with the land and shall bind and inure to the benefit of Owner and the District, their respective heirs, successors and/or assigns. When Owner ceases to own an interest in the Property, the rights, warranties, and obligations under this Declaration shall become the rights, warranties, and obligations of the successor-in-ownership and interest to the Property.
- 9. Owner shall, at its cost and expense, properly record this Declaration with the Recorder of Deeds and provide the District's Department of the Environment with a copy of this Declaration, certified by the Recorder of Deeds as a true copy of the recorded instrument.
- 10. Owner shall indemnify, save harmless, and defend the District, and all its officers, agents, and employees from and against all claims or liabilities that may arise out of or in connection with, either directly or indirectly, any of Owner's actions or omissions with regard to the construction, operation, maintenance and/or restoration of the Facility.
- 11. Owner warrants, and shall ensure, that all prior liens recorded against the Property are subordinate to this Declaration. Failure to subordinate liens shall, at the District's sole

election, give rise to termination of any building permits and/or invalidation of any certificate of occupancy relating to the Property.

- 12. Owner shall, at its sole expense, comply with all provisions of this Declaration regardless of any conflicting requirements in any other covenant, easement, or other legal document recorded or unrecorded against the Property. Neither the entering into of this Declaration nor performance hereunder will constitute or result in a violation or breach by Owner of any other agreement or order that is binding on Owner.
- 13. To the extent Owner is an entity, Owner warrants that it: (i) is duly organized, validly existing and in good standing under the laws of its state of organization; (ii) is qualified to do business in, and is in good standing under, the laws of the District of Columbia; (iii) is authorized to perform under this Declaration; and (iv) has all necessary power to execute and deliver this Declaration.
- 14. The form of this Declaration has been approved by the District of Columbia Office of the Attorney General ("OAG") for legal sufficiency pursuant to Title 21, Section 529.3 of the DCMR. This Declaration, and the provisions contained herein, may not be modified, amended, or terminated without the prior written consent of the District and legal sufficiency approval by OAG, such agreement to be evidenced by a document duly executed and delivered in recordable form and recorded with the Recorder of Deeds at no expense to the District.
  - 15. The District has the right to specifically enforce this Declaration.
- This Declaration shall be governed by, construed under, and enforced in accordance with, the laws of the District of Columbia.
- 17. This Declaration has been duly executed and delivered by Owner, and constitutes the legal, valid, and binding obligations of Owner, enforceable against Owner and its successors and assigns, in accordance with its terms.
- 18. If any of the covenants, warranties, conditions or terms of this Declaration shall be found void or unenforceable for whatever reason by any court of law or of equity, then every other covenant, condition or term herein set forth shall remain valid and binding.

[SIGNATURES FOLLOW]

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# 2.B DEPARTMENT OF ENERGY AND ENVIRONMENT COVENANT FOR MAINTENANCE OF STORMWATER FACILITIES IN PUBLIC SPACE

IN WITNESS WHEREOF, Ov aused this Declaration of Covenants IGNING ON BEHALF OF OWNE		
By:NAME, TITLI	E	
	ACKNOWLEDGMENT	
LIST STATE	) ) ss:	
C. The control of the		, who is personally well
Declaration of Covenants and has acknown Covenants and that she delivered the s	nowledged the same to be the act and	
GIVEN under my hand and se	eal this day of, 20	,
My commission expires:	Nota	ry Public

.

# APPROVED AS TO TECHNICAL SUFFICIENCY:

Name:	
Title:	
Date:	
	Office of the Attorney General
District of Columbia Commercial Division	
Commercial Division	
Commercial Division	

[NOTARIAL SEAL]

# 2.C COOPERATIVE MANAGEMENT AGREEMENT BETWEEN THE NATIONAL PARK SERVICE AND THE DISTRICT OF COLUMBIA FOR THE REVITALIZATION OF FRANKLIN PARK

(Excerpt regarding maintenance and operation)

This excerpt provides an example of a Cooperative Management Agreement. While this excerpt does not reference stormwater specifically, the structure of the agreement is flexible and could include stormwater. The agreement clearly identifies responsibilities, and the process for developing a maintenance plan.

Cooperative Management Agreement
Between
the National Park Service,
United States Department of the Interior
and
the District of Columbia Government
for the
Revitalization of Franklin Park

#### C. Operation and maintenance

- 1. The parties contemplate that an entity approved in writing by both parties (Park Manager) will operate, maintain, and manage the Park on a day-to-day basis, including making all necessary non-capital repairs to Park facilities, so that the Park will be operated and maintained in a safe and attractive condition during the term of this Agreement. Further, the parties contemplate that revenue generated from approved programming or other approved activities conducted by the District or the Park Manager will be used to fund ongoing operation and maintenance of, and improvements to, the Park in accordance with the Operation and Maintenance Plan described in provision III.C.2 below.
- 2. Before the District awards the contract to construct the agreed-upon improvements to the Park, the parties will develop and execute an Operation and Maintenance Plan that will provide long-term guidance for the cooperative management of the Park. The Operation and Maintenance Plan will include the following components:
  - Description of required day-to-day maintenance and cyclical maintenance of the open-air Park area, water features, and children's play area;
  - Description of required day-to-day maintenance and cyclical maintenance of the café (if one is constructed) and restrooms;
  - Description of the normal hours of operation of the open-air Park area and the café (if one is constructed) and restrooms;
  - d. Description of expected minor and major capital repairs during the term of this Agreement;
  - e. Description of regularly scheduled interpretive and other programming;
  - Other matters related to the operation and maintenance of the Park on an ongoing, long-term basis;
  - g. Any contracting plan for the provision of services;
  - Estimated budget and projected revenue sources and amount of anticipated monetary support by each party;
  - Assignment of responsibility to one or both of the parties for implementing each component of the Operation and Maintenance Plan; and
  - Description of specific minimum threshold of annual programming use, as mutually agreed to by the parties, and which will be included in each Annual Work Plan, as hereinafter defined.

- 3. Before October 1 of each year the parties will develop and execute a written work plan (Annual Work Plan) for the federal fiscal year beginning on October 1 that, at a minimum, (a) identifies the maintenance or repair projects that the parties agree to undertake in a specific year; (b) specifies the respective roles of the parties in carrying out the identified projects; and (c) sets a calendar of programming and activities to occur at the Park, which may include certain special events conducted or hosted by the District or the Park Manager. At any time during the applicable fiscal year the parties may modify the Annual Work Plan by executing a written amendment by both parties. The parties will meet before the end of June of each year during the term of this Agreement to discuss and begin to finalize the plan that will be effective on October 1 of that calendar year. The Annual Work Plan template is attached hereto as Exhibit E.
- 4. The parties will work together to ensure that the Park is operated, maintained, and managed in accordance with the standards of quality seen in comparable public parks in the Washington, D.C., metropolitan area and in compliance with applicable laws and regulations.

#### **Pedestrian Circulation**

A-PC-1: Existing Sidewalk and Pedestrian Path/Multi-Use Trail Widths 102 A-PC-2: Federal and Local Transportation and Mobility Plans 102 A-PC-3: Transit Locations 102

#### A-PC-2: Federal and Local Transportation and Mobility Plans

Pedestrian circulation should be coordinated with federal and local transportation and mobility plans and guidance including (listed chronologically):

- District Comprehensive Plan: Transportation Element (2020)
- Federal Comprehensive Plan: Transportation Element (2020)
- NPS Paved Trails Study (2016)
- Move DC (2014)
- WMCOG/TPB Bicycle and Pedestrian Plan (2014)
- NPS National Mall Plan (2010)

A-PC-1: Existing Sidewalk and Pedestrian Path/Multi-Use Trail Widths



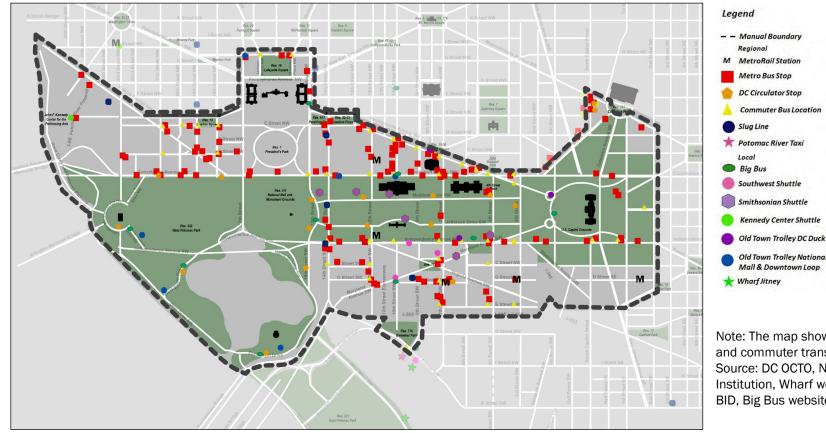
Data Source: This map was created during the Coronavirus pandemic and shows sidewalk and pedestrian path/ multi-use trail widths categorized by ease of social/physical distancing. The map is available here:

https://holdenmt11.github.io/Sidewalk-Width-DC/#15/38.9072/-77.0369

Metro Bus Stop

Old Town Trolley Nation

**A-PC-3: Transit Locations** 



Note: The map shows local, regional, and commuter transit stop locations. Source: DC OCTO, NAMA, Smithsonian Institution, Wharf website, Southwest BID, Big Bus website

#### **Character Areas**

As of December 2024, Character Area descriptions for the general Character Areas described in the Urban Design Streetscape Framework are under development. Upon finalization, the Character Area descriptions will be added to this document as an appendix. Included Character Areas and Sub-Areas:

- U.S. Capitol Complex
- Courts and Institutions
- Potomac Hill
- Kennedy Center
- Banneker Park
- Federal Triangle
- Pennsylvania Avenue NHS
- The National Mall
  - Mall
  - Mall Museums
  - Washington Monument
  - West Potomac Park
  - East Potomac Park

#### • The White House and President's Park

- Lafayette Park
- The White House and Grounds
- The Ellipse
- President's Park South

#### Downtown

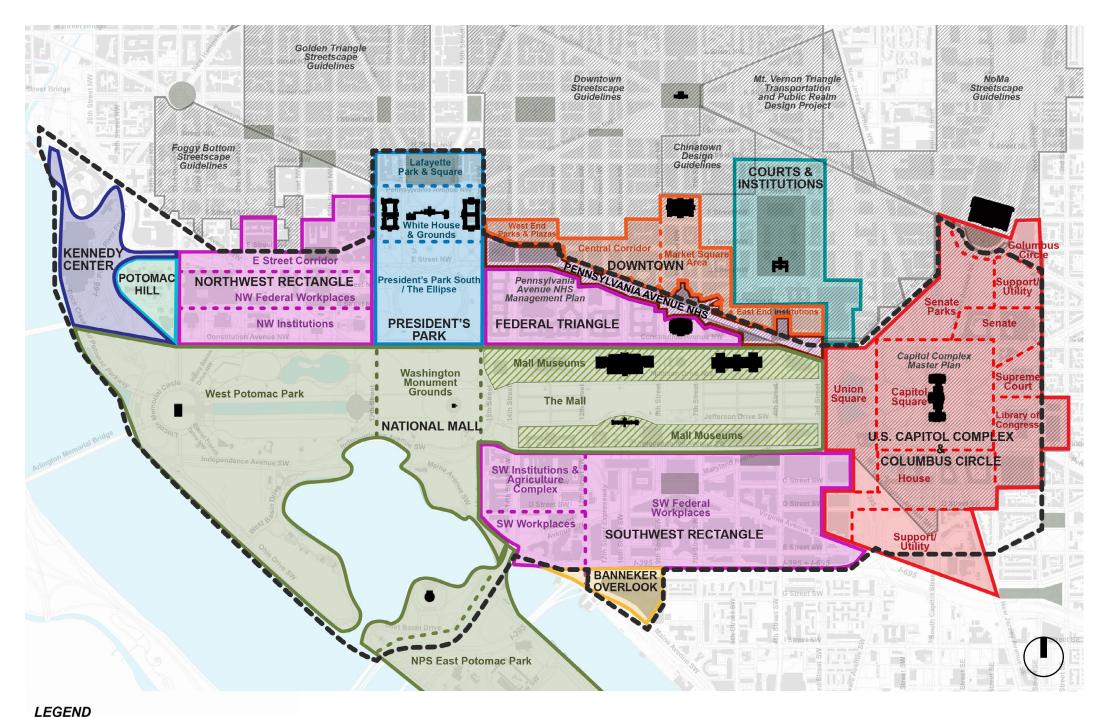
- Pennsylvania Avenue NHS
- West End Parks and Plazas
- Central Corridor
- Market Square Area
- East End Institutions

#### Northwest Rectangle

- E Street Corridor
- NW Federal Workplaces
- NW Institutions

#### • Southwest Rectangle

- SW Institutions and Agriculture Complex
- SW Workplaces
- SW Federal Workplaces



**CHARACTER AREA** 

**Character Sub-Areas** 

Areas with existing streetscape guidance

STREETSCAPE GUIDE AND MANUAL BOUNDARY

NATIONALLY SIGNIFICANT OPEN SPACE

BUILDINGS/STRUCTURES REFERENCED IN L'ENFANT PLAN CONTRIBUTING VISTAS