

DCKA-2013-B-0160
RiverSmart Washington
Green Alley Chevy Chase

SECTION B: CONTRACT TYPE, SUPPLIES OR SERVICES AND PRICE/COST

B.1 The District of Columbia Office of Contracting and Procurement (the “District”), on behalf of the District Department of Transportation (DDOT) is seeking a contractor to construct the RiverSmart Washington project, Chevy Chase Green Alley project, and associated construction. The projects include installation of Low Impact Development (LID) facilities including permeable pavements and bioretention areas in the road, sidewalk, alley, and tree space.

B.2 The District contemplates award of a Requirements contract based on fixed-price unit prices in accordance with Title 27 DCMR, Chapter 24.

B.3 PRICE SCHEDULE

The price schedule is on the following pages.

B.4 A bidder responding to this solicitation must submit with its bid, a notarized statement detailing any subcontracting plan required by law. Proposals responding to this IFB shall be deemed nonresponsive and shall be rejected if the bidder fails to submit a subcontracting plan that is required by law. For contracts in excess of \$250,000, at least 35% of the dollar volume of the contract shall be subcontracted in accordance with section G.9.1.

CONTRACT ID: KA2013B0160

PROJECT(S): 2013B0160

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
SECTION 0001						
0010	108002 Progress Photographs	LUMP	LUMP			.
0020	108004 As-Built Drawings	LUMP	LUMP			.
0030	200008 Earthwork and Excavation Special Item - LS - Utility Investigation for sewer laterals	LUMP	LUMP			.
0040	200010 Earthwork and Excavation Special Item - SY - Geogrid	7.000 SY		.		.
0050	200010 Earthwork and Excavation Special Item - SY - Geotextile Type 1	3935.000 SY		.		.
0060	200010 Earthwork and Excavation Special Item - SY - Geotextile Type 2	3124.000 SY		.		.
0070	200010 Earthwork and Excavation Special Item - SY - Waterproofing Geomembrane	7525.000 SY		.		.
0080	202002 Common Excavation	7425.000 CY		.		.
0090	202004 Hard Surface Pavement Excavation	2104.000 CY		.		.

SCHEDULE OF ITEMS

DATE:

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0100	207002 Trench Excavation and Backfill	340.000 CY	.		.	
0110	208991 Pervious Fill Special Item - CY - Stone Check Dams	33.000 CY	.		.	
0120	209002 Aggregate Base Course	410.000 CY	.		.	
0130	209991 Aggregate Base Course Special Item -CY- Double-Washed No. 2 Stone	5202.000 CY	.		.	
0140	209991 Aggregate Base Course Special Item -CY- Double-Washed No. 57 Stone	1279.000 CY	.		.	
0150	209991 Aggregate Base Course Special Item -CY- Double-Washed No. 8 Stone	521.000 CY	.		.	
0160	300004 Water and Sewer Service Special Item-EACH- Clean Sewer Structures	8.000 EACH	.		.	
0170	300004 Water and Sewer Service Special Item-EACH- Field Connections at Existing Structures	10.000 EACH	.		.	
0180	300004 Water and Sewer Service Special Item-EACH- Field Connections at Sewers	11.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
0190	300005 Water and Sewer Service Special Item-LF - Clean PCC Pipe	400.000 LF	.		.	
0200	312006 Replace Standard Basin Top	1.000 EACH	.		.	
0210	400009 Asphalt Construction Special Item -TON - Porous Asphalt Base Course	127.000 TON	.		.	
0220	400009 Asphalt Construction Special Item -TON - Porous Asphalt Surface Course	63.000 TON	.		.	
0230	402002 Superpave Base Course, 19 mm	174.000 TON	.		.	
0240	402010 Superpave Surface Course, 9.5 mm	116.000 TON	.		.	
0250	407004 Temporary AC, Superpave Surface Course, 9.5 mm	7.000 TON	.		.	
0260	409004 Asphalt Patching, Superpave Surface Course, 9.5 mm	155.000 TON	.		.	
0270	409010 Asphalt Patching, Superpave Base Course, 19 mm	232.000 TON	.		.	
0280	500008 Portland Cement Concrete Construction Special Item - SY - Pervious Concrete Pavement, 6 in	1241.000 SY	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
0290	500008 Portland Cement Concrete Construction Special Item - SY - Pervious Concrete Pavement, 8 in	1588.000 SY	.		.	
0300	500008 Portland Cement Concrete Construction Special Item - SY - Pervious Concrete Sidewalk, 4 in	96.000 SY	.		.	
0310	503006 Reinforced PCC Alley, 8 Inch	770.000 SY	.		.	
0320	505016 Replace PCC Alley, 6 Inch	628.000 SY	.		.	
0330	505022 Replace Driveway-Alley Entrance, 6 Inch	58.000 SY	.		.	
0340	506002 Repair PCC Pavement	1.000 CY	.		.	
0350	506006 Repair PCC Alley	69.000 CY	.		.	
0360	506008 Repair PCC Driveway-Alley Entrance	1.000 CY	.		.	
0370	600006 Incidental Construction Special Item - EACH - Backflow Preventers	12.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
0380	600006 Incidental Construction Special Item - EACH - Cleanouts in bioretention	17.000 EACH	.		.	
0390	600006 Incidental Construction Special Item - EACH - Cleanouts in pavement	51.000 EACH	.		.	
0400	600006 Incidental Construction Special Item - EACH - Domed Risers	8.000 EACH	.		.	
0410	600006 Incidental Construction Special Item - EACH - Monitoring Wells	15.000 EACH	.		.	
0420	600006 Incidental Construction Special Item - EACH - Reservoir Overflows	4.000 EACH	.		.	
0430	600009 Incidental Construction Special Item - LF - Saw Cut	7700.000 LF	.		.	
0440	603004 Underdrain Pipe, 6 Inch	838.000 LF	.		.	
0450	603004 Underdrain Pipe, 6 Inch Perforated	4889.000 LF	.		.	
0460	608016 Repair-Replace PCC Sidewalk, 4 Inch	54.000 SY	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
0470	608992 Sidwalks & Driveway Special Item - SY - 3.5" Permeable interlocking concrete paver (PICP) type 1	1534.000 SY	.		.	
0480	608992 Sidwalks & Driveway Special Item - SY - 3.5" PICP type 2	541.000 SY	.		.	
0490	608992 Sidwalks & Driveway Special Item - SY - Recycled rubber sidewalk	214.000 SY	.		.	
0500	609004 PCC Circular Curb and/or Gutter	45.000 CY	.		.	
0510	609006 PCC Curb and Gutter, 13 to 15 Inch Depth	583.000 LF	.		.	
0520	609012 PCC Circular Curb and Gutter, 13 to 15 Inch Depth	59.000 LF	.		.	
0530	609018 PCC Curb, Over 15 to 18 Inch Depth	795.000 LF	.		.	
0540	609050 Repair-Replace PCC Curb and/or Gutter	91.000 CY	.		.	
0550	609200 PCC Wheelchair/Bicycle Ramp - New Construction	6.000 EACH	.		.	
0560	609993 Curb, Gutter, & Paved Flume Special Item - LF - PCC Curb 12" x 6"	7010.000 LF	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
0570	609994 Curb, Gutter, & Paved Flume Special Item - EACH - Curb cuts	10.000 EACH	.		.	
0580	609994 Curb, Gutter, & Paved Flume Special Item - EACH - Curb inlets	11.000 EACH	.		.	
0590	610016 Sod	550.000 SY	.		.	
0600	610058 Planting Soil Mix Bioretention Soil	472.000 CY	.		.	
0610	610058 Planting Soil Mix Plant bed soil	20.000 CY	.		.	
0620	610058 Planting Soil Mix Sand-based Structural Soil	28.000 CY	.		.	
0630	610060 Mulch	915.000 SY	.		.	
0640	611352 Cercis canadensis (Eastern Redbud) 8 - 10 Ft. Ht., B&B	1.000 EACH	.		.	
0650	611358 Chionanthus virginicus (White Fringetree) 6 - 7 Ft. Ht., B&B Prodigy	1.000 EACH	.		.	
0660	611494 Hypericum calycinum (Aaronsbeard St. Johnswort) 12 - 15 Inch Spread, B&B	839.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
0670	611777 Platanus acerifolia Bloodgood (Bloodgood Sycamore) 2 - 2 1/2 Inch Cal., B&B	1.000 EACH	.		.	
0680	611851 Quercus phellos (Willow Oak) 2 - 2 1/2 Inch Cal., B&B Hightower	2.000 EACH	.		.	
0690	611999 Tree, Shrub, Vine, & Ground Cover Special Item - EACH - Amelanchier x grandiflora 'Autumn Brilliance'	1.000 EACH	.		.	
0700	611999 Tree, Shrub, Vine, & Ground Cover Special Item - EACH - Aquilegia canadensis	205.000 EACH	.		.	
0710	611999 Tree, Shrub, Vine, & Ground Cover Special Item - EACH - Aronia meloncarpa 'Morton'	30.000 EACH	.		.	
0720	611999 Tree, Shrub, Vine, & Ground Cover Special Item - EACH - Carex leburnean	285.000 EACH	.		.	
0730	611999 Tree, Shrub, Vine, & Ground Cover Special Item - EACH - Carex morrowii 'Ice Dance'	257.000 EACH	.		.	
0740	611999 Tree, Shrub, Vine, & Ground Cover Special Item - EACH - Epimedium grandiflorum	126.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
0750	611999 Tree, Shrub, Vine, & Ground Cover Special Item - EACH - Itea virginica 'Little Henry'	86.000 EACH	.		.	
0760	611999 Tree, Shrub, Vine, & Ground Cover Special Item - EACH - Juncus inflexsis 'Blue Arrow'	198.000 EACH	.		.	
0770	611999 Tree, Shrub, Vine, & Ground Cover Special Item - EACH - Oenothera fruticosa 'Fireworks'	256.000 EACH	.		.	
0780	611999 Tree, Shrub, Vine, & Ground Cover Special Item - EACH - Onoclea sensibilis	178.000 EACH	.		.	
0790	611999 Tree, Shrub, Vine, & Ground Cover Special Item - EACH - Quercus prinus	5.000 EACH	.		.	
0800	611999 Tree, Shrub, Vine, & Ground Cover Special Item - EACH - Rudbeckia hirta	251.000 EACH	.		.	
0810	611999 Tree, Shrub, Vine, & Ground Cover Special Item - EACH - Schizachyrium scoparium 'Standing Ovation'	185.000 EACH	.		.	
0820	611999 Tree, Shrub, Vine, & Ground Cover Special Item - EACH - Taxodium Distichum 'Sofine'	1.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
0830	611999 Tree, Shrub, Vine, & Ground Cover Special Item - EACH - Transplant trees	3.000 EACH	.		.	
0840	611999 Tree, Shrub, Vine, & Ground Cover Special Item - EACH - Vaccinium augustifolium	68.000 EACH	.		.	
0850	612002 Mobilization	LUMP		LUMP		.
0860	616001 Maintenance of Highway Traffic	LUMP		LUMP		.
0870	616044 Thermoplastic Pavement Marking, 6 Inch	292.000 LF	.		.	
0880	616050 Thermoplastic Pavement Marking, 12 Inch	941.000 LF	.		.	
0890	620014 Traffic Sign Panels	18.000 SF	.		.	
0900	625002 Field Layout	LUMP		LUMP		.
0910	628002 Erosion and Sediment Control	LUMP		LUMP		.
	SECTION 0001 TOTAL					.
	TOTAL BID					.

SECTION C: SPECIFICATIONS/WORK STATEMENT

C.1 SCOPE:

This S.P. supplements section 104.01:

(A) RIVERSMART WASHINGTON – MACFARLAND & LAFAYETTE SITES

The RiverSmart Washington project is a multi-parcel project that includes public right-of-way (ROW) lands at two locations: MacFarland Site and Lafayette Site. The project shall serve to demonstrate that a diverse grouping of LID strategies can contribute to decentralized stormwater management and stormwater runoff reduction.

The MacFarland Site is generally located along Iowa Avenue, NW from approximately Allison Street, NW to Georgia Ave, NW, including Webster St and several alleys. The Lafayette Site is generally located along 32nd Street, NW and 33rd Street, NW between Patterson Street, NW and Rittenhouse Street, NW, and along Rittenhouse Street, NW and Quesada Street, NW, including numerous alleys. Existing paved and unpaved areas will be removed to allow for LID installations including permeable paving in alleys, streets, and sidewalks and bioretention cells in the roadway, parking lane, and tree space. Demolition of pavement, construction of curb extensions, connections to existing sewers, manholes, and catch basins, utility protection, paving, and landscaping will be part of this contract.

The work includes, but is not limited, to the following items:

1. Mobilization and demobilization, field layout, as-built plans, progress photographs, and other incidental work required for a complete and finished product.
2. Establishment and maintenance of temporary traffic, pedestrian and detour routes including signs, pavement markings, barriers, barricades and other transition devices; reconfiguring the devices in conjunction with changes in work areas; and their removal and disposal of upon project completion, including restoration of areas disturbed by temporary traffic detours to their original condition.
3. Construction of porous asphalt pavement, full-depth asphalt pavement, pervious concrete pavement, and concrete alley pavement as shown on the contract documents.
4. Construction of permeable interlocking concrete pavers, rubber sidewalk, concrete sidewalk, curb cuts, bioretention facilities and tree boxes as shown on the contract documents.
5. Placement of underdrains, overflow, and cleanout facilities for permeable pavement and bioretention and connection of underdrain pipes to catch basins or sewers as shown in the contract plans.
6. Erosion and sediment control

7. Maintenance, support, and protection of all utilities encountered during construction.

Work also includes all incidentals needed to complete the project as shown on the contract plans and described in the Specifications and these Special Provisions.

The limits of work shown on the contract plans refer to the construction baselines, as established for this project. Some items of work, such as traffic control, may extend beyond these limits. All such items are integral to this contract as described in the Specifications and these Special Provisions.

The Contractor shall produce design calculations as well as all working drawings required for his chosen systems for temporary support structures and devices, and for all forming and shoring where required.

The Contractor may work in both project sites simultaneously to meet the project schedule.

(B) RITTENHOUSE CHEVY CHASE GREEN ALLEY - 34TH PL., BROAD BRANCH RD., RITTENHOUSE ST., 33RD ST., QUESADA ST.

Work under this contract consists of the reconstruction of residential alleys within the District. The work includes, but is not limited to, the following items:

1. Removal of existing pavement and sidewalk to the limits shown on the drawings, including undercutting and backfilling as necessary to replace existing unsuitable soils.
2. Construction of permeable pavement sections as shown on the drawings.
3. Construction of PCC alley pavement section as shown on the drawings.
4. Construction of drainage system including longitudinal perforated overdrain, cleanouts, risers, and outlets to existing storm sewers as shown on the drawings.
5. Construction of repairs over outfalls to existing storm sewers.
6. Mobilization, field layout, refuse/recyclable removal from adjacent properties.
7. Implementation, monitoring and maintenance of vehicular and pedestrian traffic for the duration of the construction period, installation and maintenance of temporary traffic signs, barricades and other transition devices; reconfiguring the devices in conjunction with changes in work area; and their removal and disposal upon project completion.
8. Design and installation of temporary support for adjacent structures during excavation and roadway construction.
9. Erosion and sediment control.
10. Locate and maintain service of all existing utilities during construction. Adjust water and sewer structures to grade.
11. Coordination with utility owners, property owners, and adjacent projects.

In addition to the above, any incidental items of work necessary for a complete and finished product are included as part of this contract.

C.2 APPLICABLE DOCUMENTS

The following documents are applicable to this procurement and are hereby incorporated by this reference:

Item No.	Document Type	Title	Date
1	Design Drawings	Plans for RiverSmart Washington: MacFarland Site and Lafayette Site	September 2013
2	Design Drawings	Plans for Green Alleys Project: 34 th Pl, Broad Branch Rd, Rittenhouse St, 33 rd St, Quesada St, Chevy Chase Northwest	September 2013
3	Standard Specifications	DDOT Standard Specifications for Highways and Structures	2009
4	Standard Drawings	DDOT Standard Drawings	April 2009
5	Drawings	Draft LID & GI Drawing Details: Supplement to DDOT Standard Drawings	March 2013
6	Specifications	Draft LID & GI Specifications: Supplement to DDOT Standard Specifications	March 2013
7	Standard Procedure	DDOE Stormwater Management Guidebook	July 2013

C.3 BIORETENTION CELLS:

(A) DESCRIPTION – This work shall consist of furnishing and placing the items specified to construct bioretention facilities in conformance with the grades, limits and depths as shown in the contract documents, or as directed by the Engineer.

(B) MATERIALS – All materials shall meet the requirements set forth in the Standard Specifications or modified in the Special Provisions. Materials not listed herein shall be considered incidental and included in the cost of other pay items.

(C) CONSTRUCTION REQUIREMENTS – All areas draining to the bioretention facilities (cells) shall be stabilized. Furnish and install geotextile, impermeable liner, underdrains, stone aggregate base courses (#57 stone, #8 stone, #2 stone), bioretention soil mix, mulch, underdrain cleanouts, domed risers, PCC curb and PCC curb and gutter, graded aggregate, curb inlets, curb outlet notches, curb cuts, landscaping, and stone check dams, as per the requirements set forth in the Standard

Specifications, Special Provisions, and contract drawings. Surface grading must allow for positive drainage along grades established in the contract drawings.

- (D) **MEASURE AND PAYMENT** – The unit of measure and payment shall be as set forth in the Standard Specifications or modified in the Special Provisions. Payment will be made under:

C.4 PERMEABLE PAVEMENTS:

- (A) **GENERAL DESCRIPTION** - This work shall consist of furnishing and placing the items specified to construct permeable pavement facilities in conformance with the grades, limits and depths as shown in the contract documents, or as directed by the Engineer.
- (B) **MATERIALS** – All materials shall meet the requirements set forth in the Standard Specifications or modified in the Special Provisions. Materials not listed herein shall be considered incidental and included in the cost of other pay items.
- (C) **CONSTRUCTION REQUIREMENTS** – All areas draining to the permeable pavements shall be stabilized. Furnish and install geotextile, impermeable liner, underdrains, stone aggregate base courses (#57 stone, #8 stone, #2 stone), permeable pavement surfaces (porous asphalt, pervious Portland cement concrete pavement, permeable interlocking concrete pavers), underdrain cleanouts, reservoir overflows, PCC curb and gutter, graded aggregate, as per the requirements set forth in the Standard Specifications, Special Provisions, and contract drawings. Finish grading must allow for positive drainage along grades established in the contract drawings.
- (D) **MEASURE AND PAYMENT** – The unit of measure and payment shall be as set forth in the Standard Specifications or modified in the Special Provisions. Payment will be made under:

C.5 LANDSCAPE:

This S.P. supplements 611.

- (A) **GENERAL DESCRIPTION** - Work includes: Supplying, installing, and maintaining all plant materials until substantial completion and warranty of plantings shown in the Drawings and Specifications.
- (B) **MATERIALS** – Trees and shrubs as described in the Plant List, as shown in the Contract Plans.
- (C) **MEASURE AND PAYMENT** – The unit of measure for plants shall be each. Payment will be per 611.02 of the Standard Specification.

C.6 SHOP AND WORK DRAWINGS

This S.P. supplements 105.02 (B).

Shop Drawings, Working Drawings, Materials certifications, and laboratory test reports shall be submitted to:

DDOT Engineer
Infrastructure Project Management Administration
District Department of Transportation
55 M Street, S.E.
Washington, D.C. 20003

Shop and Working Drawings for Sewers and Water-mains shall be submitted to:

Chief, Utility Inspection Section
D.C. Water
5010 Overlook Avenue, S.W.,
Washington, D.C. 20032

C.7 COMMON EXCAVATION, ITEM 202 002

This S.P. supplements and modifies 202.

Common excavation shall include all excavation except hard surface pavement excavation for the construction of pavement, bioretention areas, sidewalks, and curb and gutter, to be constructed to lines, grades and limits indicated on the plans and as directed by the engineer.

The contractor shall perform work including undercutting to remove soft and unsuitable material which may be encountered below the proposed soil base, within the limits prescribed by the engineer. Also included is special or hand excavation, as necessary, over, around, and under existing or new utility lines and appurtenances uncovered from such base undercutting. Suitable material removed as excavation under this item shall be used for backfilling areas outside of bioretention or permeable pavement areas.

The contractor shall furnish, place and compact the replacement material as per the plans.

(A) TEMPORARY SUPPORT OF ADJACENT STRUCTURES

During excavation and adjacent alley construction, the contractor is responsible for supporting structures adjacent to or within the right of way. Adjacent structures may include, but are not limited to, homes, garages, sheds, retaining walls, utility poles, utilities, fences, curbs, and pavements.

Prior to the start of construction the contractor shall perform a walk-through with the Engineer to determine what structures will require temporary support. As directed by the Engineer, the contractor shall submit shop drawings for the temporary support of adjacent structures, signed and sealed by a Professional Engineer, for approval of the Engineer.

Contractor shall notify PEPCO 7 days prior to disturbing pavement adjacent to existing utility poles. Contractor shall support existing utility poles as directed by PEPCO and the Engineer.

No additional payment will be made for support of adjacent structures or resulting damages to adjacent structures due to improper support during excavation and adjacent alley construction. No additional payment will be made for support of existing utility poles during construction.

Damages to adjacent structures or existing utility poles shall be repaired at the contractor's expense.

C.8 STONE CHECK DAM, ITEM 208 991

This S.P. modifies and supplements 208 and 822.09 of the Standard Specifications.

- (A) GENERAL DESCRIPTION** - Work under this item includes the installation of stone check dam to slow and hold water flow in the bioretention area.
- (B) MATERIALS** – All materials, as shown on the construction drawings shall meet the requirements set forth in the Standard Specifications, design plans, or modified in the Special Provisions. Materials not listed herein shall be considered incidental and included in the cost of other pay items.
- (C) CONSTRUCTION REQUIREMENT** – Construction shall be as follows:
 - a. Prepare bioretention areas in accordance with the construction plans and specifications.
 - b. Place class-1 geotextile under the bottom of the dam prior to placement of stone. Construct the check dam with washed #2 stone with side slopes of 1:1 and a minimum top width of 6 inches. Place the stone so that it completely covers the width of the bioretention area and sides per the detail on the drawings. Form the weir so that top of the outlet crest is approximately 4 inches lower than the outer edges.
 - c. Set the height for the weir crest per details in the construction drawings.
- (D) MEASURE AND PAYMENT** – The unit of measure and payment for stone check dam will be made per cubic yard (C.Y.) and include installation, setting, and leveling of stone and all labor, materials, tools, equipment and incidentals needed to complete work specified.

C.9 DOUBLE-WASHED STONE (#57, #8, and #2) AGGREGATE BASE COURSE, ITEM 209 991

This S.P. modifies and supplements 106, 209, and 803 of the Standard Specifications.

(A) GENERAL DESCRIPTION - This item shall consist of constructing base courses for permeable pavements and bioretention facilities to the specified depths on a prepared foundation conforming to the lines, grades and cross sections shown in the contract documents. Base courses may include reservoir layer, storage layer, choker layer, filter layer, and other layers included in the Contract Documents.

(B) SUBMITTALS – Submit documentation of materials prior to construction as follows:

- a. Material Source - Certificate
- b. Cleanliness – Certification that stone is double-washed per Section (J) herein.
- c. Testing results to verify the following properties:
 - i. Gradation
 - ii. Smoothness
 - iii. Percentage of Wear
- d. Sample: Prior to production and delivery of aggregates, take at least one (1) initial sample in accordance with ASTM D75. Collect each sample by taking three (3) incremental samples at random from source material to make a composite sample of not less than 50 pounds. Repeat sampling procedure when source of material is changed or when deficiencies or variations from specified grading of materials are found in testing.

(C) MATERIAL REQUIREMENT - Coarse aggregate shall be of the types designated in the Contract Documents, and shall consist of clean, tough, durable fragments of crushed stone, or crushed gravel, conforming to the gradations in Table 1 and shall also meet the following:

- a. Be double-washed, sufficient to remove dust and other coatings; and
- b. Be free from clay balls, organic matter, and other deleterious substances.

Reservoir/storage layer shall also meet the following:

- a. Maximum percentage of wear of 40% as determined by AASHTO T96.
- b. Minimum 75% by mass (weight) of the material coarser than the No. 4 sieve with at least two (2) fractured faces, and 90% shall have one or more fractured faces as determined by ASTM D5821;
- c. Have not more than 5% of flat or elongated pieces (>5:1) as specified in ASTM D4791;

- d. Material shall have a California bearing ratio (CBR) of at least thirty (30) as determined by laboratory test on a four (4) day soaked sample in accordance with ASTM D1883; Compact the specimen in accordance with ASTM D1557, Method B or C.

Table 1: Gradation for Base Courses

Pavement Reservoir Layer	Choker Layer for Permeable Pavements	Filter Layer	Bioretention Storage/Drainage Layer
No. 2 Stone per Standard Specification 803.02-1	No. 57 Stone per Standard Specification 803.02-1	No. 8 Stone per Standard Specification 803.02-1	No. 57 Stone per Standard Specification 803.02-1

(D) PREPARATION OF GRADE – Excavation and subgrade preparation to the lines and grades shown on the Contract Documents shall follow these requirements..

- a. Subgrade shall not be compacted for installations where contract documents specify a minimum infiltration rate for the subgrade.
- b. For soft or yielding soils in locations specifying a minimum infiltration rate for the subgrade, Contractor shall install geogrid in accordance with contract documents. Geotextile fabric shall not be used in these situations.
- c. Where no minimum infiltration rate is specified for the subgrade, Contractor shall be allowed to perform subgrade compaction, and can utilize geotextile fabric or impermeable liners as specified in the Contract Documents.
- d. Where erosion of subgrade has caused accumulation of fine materials and/or surface ponding, this material shall be removed with light equipment and the underlying soils scarified to a minimum additional depth of 6 inches with a rake and a tracked vehicle used in combination, or equivalent.
- e. Construction equipment shall not be allowed on the subgrade, except as noted above.

(E) HAULING

- a. Hauling of aggregates shall be accomplished in accordance with the requirements of the Standard Specifications.
- b. Trucks meeting the same cleanliness requirements of the double washed materials shall be used during hauling. Trucks shall be inspected and cleaned prior to each use.

(F) LIMITATIONS ON PLACING- Do not install aggregate base course when rainfall or other weather conditions will detrimentally affect the quality of the work.

(G) PLACING, SHAPING AND COMPACTING-

- a. Upon completion of subgrade work, the Engineer shall be notified and shall inspect the subgrade before the Contractor continues installation. Owner or Engineer shall have the option to perform infiltration testing on the subgrade to verify minimum infiltration rates, at the Contractor's expense where specified on the contract documents.
- b. Any accumulation of debris or sediment which takes place after approval of subgrade shall be removed prior to installation continuing at no extra cost.
- c. Place geosynthetics, impermeable liner, pipe, and aggregate as required on the contract documents immediately after approval of subgrade in accordance with the standards specifications and the DDOT specification "Geosynthetic Fabric for Stormwater Facilities".
- d. Do not dump aggregate base course in piles, but evenly spread and place aggregate on the prepared subgrade in layers of uniform thickness without segregation. Where the base course is constructed in more than one layer, clean previously constructed layers of loose and foreign matter prior to placing subsequent layers.
- e. Moisten and lightly compact each lift of aggregate with a roller, keeping equipment movement over exposed subgrades to a minimum. Roll each lift between 4 and 6 passes. If a required depth of aggregate in a lift exceeds ten (10) inches, the aggregate layer shall be compacted in ten (10) inch lifts.
- f. Make adjustments in placing procedures or equipment to obtain true grades, to minimize segregation and degradation, to reduce or increase water content, and to insure a satisfactory aggregate base course.

(H) FINISHING-

- a. **Geosynthetics along Edges** – Geotextile fabric or impermeable liners, or both, shall be used along the edges or sides of aggregate base course materials for permeable pavement and bioretention as specified in the contract documents. Following placement of an aggregate base course, and at the conclusion of each day's work, the geotextile or impermeable liner, or both, shall be folded back and secured to protect from sediment washout along all bed edges. At least a two foot (2') strip shall be used to protect stone from adjacent bare soil. This edge strip shall remain in place until all bare soils contiguous to beds are stabilized and fully vegetated or until the wearing surface for the permeable pavement has been placed.
- b. **Unfinished Edges Of Base Course** – In fill conditions, place earth or other approved materials along any unfinished edges of the base course in such quantity that it will compact to the thickness of the aggregate base course being constructed. In each operation, allow at least a two (2) foot width of the shoulder along all unfinished edges to be rolled and compacted simultaneously with the rolling and compacting of each layer of aggregate.

(I) SAMPLING-

- a. **Aggregates at the Source** – See section (B).

- b. **During Construction** - Take at least one (1) random sample during construction within the first 500 tons of placed aggregate base course material, in accordance with ASTM D 75. Collect each sample by taking three (3) incremental samples at random locations from the placed material to make a composite sample by weight of not less than 50 pounds.
- c. **Sample Identification** - Place each sample in a clean container, securely fastened to prevent loss of material. Tag each sample for identification and with the following information:

Contract No. _____
 Sample No. _____ Quality _____
 Date of Sample _____
 Sampler _____
 Source _____
 Intended Use _____
 For Testing _____

- d. **Repeat Sampling** – Repeat the above sampling when a material source is changed or when unacceptable deficiencies or variations from a specified gradation of materials is found in testing.

(J) TESTING AND ACCEPTANCE - Testing responsibilities will be performed by the Contractor’s testing agency at the Contractor’s expense. Source approval testing may also be performed by DDOT. Failure to detect defective work or materials early will not prevent rejection if a defect is discovered nor shall it obligate the owner for final acceptance at any time. Submit all Test Reports to the Engineer.

- a. **Cleanliness** – Prior to any work, the Contractor shall provide a written certification from their suppliers that each material provided for an aggregate base course in permeable pavement has been double washed, and all fines have been removed from the material. Trucks used for hauling the material shall also be thoroughly washed to remove fine material and other deleterious materials.
- b. **Gradation** - Test each sample of aggregate base course material for gradation in accordance with ASTM C 136 and with the sampling described in Section (I).
- c. **Thickness**– Measure each 100 square yards of each layer of aggregate base course placement. Make depth measurements by test holes, at least 3 inches in diameter, through the base course. Where base course deficiency is more than ½ inch, correct by scarifying, adding mixture of proper gradation, re-blading, and re-compacting. Where the measured thickness is more than ½ inch thicker than indicated, consider it as the indicated thickness plus ½ inch for determining the average. The average thickness is the average of the depth measurements for the entire area, and shall not

under-run the thickness indicated in the Contract Documents without written approval from the Engineer.

(K) PROTECTION - Protection work will be performed by the Contractor at the Contractor's expense.

- a. As construction is completed, maintain and protect the aggregate base course, except where a portion of the succeeding course is under construction thereon. Maintenance includes drainage, rolling, shaping, and watering, as necessary, to maintain the course in proper condition. Correct deficiencies in thickness, composition, and construction which develop during the maintenance, to conform to the requirements specified herein. Maintain sufficient moisture by light sprinkling with water at the surface to prevent a dusty condition.
- b. Finishing along the edges of the permeable pavement for protection during construction shall be as described in Section (G) until the site is fully stabilized, at which time excess geotextile fabrics and impermeable liners can be cut back to the pavement edges.
- c. In addition, runoff onto an aggregate base course shall be minimized until the site is fully stabilized. Diversion ditches or other approved types of erosion and sediment control measures shall be placed at the toe of slopes which are adjacent to permeable pavement and bioretention areas, to prevent sediment from washing into areas aggregate base course at all times during and after construction. Any sediment accumulation into the aggregate base course shall be removed immediately by cleaning or replacement of the aggregate by the Contractor at no cost to the owner.

(L) MEASURE AND PAYMENT – The unit of measure for Aggregate Base Course for Permeable Pavement or Bioretention will be the cubic yard for each course/type of material. The actual number of cubic yards measured complete in place will be paid for the contract unit price per cubic yard, which payment will include all labor, materials, tools, equipment and incidentals necessary to complete the work as specified herein. Payment will also include all subgrade preparation and testing necessary to achieve the required placement.

C.10 GEOTEXTILE; GEOGRID; WATERPROOFING GEOMEMBRANE; ITEM 200 010

This S.P. supplements the Standard Specifications. The material labeled as “Non-Woven Geotextile” will be paid under “Geotextile-Type 1” and these special provisions apply. The material labeled as “Impermeable Liner” will be paid under “Waterproofing Geomembrane” and these special provisions apply.

(A) GENERAL DESCRIPTION - This work consists of supplying and installing various geosynthetics for use in stormwater management, including the following:

- a. Geotextile, Class 1: a geotextile for use in applications where there is a high risk of damage during construction due to construction equipment or dumped aggregates, including due to its use at the bottom of stormwater management facilities.
- b. Geotextile, Class 2: a geotextile for use in applications where there is little to average risk of damage during construction due to construction equipment or dumped aggregates, including use on the sides of stormwater management facilities.
- c. Geogrid: a geosynthetic with woven bands of synthetic material with large apertures for use in applications where the underlying soils are weak or yielding. If the following soil conditions are encountered when installing permeable pavement facilities, geogrid in accordance with this provision may be utilized in lieu of removal of soil and replacement with select backfill, as approved by DDOT:
 - i. unstable or highly erodible soils,
 - ii. weak soils,
 - iii. gap graded soils,
 - iv. alternative sand / silt laminated soils,
 - v. dispersive clays, and / or rock flour
- d. Waterproofing Geomembrane: material that is used to prevent infiltration and contain stormwater within the facility by lining the sides and bottom. This may also be called an Impermeable Liner.

(B) MATERIALS-

- a. Geotextile: Class 1 and Class 2 geotextiles for stormwater management shall meet the requirements of AASHTO M-288 and Sections 213.02 and 822.09 of the DDOT specifications, as applicable.
 - i. The permeability of the geotextile should also be at least an order of magnitude higher (10x) the soil subgrade permeability for stormwater management facilities used as infiltration practices.
- b. Geogrid: Shall meet the requirements of AASHTO M-288 and Section 213.02 of the DDOT specifications, unless otherwise specified in the contract documents.
- c. Waterproofing Geomembrane: shall meet the requirements of Section 822.10 of the DDOT specifications.

(C) SUBMITTALS AND TESTING-

- a. Product Data: Submit most recent printed information from manufacturer for:
 - i. Type and Source of Materials
 - ii. Qualifications of Manufacturer
 - 1. Manufacturer shall have a minimum of five (5) years of experience supplying geotextile materials for stormwater applications.

2. Submit Manufacturer name, address, telephone and fax numbers, and contact name.
 3. Submit certification that Manufacturer is able to provide sufficient quantities of materials for the entire project.
- iii. Geotextile Material per Standard Specification 213.02
1. Weight, ounces per square foot
 2. Grab Strength, pounds force
 3. Puncture Strength, pounds force
 4. Trapezoidal Tear Strength, pounds force
 5. Permittivity, as a function of permeability, /sec
 6. Minimum Apparent Opening Size, millimeters
 7. Elongation at Failure, %
 8. Ultraviolet stability, % strength retained after 500 hours
- iv. Geogrid Material per Table C.10.1
1. Weight, ounces per square foot
 2. Strength at 5% Strain, pounds per foot
 3. Minimum Opening Size, inches
 4. Maximum Opening Size, inches
 5. Ultimate Tensile Strength, pounds per foot
 6. Junction Strength, pounds force
 7. Ultraviolet stability, % strength retained after 500 hours

TABLE C.10.1 REQUIRED GEOGRID PROPERTIES

Property	Test Method	Required Value ⁽¹⁾	
Reinforcement Properties			
Strength at 5% Strain	ASTM D 6637	1000 lb/ft	14.5 kN/m
Minimum Opening Size	Direct Measure	0.75 in ⁽²⁾	19 mm
Maximum Opening Size	Direct Measure	3.0 in ⁽³⁾	76 mm
Survivability Index Values			
Ultimate Tensile Strength	ASTM D 6637	2000 lb/ft	29.3 kN/m
Junction Strength	GRI ⁽⁴⁾ GG2	25 lb	110 N

Ultraviolet Stability	ASTM D 4355	70% at 500 hrs	
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(1) Values, except ultraviolet stability, are minimum average roll values, MARV (average value minus two standard deviations). Strength in the machine and cross-machine directions must both meet the required value.

(2) Minimum opening size must be $\geq D50$ of aggregate above geogrid to provide interlock

(3) Maximum opening must be $\leq 2 \times D85$ to prevent aggregate from penetrating into the subgrade.

(4) GRI – Geosynthetic Research Institute

v. Waterproofing Geomembrane per Section 822.10

1. Weight, ounces per square foot
2. Thickness, mils
3. Grab Tensile Strength, pounds force
4. Puncture Strength, pounds force
5. Pliability, unaffected at specified testing requirements

b. Product Samples: Along with product data, submit representative samples to DDOT for review and approval. Do not order materials until DDOT has approved. Delivered materials shall match the approved samples.

c. Soil Tests: Submit certification that the geotextile has at least an order of magnitude (10x) higher permeability than the soil subgrade permeability as specified in the Contract Documents for infiltration practices.

(D) DELIVERY, STORAGE AND HANDLING-

- a. Deliver, store and handle packaged materials in strict compliance with all manufacturer’s instructions and recommendations. Keep a record of all deliveries along with corresponding package labels.
- b. Minimize exposure to ultraviolet (UV) degradation by keeping geotextile materials out of direct sunlight at all times. Protect all materials from weather, damage, injury and theft.
- c. Sequence deliveries to avoid delays and UV exposure.

(E) PRE-INSTALLATION EXAMINATION AND PREPARATION-

- a. Pre-Installation Examination: Prior to beginning work, the Contractor shall examine previous work, related work, and conditions under which this work is to be performed and shall notify DDOT in writing of all deficiencies and conditions detrimental to the proper completion of this work. This includes:
 - i. The subgrade is at incorrect depths, lines, and dimensions for installing the geotextile fabrics.

- ii. Overly wet conditions exist or are anticipated to occur during installation, as they will contaminate the geotextiles.
 - iii. Construction debris is present within the placement area which may damage the geotextiles.(Work should be sequenced to avoid construction traffic on the exposed geotextiles at any time.)
- b. By beginning work, the Contractor accepts the previous work and site conditions.

(F) PLACEMENT-

- a. The Contractor shall not place any geotextile, geogrid or waterproofing membrane until all work in adjacent areas is complete and approved by DDOT.
- b. Material shall be cut and fit to the dimensions shown on the plans with a minimal amount of seams, and with excess materials removed and disposed of properly. Clean and straight cuts are required to the line and grade of the plans.
- c. Geosynthetics shall be placed on the prepared surface of the stormwater practice parallel to the longest side of the practice, and without dragging it across the grade. Wrinkles and folds shall be removed by stretching and pinning.
- d. Securing pins or staples for geotextile fabric shall have a minimum length of 10 inches and shall be designed to securely hold the geotextile fabric in place during construction. Waterproofing membrane shall be held in place by backfilling or other means without puncturing the material. Other methods of pinning can also be used as allowed by the Chief Engineer.
- e. Geotextiles shall be overlapped by a minimum of 3 feet at roll edges and ends. Roll edges, ends and overlaps shall be secured a minimum of 5 feet on center or sewed in accordance with Section 213.02 (C).
- f. Geotextiles shall be folded or cut and overlapped in the direction of the turn for all curves. Folds, as well as edges, ends, and overlaps shall be pinned a minimum of 5 feet on center or sewed in accordance with Section 213.02 (C).
- g. Waterproofing membrane shall be glued continuously at seams in accordance with all manufacturers' recommendations including any required overlap. Folds shall also be secured and pulled taught.

(G) PROTECTION

- a. Protect newly placed geosynthetics from damage during construction, and protect them from ultraviolet (UV) degradation at all times.
- b. Construction traffic on exposed geosynthetic materials is strictly prohibited.
- c. After beginning work, coordinate activities with other work so that there is no disturbance or damage from traffic or other construction activities subsequent to placement.
- d. Any damaged geotextile, geogrid, or waterproofing membrane shall be repaired or replaced immediately upon discovery of the damage, to the satisfaction of the Engineer, at the Contractor's expense.

- (H) **EXCESS MATERIALS** - Unused material exposed to ultraviolet (UV) degradation or otherwise damaged shall also be disposed of properly.
- (I) **MEASURE & PAYMENT** - The unit of measure for geosynthetics will be square yards (SY). The number of square yards will be the actual number of square yards complete in place, which will include furnishing, transporting, handling, installing, and testing the geosynthetics as well as all seams, overlaps, staking, embedment, and protection measures.

C.11 FIELD CONNECTION AT EXISTING STRUCTURE, ITEM 300 004

This S.P. modifies and supplements 310 and 603 of the standard Specifications.

- (A) **GENERAL DESCRIPTION** - This work shall consist of furnishing and placing the items specified to construct PVC Pipe field connections to existing catch basins or manholes as shown in the Drawings.
- (B) **MATERIALS** – All materials shall meet the requirements set forth in Standard Specifications 310.03, 314.03, or modified in the Special Provisions.
- (C) **CONSTRUCTION REQUIREMENTS** – Construction shall be as per the requirements set forth in Standard Specifications 310.04, 314.04(E), 603.03, and in the contract Drawings.
- (D) **MEASURE AND PAYMENT** – Field connection at existing structure will be measured and paid for at the contract unit price per each and will include furnishing, installing, excavation, backfill, and all labor, materials, tools, equipment, and incidentals necessary to complete the work.

C.12 FIELD CONNECTION AT SEWER, ITEM 300 004

This S.P. modifies and supplements 316 of the standard Specifications.

- (A) **GENERAL DESCRIPTION** - This work shall consist of furnishing and placing the items specified to construct PVC Pipe field connections to existing storm and/or combined sewer pipe as shown in the Drawings and in accordance with DC WASA Standards.

Related Items: Trench excavation and backfill and non-perforated underdrain pipe will be constructed and installed per the standard specifications and special provisions and paid separately.

- (B) **MATERIALS** – All materials shall meet the requirements set forth in Standard Specification 316.03 or modified in the Special Provisions.

- (C) **CONSTRUCTION REQUIREMENTS** – Construction shall be as per the requirements set forth in Standard Specifications 316.04, DC WASA Standards, and in the contract Drawings.
- (D) **MEASURE AND PAYMENT** – The unit of measure for field connection at sewer will each. Payment will be made at the Contract unit price per each, which payment will include, but not limited to, furnishing and installing wye branch connections, straight thimbles, maintaining sewer service, and all labor, materials, tools, equipment and incidentals needed to complete work specified.

C.13 CLEAN SEWER STRUCTURES, Item 300 004

- (A) **GENERAL** – Work consists of cleaning selected sewer structure (storm sewer) within the limits of the project, when directed by the Engineer. The sewer structures shall be cleaned of all silt and deposits (leaves, trash, etc.) by either manual or mechanical means. Work shall also include removing debris to a distance of 2 ft. into the attached connecting pipe. Debris extracted from the inlet must be removed from the work site by the end of each workday.
- (B) **MEASURE** – The unit of measure for Clean Sewer Structure will be each and this measure shall include the elongated section, catchment chamber and the connecting pipe as specified.
- (C) **PAYMENT** – Payment for Clean Sewer Structure will be made at the contract unit price per each, which payment will include all labor, equipment, tools, materials, and incidentals necessary to complete the work as specified herein.

C.14 CLEAN PCC PIPE, Item 300 005

- (A) **GENERAL** – Work consists of cleaning PCC Pipe within the project limits, when directed by the Engineer. If during the sewer structure cleaning process, the Engineer determines that a connecting pipe is clogged or requires cleaning, he shall direct the Contractor to clean the connecting pipe. The connecting pipe shall be cleaned of all debris and thoroughly flushed by use of high-pressure hose. All work to be performed must meet the requirements of Water and Sewer Authority. Any material extracted from the pipe during cleaning operations must be removed from the site by the end of the working day.
- (B) **MEASURE** – The unit of measure for Clean PCC Pipe will be Linear Foot and this measure shall be horizontal distance, along the surface from the attached wall of the inlet to the center of the connecting sewer structure minus 2 feet.
- (C) **PAYMENT** – Payment for Clean PCC Pipe will be made at the contract unit price per Linear Foot, which payment will include all labor, equipment, tools, materials and incidentals necessary to complete the work as specified herein.

C.15 POROUS ASPHALT PAVEMENT, ITEM 400 009

This S.P. supplements and modifies 401 and 818.

(A) GENERAL DESCRIPTION - This work shall consist of constructing a porous asphalt pavement on a prepared subgrade in accordance with these special provisions and in conformity with the lines, grades, thicknesses and typical sections shown in the contract documents or as directed by the Chief Engineer. The porous asphalt pavement shall consist of a mixture of aggregates, bituminous binder material including polymer modified asphalt, fibers, mineral filler, anti-strip additives, and other optional additives as may be specified. Except as herein stated, the requirements specified for 401 are applicable to this S.P.

(B) REFERENCES-

AASHTO T96 - Standard Method of Test for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact

AASHTO T209 - Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures

AASHTO T275 - Standard Method of Test for Bulk Specific Gravity of Compacted Bituminous Mixtures Using Paraffin-Coated Specimens

AASHTO T283 - Standard Method of Test for Resistance of Compacted Asphalt Mixtures to Moisture-Induced Damage

ASTM D3203 - Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures

ASTM D4791 - Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate

ASTM D5821 - Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate

ASTM D6390 - Standard Test Method for Determination of Draindown Characteristics in Uncompacted Asphalt Mixtures

ASTM D6752 - Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Automatic Vacuum Sealing Method

NAPA IS-115 - Open-Graded Asphalt Friction Courses, Design, Construction & Maintenance

NAPA IS-131 - Porous Asphalt Pavements for Stormwater Management

NAPA – National Asphalt Pavement Association

(C) MATERIALS – The materials for porous asphalt pavement shall meet the requirements of Section 802 and the following:

- a. Performance graded asphalt binder (PGAB) meeting Section 802.2 shall be polymer modified with either styrene butadiene rubber (SBR) or styrene butadiene styrene

(SBS) per Contract Documents.

- b. Coarse aggregate shall be that part of the aggregate retained on the No. 8 sieve and shall consist of clean, tough, durable fragments of crushed stone, or crushed gravel of uniform quality. Coarse aggregate shall:
 - i. Have a percentage of wear as determined by AASHTO T96 of not more than 30 percent;
 - ii. Have at least 75% by mass (weight) of the material coarser than the No. 4 sieve with at least two (2) fractured faces, and 90% shall have one or more fractured faces as determined by ASTM D5821;
 - iii. Have not more than 5% of flat or elongated pieces (>5:1) as specified in ASTM D4791;
 - iv. Be double-washed, sufficient to remove dust and other coatings; and
 - v. Be free from clay balls, organic matter, and other deleterious substances.
- c. Additives such as cellulose or mineral filler, or anti-strip additives, shall be included when stipulated in the Contract Documents or as allowed by the Chief Engineer.

(D) COMPOSITION OF THE MIXTURES - The Contractor shall develop for approval a job mix formula for proportioning of each type of porous asphalt pavement proposed for use as specified in the Contract Documents (surface, leveling, base, or other) in accordance with DDOT Standard Specification 818 and the following:

- a. The percent of bituminous material shall be a minimum of 6%, based on the total weight of the pavement mix. The minimum is to assure adequately thick layers of asphalt around the aggregate.
- b. Fines in the job mix formula shall have no more than 5% passing the ¼” sieve, and no more than 1% passing the #200 sieve.
- c. Retained Tensile Strength (AASHTO T283) shall be > 80 %.
- d. Mix design shall result in pavement that accepts 60 inches/hour (30 gallons per hour in a 12 inch diameter ring). Testing shall be in accordance with ASTM D6390.

(E) SUBMITTALS-

- a. **Contractor Qualifications** - At the time of bid submission, Contractor shall submit the name and qualifications of the porous asphalt installer, providing written evidence of project experience and proficiency in successfully completing porous asphalt pavement construction including a minimum of three (3) completed projects, total square footage to exceed the project quantities with owner information, addresses of each project, and the following:
 - i. Job mix designs used;
 - ii. In-Situ pavement test results; and
- b. **Testing Agency** – Within 7 days of notice to proceed, Contractor shall furnish the name and location of a third-party QA Inspection Agency with experience in testing

porous asphalt, who will oversee and document mix production. Use of testing services will not relieve the contractor of the responsibility to furnish materials and construction in full compliance with the Contract.

- c. **Producer Qualifications** – Within seven (7) days after notice to proceed, the Contractor shall furnish the name and location of an asphalt plant that is DDOT certified and will produce and provide porous asphalt.
 - i. Job Mix Designs – At least thirty (30) working days before construction, Contractor shall furnish job mix designs for the porous asphalt, which shall include at a minimum all mix design described in section (D) and the air void content calculated from the bulk SG and maximum theoretical SG (AASHTO T209) using ASTM D3203.
 - ii. Material Sources: Submit a list of materials proposed for work under this Section including the name and address of all material sources and all bituminous mixing plants.
 - iii. Certificates: Submit certificates, signed by the material sources and the relevant subcontractors, stating that the materials meet or exceed the specified requirements.
 - iv. Samples: Submit samples of all materials for review and approval by the Engineer.
 - v. Test Results – Testing agency shall provide latest pavement test results.

Table C.15.1 – Certification Requirements

Material*	Properties to be reported on Certificate**
binder PGAB	certification
coarse aggregate	gradation, wear, fracture faces (fractured and elongated)
fine aggregate	gradation
Silicone, when applicable	manufacturer's certification
Fibers, when applicable	manufacturer's certification
Mineral filler, when applicable	manufacturer's certification

* Samples of each material shall be submitted to the Chief Engineer. Samples must be in sufficient quantities to perform tests for each material.

** At a minimum; more material properties may be required per Contract Documents.

(F) TEST SECTION-

- a. Contractor shall provide a test section within the project site for acceptance. Place and compact one test section, a minimum of 275 square feet in size or as specified in the Contract Documents, at the required project thickness to demonstrate to the engineer's satisfaction that in-place void contents, unit weights, and infiltration rates can be met.
- b. Test Section Testing: Test sections shall have three (3) 4" core samples taken from the section a minimum of twenty four (24) hours after placement of the porous asphalt. The test cores shall be measured for thickness, void structure, and unit weight. Untrimmed, hardened samples shall be used to determine thickness. After thickness determination, the cores shall be trimmed as needed and measured for unit weight and void content.
- c. Testing Acceptance: Satisfactory test cores will be determined by:
 - i. Infiltration rate of at least 60 inches per hour.
 - ii. Compacted thickness within 1/4" of the specified thickness.
 - iii. Void Content \pm three (3) percent of the design void content.
 - iv. Unit weight \pm five (5) pounds per cubic foot of the design unit weight.

If test cores meet the above mentioned requirements, they can be left in-place and included in the completed work. If test panels do not meet the above mentioned requirements, they shall be removed and disposed of in an approved manner, and replaced with an acceptable test panel at the contractor's expense.

(G) WEATHER AND SEASONAL RESTRICTIONS - Comply with Section 401.04 and the following:

- a. The ambient air temperature during the past 24 hours shall be above 50°F
- b. The asphalt laying temperature should be within 10°F of the compactive temperature in the approved job mix design.

(H) HAULING OF ASPHALTIC MATERIALS-

- a. The asphalt shall be transported in clean vehicles with tight, smooth dump beds that have been sprayed with a non-petroleum release agent or soap solution to prevent the mixture from adhering to the dump beds. Mineral filler, fine aggregate, slag dust, and similar materials shall not be used to dust truck beds.
- b. The open graded mix shall be covered during transport to protect the mix from weather and to minimize mix cooling and prevent lumps. Long hauls, particularly those in excess of 25 miles may result in separation of the mix and its rejection, and are not recommended.

(I) PREPARATION OF GRADE-

- a. **Subgrade Preparation** – Shall be in accordance with the special provision “Double Washed Aggregate Base Course”.
- b. **Base Materials** – Shall be in accordance with the special provision “Double Washed

Aggregate Base Course”.

(J) SPREADING AND FINISHING-

- a. Pre-Placement Conference - A mandatory pre-placement conference will take place at least seven (7) days prior to installation of work and shall include at a minimum engineer, inspector, superintendent, asphalt installer, and QA inspector.
- b. Contact surfaces such as curbing, gutters, and manholes shall be painted with a thin, uniform coat of Type RS-1 emulsified asphalt immediately before the asphalt mixture is placed against them.
- c. Place the asphalt using self-propelled paving equipment meeting Section 904, with an activated screed or strike-off assembly capable of being heated if necessary, and capable of spreading and finishing the mixture without segregation. Track pavers are recommended.
- d. The use of water to cool the pavement is prohibited.
- e. Place lifts no more than 24 hours after each previous lift to minimize the use of tack coats. Tack coats will only be allowed if required by the Contract Documents or approved by the Engineer.
- f. The finished surface shall be of a uniform texture and evenness, and shall not show any indication of tearing, shoving, or pulling of the pavement during placement.

(K) COMPACTION OF POROUS ASPHALT-

- a. Roll the asphalt using a two-axle tandem roller when it is cool enough to withstand the roller without displacement of the asphalt, and using rollers sufficient to compact the asphalt without crushing the aggregate or compromising the required void content and infiltration rates.
 - i. The number, mass (weight), and type of rollers furnished shall be sufficient to obtain the required compaction while the mixture is in a workable condition. Generally one breakdown roller will be needed for each paver used in the spreading operation. Breakdown rolling shall occur when the mix temperature is between 275 and 325°F.
 - ii. Intermediate rolling shall occur when the mix temperature is between 200 & 275°F.
 - iii. Finish rolling shall occur when the mix temperature is between 150 and 200°F.
- b. Unless otherwise specified, the longitudinal joints shall be rolled first. Next, the Contractor shall begin rolling at the low side of the pavement and shall proceed toward the center or high side with lapped rolling parallel to the centerline.
- c. Roll until all roller marks are gone however avoid excessive rolling which could reduce the infiltration capabilities of the asphalt.
- d. To prevent adhesion of the mixture to the rolls, rolls shall be kept moist with clean water or water mixed with very small quantities of detergent or other approved materials. Excess liquid will not be permitted.

- e. Along forms, curbs, headers, walls, and other places not accessible to the rollers, the mixture shall be thoroughly compacted with hot or lightly oiled hand tampers, smoothing irons or with mechanical tampers. On depressed areas, either a trench roller or cleated compression strips may be used under the roller to transmit compression to the depressed area.
- f. Rollers will not be stopped or parked on the freshly placed mixture; Foot-traffic shall not be allowed on fresh asphalt for at least 24-hours.
- g. Any mixture that becomes loose and broken, mixed with dirt, or is in any way defective shall be removed and replaced with fresh hot mixture. The mixture shall be compacted to conform to the surrounding area with segregation. Any area showing deficiencies shall be replaced at the Contractor's expense.

(L) JOINTS-

- a. Joints between old and new pavements or between successive days work shall be made to ensure a thorough and continuous bond between the old and new mixtures. Whenever the spreading process is interrupted long enough for the mixture to attain its initial stability, the paver shall be removed from the mat and a joint constructed.
- b. Butt joints shall be formed by cutting the pavement in a vertical plane at right angles to the centerline, at locations approved by the Engineer. The Engineer will determine locations by using a straightedge at least 16 feet long. The butt joint shall be thoroughly coated with Type RS-1 emulsified asphalt just prior to depositing the pavement mixture when paving resumes.
- c. Tapered joints shall not be allowed. Longitudinal joints that have become cold shall be coated with Type RS-1 emulsified asphalt before the adjacent mat is placed. If directed by the Engineer, joints shall be cut back to a clean vertical edge prior to applying the Type RS-1 emulsified asphalt.

- (M) PAVEMENT SAMPLES** - The Contractor shall cut 4" diameter core samples from the compacted pavement for testing within 24 hours of placement. Samples of the mixture shall be taken for the full depth of the course.

Box samples shall be taken for every 200 tons of placement or 1 sample/day whichever is greater.

(N) TESTING-

a. Quality Assurance (QA) Inspector

- i. The Contractor shall provide at the Contractors' sole expense and the Engineer's approval a third-party QA Inspector to oversee and document mix production. All mix testing results during production shall be submitted to the QA Inspector.
- ii. The QC plan may be altered at the discretion of the Engineer and based on written recommendations from the QA Inspector.
- iii. For small batch production, the Engineer may also modify or eliminate some testing requirements in the QC plan.

b. During Production

- i. The Contractor shall sample, test and evaluate the mix in accordance with the methods and minimum frequencies in the Table C.15.2. Test results shall be delivered to the Chief Engineer.
- ii. Testing of the temperature, binder content, air void content, and flow rate shall be within the limits set by these specifications.
- iii. Testing of the gradation shall not vary from the approved design mix by more than the tolerances in Table C.15.3.
- iv. Should the asphalt fail to meet all testing requirements initially, production modifications shall be made until the porous asphalt mix is within required tolerances. After the corrective action has been taken the resulting mix will be sampled and tested again at the Contractor’s expense.
- v. If the re-sampled asphalt fails to meet all testing requirements again, the Engineer will be immediately informed and provided with the test results. The Engineer may determine that it is in the best interest of project that production is ceased at that time. The Contractor will be responsible for all costs associated with the inability of the asphalt plant to meet all testing requirements.

Table C.15.2: QC/QA testing requirements during production

Test	Minimum Frequency	Test Method
Temperature in Trucks Prior to leaving Plant	Six times per day	--
Gradation	Greater of either (a) 1 per 500 tons, (b) 2 per day, or (c) 3 per job	AASHTO T30
Binder Content	Greater of either (a) 1 per 500 tons, (b) 2 per day, or (c) 3 per job	AASHTO T164
Air Void Content	Greater of either (a) 1 per 500 tons, (b) 2 per day, or (c) 3 per job	ASTM D6752
Flow Rate	Greater of either (a) 1 per 500 tons, (b) 2 per day, or (c) 3 per job	ASTM D6390

Table C.15.3: QC/QA testing tolerances during production

Sieve Size	Percent Passing
0.75	---
0.50	+ 6.0

0.375	+ 6.0
No. 4	+ 5.0
No. 8	+ 4.0
No. 200	+ 2.0
% PGAB	+ 0.4, - 0.2

c. Following Placement

- i. The full permeability of the pavement surface shall be tested prior to final acceptance in accordance with ASTM D6390.
- ii. Test in-place base and surface course for compliance with requirements for thickness, void content and unit weight as described above by using 1' x 1' slab samples. Repair or remove and replace unacceptable work as directed by the Engineer at the Contractor's cost.
- iii. Surface Smoothness: Test finished surface for smoothness using a 10 foot straightedge applied parallel with and at right angles to the centerline of the paved area. Surface will not be accepted if gaps or ridges exceed 3/16 of an inch. The smoothness requirements specified herein apply only to the top lift of each layer, when asphalt is constructed in more than one lift.
- iv. QC/QA requirements during paving are summarized in Table C.15.4.

Table C.15.4. QC/QA requirements during paving.

Activity Schedule	Frequency	Tolerance
Inspect truck beds for pooling (draindown)	every truck	NA
Take surface temp. behind joint heater	each pull	6°C (10°F) of compaction temp
Test surface smoothness & positive drainage with a 10 ft straightedge	after compaction	4.5 mm (3/16")
Hose test with at least 5 gpm water	after compaction	immediate infiltration, no puddling

(O) PROTECTION OF ASPHALTIC PAVEMENT- Minimum times prior to opening pavement to traffic are as follows:

- a. After pavement has been permitted to cool to below 100 °F for all traffic, and;
- b. 24 hours for pedestrian traffic, and;
- c. 48 hours for vehicular traffic.

The Contractor shall protect the porous asphalt from severe weather conditions and

contamination by dust, dirt, mud or other fine grained material or sediment. The asphalt shall be protected by an approved method from the time of placement until final acceptance of the project. Any damage to the porous asphalt caused by the contractor's equipment shall be repaired by the contractor at no cost to the owner. Any portion of the porous asphalt that becomes contaminated to the extent that drainage is reduced or inhibited shall be removed and replaced at no expense to the owner.

(P) MEASURE AND PAYMENT - The unit of measure for Porous Asphalt Pavement will be tons. The number of tons will be the actual number of tons complete in place, as weighed on approved truck scales. The Chief Engineer will deduct the weight of all material lost, wasted, damaged, rejected or applied in excess of the Engineer's direction or contrary to these specifications. The number of tons of Porous Asphalt Pavement class specified, as measured, will be paid at the contract unit price per ton, which payment will be full compensation for furnishing, hauling, and placing all materials and for furnishing all equipment, tools, labor and incidentals necessary to complete the work as specified herein.

C.16 PERVIOUS PORTLAND CEMENT CONCRETE PAVEMENT, ITEM 500 008

This S.P. supplements 501 and 608.01.

(A) GENERAL DESCRIPTION - This work shall consist of constructing pervious Portland cement concrete roadway pavements, alleys, sidewalks, or trails on a prepared subgrade in accordance with these special provisions and in conformity with the lines, grades, thicknesses and typical sections shown in the contract documents or as directed by the Chief Engineer. The pervious concrete pavements and sidewalks shall consist of a mixture of Portland cement, aggregate, water, admixtures and other ingredients as may be specified. Except as herein stated, the requirements specified for DDOT Standard Specifications 501 Portland Cement Concrete Pavement and 608.01 Portland Cement Concrete Sidewalk and Driveway are applicable to this S.P.

(B) REFERENCES -

ACI 522R-10 Report on Pervious Concrete

ACI 522.1-08 Specifications for Pervious Concrete Pavement

ACI 211.3R - Guide for Selecting Proportions for No-Slump Concrete

ASTM C42 - Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete

ASTM C94 - Standard Specification for Ready-Mixed Concrete

ASTM C150 – Standard Specification for Portland Cement

ASTM C595 - Standard Specification for Blended Hydraulic Cements

ASTM C979 – Standard Specification for Pigments for Integrally Colored Concrete

ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction

ASTM C1116 – Standard Specification for Fiber Reinforced Concrete

ASTM C1688 - Standard Test Method for Density and Void Content of Freshly Mixed Pervious Concrete

ASTM C1701 - Standard Test Method for Infiltration Rate of In Place Pervious Concrete

ASTM C1754 - Standard Test Method for Density and Void Content of Hardened Pervious Concrete

ASTM D994 - Standard Specification for Preformed Expansion Joint Filler for Concrete

ASTM D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction

ASTM D1752 - Standard Specification for Preformed Sponge Rubber Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction

NRMCA – National Ready Mix Concrete Association

(C) MATERIALS -

- a. Portland Cement shall be:
 - i. Type I or II conforming to AASHTO M85 or ASTM C150; or
 - ii. Type IP or IS conforming to ASTM C595.
- b. Aggregate
 - i. Maximum coarse aggregate size shall be No. 8.
 - ii. Coarse and fine aggregate conforming to Sections 803.02 and 803.01 of the DDOT Standard Specifications shall be double-washed. Washing shall be sufficient to remove dust and other coatings.
- c. Admixtures – Water reducing, hydration stabilizers, air entrainment, and other admixtures conforming to DDOT Specifications shall be allowed in the mix design.
- d. Fibers – Reinforcing fibers conforming to DDOT Specifications and ASTM C1116 shall be allowed in the mix design.
- e. Pigments – Pigments conforming to ASTM C979 shall be allowed in the mix design.
- f. Joint Material – Filler for expansion joints shall be in accordance with Section 807.01 of the DDOT Standard Specifications.

(D) PROPORTIONING - Comply with ASTM C94 and develop a concrete mix design meeting the following requirements in accordance with ACI 211.3R, Appendix 6:

- a. Concrete shall achieve a minimum infiltration rate of 60 inches/hour (30 gallons/hour in a 12 inch diameter cylinder). Testing shall be in accordance with ASTM 1701.
- b. Concrete shall meet a minimum compressive strength when specified in the Contract Documents.
- c. A combined coarse and fine aggregates gradation shall be provided and material passing the #4 sieve shall be between 4% and 7%.
- d. Mix Water: Mix water quantity shall be such that the cement paste displays a wet metallic sheen without causing the paste to flow from the aggregate. Mix water yielding a cement paste with a dull-dry appearance has insufficient water for hydration. Insufficient water results in inconsistency in the mix and poor bond strength between aggregate particles. High water content results in the paste reducing or eliminating the void system required for porosity.

(E) SUBMITTALS –

- a. Contractor Qualifications
 - i. At the time of bid submission, Contractor shall submit the name and qualifications of the pervious concrete installer, providing written evidence of the following:
 1. Employment of one (1) NRMCA certified Pervious Concrete Craftsman who shall be on site, overseeing each placement crew, during all concrete placement; or
 2. Employment of at least two (2) NRMCA certified Pervious Concrete Installers who shall be on site, overseeing each placement crew, during all concrete placement.
 - ii. Not later than fourteen (14) days before construction of pervious concrete, Contractor shall furnish evidence of employment of at least three (3) certified Pervious Concrete Technicians who will perform the pervious concrete construction.
- b. Testing Agency – Within seven (7) days after notice to proceed, Contractor shall furnish the name and location of the proposed testing agency meeting the requirements of Section O of this S.P.
- c. Concrete Producer Qualifications – Within seven (7) days after notice to proceed, Contractor shall furnish the name and location of an NRMCA certified plant that will produce and provide pervious concrete.
- d. Concrete Mix Design – Not later than thirty-five (35) days before construction of pervious concrete, Contractor shall furnish:

- i. A proposed mix design with proportions of materials for acceptance as described in section D of this S.P. or otherwise specified in Contract Documents. The data shall include unit weight, void ratio, and strength.
- ii. Samples of individual concrete materials contained in the mix design for sampling and testing of material prior to use, in accordance with Section 106.02 of the DDOT Standard Specifications.
- e. Product Sample (Test Panel) – At least fifteen (15) days before construction of pervious concrete, and following the Chief Engineer’s acceptance of the mix design, Contractor shall provide a sample of the product (test panel) in accordance with section F of this S.P.

(F) TEST PANEL -

- a. Contractor shall provide a minimum of one (1) test panel for acceptance. Place, joint and cure the test panel, a minimum of 275 square feet in size or as specified in the Contract Documents, at the required project thickness to demonstrate that in-place void contents, unit weights, and infiltration rates can be met and to demonstrate effective jointing that does not compromise the cured concrete integrity.
- b. Test Panel Infiltration: Test panels shall be tested for infiltration in accordance with ASTM C1701.
- c. Test Panel Cores: Test panels shall have three (3) cores, each six (6) inches in diameter, taken from the panel a minimum of seven (7) days after placement of the pervious concrete. At least one core shall be taken within six (6) inches of a contraction joint. The cores shall be measured for thickness, void structure, and unit weight. Untrimmed, hardened core samples shall be used to determine thickness in accordance with ASTM C42. After thickness determination, the cores shall be trimmed and measured for unit weight in a saturated condition and void content in accordance with ASTM C1754.
- d. Test Panel Acceptance: Satisfactory test panels will be determined by:
 - i. Infiltration rate of at least 60 inches per hour.
 - ii. Compacted thickness within 1/4” of the specified thickness.
 - iii. Void Content \pm three (3) percent of the design void content.
 - iv. Unit weight \pm five (5) pounds per cubic foot of the design unit weight. If test panels meet the above mentioned requirements, they can be left in-place and included in the completed work. If test panels do not meet the above mentioned requirements, they shall be removed and disposed of in an approved manner, and replaced with an acceptable test panel at the contractor’s expense.

(G) PREPARATION OF GRADE -

- a. Subgrade Preparation – Shall be in accordance with Special Provision “Aggregate Base Course for Permeable Pavements and Bioretention”.

- b. Base Materials – Shall be in accordance with Special Provision “Aggregate Base Course for Permeable Pavements and Bioretention”.

(H) HANDLING, MEASURING AND BATCHING MATERIALS – Pervious concrete shall be transported from batching plant to the location of placement by a rolling drum mixer truck with current (within 12 months) certification by the NRMCA. Non-agitating trucks shall not be used. Each truck should not haul more than two (2) loads before being cycled to another type of concrete, unless a stabilizing hydration agent is used in the pervious concrete mix design or if DDOT determines that there is no significant concrete build-up in the concrete mixer after delivery of each load.

(I) MIXING CONCRETE

- a. Concrete shall be mixed for a minimum of one (1) minute after introduction of all materials into the mixer. Truck mixers shall be operated at the speed designated by the concrete producer for at least 75 to 100 revolutions of the drum.
- b. Concrete mixing shall comply with ASTM C94 except that discharge shall be completed within sixty (60) minutes after the introduction of mix water to the cement. This time can be increased to ninety (90) minutes when utilizing a hydration stabilizer. Further water addition is permitted at the point of discharge provided the design water/cement ratio is not exceeded.

(J) LIMITATIONS ON MIXING AND PLACING - Do not install pervious concrete when ambient temperature is below 40°F or above 90°F, or when ambient temperature is forecasted to be below 40°F or above 90°F at any time during the seven (7) days following placement, unless otherwise permitted in writing by the Chief Engineer.

(K) PLACING AND CONSOLIDATING CONCRETE -

- a. Pre-Placement Conference - A mandatory pre-placement conference will take place at least seven (7) days prior to installation of work and shall include at a minimum engineer, inspector, general contractor, pervious concrete contractor, concrete supplier, and field testing agency.
- b. Wet the base materials or subgrade immediately prior to concrete placement.
- c. Deposit concrete directly from the transporting equipment onto the base materials or subgrade, as appropriate.
- d. Discharge: Each truckload shall be visually inspected for moisture consistency prior to discharge. Water addition shall not be permitted at the point of discharge to obtain the required mixture consistency and truckloads lacking the required moisture consistency shall be rejected as determined by the inspector. Discharge shall be a continuous operation and shall be completed as quickly as possible. Concrete shall be deposited as close to its final position as practical and such that discharged concrete is incorporated into previously placed and plastic concrete. If consolidation occurs during concrete discharge, placement shall be halted, the

mixture shall be addressed, and the consolidated portion removed and replaced immediately.

- e. Other methods of discharging the concrete may be used when specified in the Contract Documents or as allowed by the Chief Engineer.
- f. Spread the concrete using a come-along, short-handle square ended shovel or rake, or similar equipment.
- g. Rolling compaction shall be achieved using a motorized or hydraulically actuated, rotating, weighted tube screed that spans the width of the section placed and exerts a minimum vertical pressure of 10 psi on the concrete. Alternatively a steel pipe roller meeting the same criteria may be used.
- h. Plate compaction is not recommended, but may be necessary in small areas. When necessary, a standard soil plate compactor with a base area of at least two square feet that exerts a minimum pressure of 10 psi on the concrete through a ¾ inch minimum plywood cover shall be used.
- i. Cross rolling shall be performed using a roller specifically designed to smooth and compact pervious concrete. Lawn rollers are not allowed.
- j. Foot-traffic shall not be allowed on fresh concrete.

(L) STRIKE-OFF, CONSOLIDATION AND FINISHING -

- a. Strike off concrete between forms using a form riding paving machine, vibrating screed, or roller screed.
- b. Do not use steel trowels or power finishing equipment.
- c. Final surface texture shall be achieved by finishing the fresh concrete using a full-width steel roller that provides a minimum compactive pressure to achieve the required tolerances.
- d. Hand tools shall be used to finish the concrete along the slab edges immediately adjacent to forms.
- e. Other methods of producing final surface texture may be permitted when specified in the Contract Documents or approved by the engineer.

(M) CURING

- a. Begin curing within twenty (20) minutes of concrete discharge unless longer working time is approved by the Chief Engineer.
- b. Curing Material:
 - i. The pavement surface shall be entirely covered with a minimum six (6) mil thick polyethylene sheet in accordance with Section 501.17(C) of the DDOT Standard Specifications. Sheeting shall be cut to a minimum of the full lane width and pavement shall remain covered for at least seven (7) uninterrupted days.
 - ii. Alternate curing materials may be used as approved by the Chief Engineer.

- c. Curing sheets shall be secured and kept secure at all times without using dirt.
- d. Hot Weather Curing: A fog shall be sprayed above the surface, before covering, when required due to hot weather conditions. Equipment must include fog nozzles that atomize water using air pressure to create a fog blanket over the slab.
- e. Cold Weather Curing: Curing shall be in accordance with DDOT Standard Specification.

(N) JOINTS -

- a. Contraction joints shall be installed at locations and spacing shown in the Contract Documents at one-quarter ($\frac{1}{4}$) the depth of the thickness or a maximum of one and a half ($1\frac{1}{2}$) inches for roadway and alley pavements, and at one-half inch ($\frac{1}{2}$ "") for sidewalks and trails. Allowable methods for joint placement, as directed by the Chief Engineer, include:
 - i. Rolled Joints - shall be formed in plastic concrete using a steel pipe roller to which a beveled fin with the required diameter to achieve the joint depth has been attached around the circumference of the roller. Rolled joints are formed immediately after roller compaction and before curing. Sidewalks and trails shall have rolled joints.
 - ii. Sawed joints - shall be constructed as soon as the pervious pavement can be sawed without raveling the sawed edge and before initial cracking occurs, using a wet saw or an early-entry saw. Sawed joints shall typically be constructed between 24 hours and 48 hours after concrete placement, depending on site conditions. At no time during the sawing process shall more pavement surface be exposed than that needed for sawing. Any dust or slurry generated during sawing shall be immediately removed during the sawing operation.
- b. Construction joints shall be installed at locations and spacing shown in the Contract Documents and whenever concrete placement is suspended for a sufficient length of time that concrete may begin to harden.
- c. Expansion joints shall be installed when pervious concrete will abut existing concrete slabs or other structures such as walls, footings, columns, catch basins, stairs, light poles, and other points of restraint.
- d. To reduce raveling at joints, or where pervious concrete meets impervious pavement, finishing may be necessary in accordance with Section L, Item d of this S.P.

(O) TESTING - Testing responsibilities will be performed by the testing agency at the Contractor's expense. Concrete materials and operations may also be tested and inspected by the owner as work progresses. Use of testing services will not relieve Contractor of the responsibility to furnish materials and construction in full compliance with the Contract Documents. Failure to detect defective work or materials early will not prevent rejection if a defect is discovered later nor shall it obligate the Engineer for final acceptance at any time.

- a. Testing Agency: Agencies that perform testing services on concrete shall be AASHTO accredited per AASHTO R18 and meet the requirements of ASTM C1077. Testing agencies performing the testing shall also have experience in testing pervious concrete and shall be accepted by the Engineer before performing any work. Field tests of concrete shall be made by an individual certified as an NRMCA Certified Pervious Concrete Technician, who is also an ACI Concrete Field Testing Technician, Grade 1 in accordance with ACI CPI.
- b. Testing Procedure:
 - i. Conduct tests in accordance with ASTM C1688 at the beginning of each pervious concrete placement operation for each batch, or for every 50 cubic yards (maximum), or a minimum of one test for each day's placement, to verify fresh density and void content.
 - ii. A minimum of seven (7) days following each placement, three (3) cores, six (6) inches in diameter, shall be taken. The cores shall be measured for thickness, void content and unit weight determined using the methods described in section F of this S.P. Test Panels. Satisfactory test panels will be determined by:
 - 1. Compacted thickness $+3/4"$, $-1/4"$ of the specified thickness.
 - 2. Void Content \pm three (3) percent of the design void content.
 - 3. Unit weight \pm five (5) pounds per cubic foot of the design unit weight.

If pervious concrete fails to meet the above requirements, the Chief Engineer shall make a determination of acceptance, rejection, or acceptance at a reduced price, per Section 501.15 paragraph (A) of the DDOT Standard Specifications.
 - iii. The infiltration of the pavement surface shall be tested in accordance with ASTM C1701. All applied water shall infiltrate directly without puddle formation or surface runoff, and the testing shall be observed by DDOT. A minimum infiltration rate of 60 inches per hour shall be achieved.
 - iv. Submit all test results to the Chief Engineer.
 - v. Cores holes shall be filled with standard concrete.

(P) OPENING TO TRAFFIC - Both vehicular traffic and pedestrian traffic shall be excluded from pervious concrete pavement after the placement of curing materials as follows:

- a. 7 days for pedestrian traffic on sidewalks or pavements
- b. 14 days for vehicular traffic on alleys
- c. As determined by Chief Engineer for vehicular traffic on roadways, but not less than 14 days.

(Q) TOLERANCES - Pavement must be mechanically swept and finished before testing for compliance with tolerances. Construct pavement to comply with the tolerances of Section 501.23 of the DDOT Standard Specifications and the following:

- a. Thicknesses: + 3/4 inch; - 1/4 inch; refer to Section 501.23 of the DDOT Standard Specification for disposition on pavement with average thickness which is less than the thickness by more than 1/8 inch.
- b. Elevation: + or - 1/2 inch
- c. Contraction joint depth: +1/4 inch, -0 inch

(R) MEASURE & PAYMENT - The unit of measure for Pervious PCC Pavement or Sidewalk will be the square yard at the specified thickness. The actual number of square yards, complete in place measured along the surface, will be paid for at the contract unit price per square yard, or adjusted unit price per square yard if required under Section 501.23 of the DDOT Standard Specifications, which payment will be full compensation for furnishing, hauling, and placing all materials, including formwork, concrete work, joints, expansion joint materials, waterproofing, load transfer devices, impervious material, sealing of joints and curing. Payment for will include all costs for furnishing all materials, labor, tools, equipment and incidentals to complete the work.

**C.17 UNDERDRAIN PIPE, PERFORATED AND NON-PERFORATED
ITEM 603 004;
CLEANOUTS AT BIORETENTION, CLEANOUTS AT PAVEMENT,
ITEM 600 006:**

This S.P. modifies and supplements 316 and 603 of the Standard Specifications. The material called Item 600009 “Perforated Overdrain Pipe” will be paid under “Perforated Underdrain Pipe” and these special provisions apply. The material called “Overdrain Cleanout” will be paid as “Cleanouts at pavement” and these special provisions apply.

(A) GENERAL

- a. DESCRIPTION - This work shall consist of furnishing and placing the items specified to construct and place underdrains and overdrains (both perforated and non-perforated), underdrain cleanouts, and overdrain cleanouts, including frames, covers, and screw caps, in both bioretention and permeable pavement areas, as shown in the contract documents, or as directed by the Engineer.
- b. REFERENCES - The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AASHTO M 105 Gray Iron Castings
ASTM D 2729 Polyvinyl Chloride (PVC) Sewer pipe and Fittings
ASTM D 3034. Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings

- c. RELATED SECTIONS - Overdrain systems shall use in conjunction with DOUBLE WASHED AGGREGATE BASE COURSE in addition to this section.

(B) MATERIAL REQUIREMENT - All materials shall meet the requirements set forth in the Standard Specifications or modified in the Special Provisions.

- a. PVC (perforated or non-perforated as specified in the design drawings) – Shall be schedule 40 for underdrains/overdrains and pipe risers, and shall conform to Section 808.02 of the Standard Specifications.
- Or –
HDPE for underdrain/overdrain pipe along curves, as indicated in the design drawings.
- b. Frame and Cover – Shall be Neenah – R-1792-AL or equivalent.
- c. Screw Cap – Shall be threaded PVC with 2-inch square lug.
- d. Concrete Encasement – Concrete encasement shall have a minimum compressive strength of 3000 psi and shall conform to Section 817 of the Standard Specifications.
- e. Fittings – Fittings shall be PVC and used as indicated on the design drawings.
- f. Cleanout – The cleanout cover assembly in pavement shall be cast iron and have an adjustable housing with a scoriated cast iron cover as indicated in the design drawings and as referenced in DDOT Specification Section 815.04.

(C) CONSTRUCTION REQUIREMENTS – Construction shall be in accordance with the Standard Specifications, contract plans, and as follows:

a. **CLEANOUTS**

- In paved areas: Provide frame and cover over cleanout pipes in paved areas as indicated in the Drawings. For locations in permeable pavement, frames and covers shall be located within the permeable pavement area surrounded by PCC edge curb. Cleanouts shall be encased in concrete as shown in the Drawings. Connect riser to underdrain piping.
- In non-paved areas: Provide screw cap covers. Covers shall be set 6-inches above final grade. Connect riser to underdrain piping.

b. **UNDERDRAIN / OVERDRAIN PIPES**

- Perforated pipes shall be placed with perforations down. Pipe shall be placed with the bell end up grade. Pipe sections shall be joined with appropriate couplings. The ends of overdrain pipe shall be plugged up grade as directed by the Engineer.

c. **OUTLET CONNECTION** –Provide outlets at specified locations in the contract drawings to catch basin, manhole, or through field connection to existing storm or combined sewer pipe.

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(D) Testing and Acceptance: When construction is complete, the contractor shall test all completed underdrain or overdrain systems for continuous, unimpeded flow.

- a. Suggested test methods for each pipe run are as follows:

- i. At highpoint or upstream end of overdrain pipe, open cleanout and insert hose from water source.
 - ii. Turn on water
 - iii. Acceptance of pipe run consists of free flow of water through drain outlet into the existing storm sewer structure.
- b. Any sections of the underdrain or overdrain that are clogged or crushed shall be repaired at the contractor's expense.

(E) MEASURE & PAYMENT –

a. CLEANOUTS

The unit of measure for Underdrain / Overdrain Cleanout will be each. Payment for Underdrain Cleanout will be made at the Contract unit price per each which will include excavation, shoring, backfill, compaction, installation of cleanout including wye and jointing, pipe riser, gaskets, frame and cover or screw cap, concrete encasement, and all labor, materials, tools, equipment and incidentals needed to complete work specified.

b. UNDERDRAIN / OVERDRAIN PIPE

Payment for Underdrain / Overdrain Pipe will include all costs for furnishing all materials, labor, tools, equipment and incidentals (including pipe risers, caps, and fittings) to complete the work. The unit of measurement will be LINEAR FEET.

C.18 RESERVOIR OVERFLOWS, ITEM 600 006

This S.P. modifies and supplements 316 and 603 of the Standard Specifications.

(A) GENERAL DESCRIPTION - This work shall consist of furnishing and placing the items specified to construct reservoir overflows, including frames and grates, as shown in the contract documents, or as directed by the Engineer.

(B) MATERIAL REQUIREMENT - All materials shall meet the requirements set forth in the Standard Specifications or modified in the Special Provisions.

- a. PVC – Shall be schedule 40 and conform to Section 808.02 of the Standard Specifications.
- b. Frame and Grate – Shall be Neenah – R-1792-AG or equivalent.
- c. Concrete Encasement – Concrete encasement shall have a minimum compressive strength of 3000 psi and shall conform to Section 817 of the Standard Specifications.

(C) CONSTRUCTION REQUIREMENTS – Construction shall be in accordance with the Standard Specifications and as follows:

- a. Cleanouts in paved areas – Provide frame and grate over reservoir overflow pipes as indicated in the Drawings. For locations in permeable pavement, frames and grates shall be located within the permeable pavement area surrounded by PCC edge curb. Cleanouts shall be encased in concrete as shown in the Drawings. Connect riser to underdrain piping.

(D) MEASURE & PAYMENT - The unit of measure for reservoir overflow will be each. Payment for Underdrain Overflow will be made at the Contract unit price per each which will include excavation, shoring, backfill, compaction, installation of cleanout including wye and jointing, pipe riser, gaskets, frame and cover or screw cap, concrete encasement, and all labor, materials, tools, equipment and incidentals needed to complete work specified.

C.19 DOMED RISERS, ITEM 600 006

This S.P. modifies and supplements 316 and 603 of the Standard Specifications.

(A) GENERAL DESCRIPTION - This work shall consist of furnishing and placing the items specified to construct domed risers in bioretention cells as shown in the contract documents, or as directed by the Engineer, to allow for a set amount of ponding/storage.

(B) MATERIAL REQUIREMENT - All materials shall meet the requirements set forth in the Standard Specifications or modified in the Special Provisions.

- a. PVC – Shall be schedule 40 bell and spigot and conform to Section 808.02 of the Standard Specifications.
- b. Domed/Beehive Grate – Shall be Neenah – R-4350 or equivalent.

(C) CONSTRUCTION REQUIREMENTS – Construction shall be in accordance with the Standard Specifications and as follows:

- a. Domed Riser – Provide domed risers for bioretention facilities as indicated in the Drawings. Top of riser will be set 12-inches above final grade of bioretention facility to allow for 12 inches of ponding and shall be a minimum 2 inches below adjacent sidewalk or top of curb. Connect riser to underdrain piping using the appropriate reducer fittings, tees, and/or elbows.

(D) MEASURE & PAYMENT - The unit of measure for Domed Risers will be each. Payment for Domed Risers will be made at the Contract unit price per each which will include excavation, shoring, backfill, compaction, installation of pipe riser including connections, gaskets, domed/bee hive grate, and all labor, materials, tools, equipment and incidentals needed to complete work specified.

C.20 BACKFLOW PREVENTER, ITEM 600 006

This S.P. modifies and supplements 316 and 603 of the Standard Specifications.

- (A) **GENERAL DESCRIPTION** - This work shall consist of furnishing and placing the items specified to construct backflow preventers as shown in the contract documents, or as directed by the Engineer.
- (B) **MATERIAL REQUIREMENT** - All materials shall meet the requirements set forth in the Standard Specifications or modified in the Special Provisions.
- a. PVC – Shall be schedule 40 and conform to Section 808.02 of the Standard Specifications.
 - b. Frame and Cover – Shall be Neenah – R-1792-BL or equivalent.
 - c. Screw Cap – Shall be 10-inch diameter threaded PVC with 2-inch square lug.
 - d. Concrete Encasement – Concrete encasement shall have a minimum compressive strength of 3000 psi and shall conform to Section 817 of the Standard Specifications.
 - e. Backflow Valve – Shall be a backflow flapper valve (6-inch), Flex PVC™ Item No. S675P or approved equivalent.
- (C) **CONSTRUCTION REQUIREMENTS** – Construction shall be in accordance with the Standard Specifications and as follows:
- a. Backflow preventer assembly to be located per the plans and as directed by the Engineer at a location upstream of proposed sewer field connection yet downstream of perforated underdrain pipe.
 - b. Provide PVC riser pipe to protect PVC access sleeve pipe. Connect assembly to underdrain piping, using the appropriate reducer and tee fittings.
 - c. Non-paved areas – Provide PVC screw cap covers. Covers shall be set flush with final grade.
 - d. Paved areas – Provide frame and cover over riser pipe in paved areas as indicated in the Drawings. Cleanouts shall be encased in concrete as shown in the Drawings.
- (D) **MEASURE & PAYMENT** - The unit of measure for Backflow Preventers will be each. Payment for Backflow Preventers will be made at the Contract unit price per each which will include excavation, shoring, backfill, compaction, installation of pipe riser, connections, gaskets, backflow preventer (flapper valve), frame and cover or screw cap, concrete encasement, and all labor, materials, tools, equipment and incidentals needed to complete work specified.

C.21 MONITORING WELL, ITEM 600 006

- (A) **GENERAL DESCRIPTION** - This work shall consist of furnishing and placing the items specified to construct shallow monitoring wells in pervious concrete pavement,

including frames and covers, as shown in the contract documents, or as directed by the Engineer.

(B) MATERIAL REQUIREMENT - All materials shall meet the requirements set forth in the Standard Specifications or modified in the Special Provisions.

- a. PVC – Shall be schedule 40 as indicated and conform to Section 808.02 of the Standard Specifications.
- b. Frame and Cover – Shall be traffic rated heavy-duty type cast iron with threaded brass cap or as directed by the Engineer.
- c. 2-inch well test plug – EnviroTech ErgoGrip or equivalent with tethering eyelet.

(C) CONSTRUCTION REQUIREMENTS – Construction shall be in accordance with the Standard Specifications and as follows:

- a. Water Level Monitoring Well– Provide 2-inch PVC slotted well casing, with well point, extending twelve-inches into subgrade. Set casing approximately 2-inches below finished pavement elevation to allow clearance for test plug and cleanout cap. Provide 4-inch diameter PVC outer casing extending through pervious concrete into subbase and install 4-inch flush mounted cast iron cleanout with brass cap solvent welded to outer casing. Provide 2-inch well test plug with tethering eyelet.

(D) MEASURE & PAYMENT - The unit of measure for Monitoring Wells will be each. Payment for Monitoring Well will be made at the Contract unit price per each which will include excavation, backfill, compaction, installation of pipe, fittings, frame and cover, and all labor, materials, tools, equipment and incidentals needed to complete work specified.

C.23 PERMEABLE INTERLOCKING CONCRETE PAVER, ITEM 608 992

(A) GENERAL DESCRIPTION - This work shall consist of constructing permeable unit pavers on a prepared subgrade in accordance with these specifications and in conformity with the lines, grades, thicknesses and typical sections shown in the contract documents or as directed by the Chief Engineer. The permeable unit pavers shall consist of a combination of unit pavers and aggregate for the joints and bedding layer, to form an integrated, structural wearing surface when compacted.

(B) REFERENCES-

ASTM C67 – Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile

ASTM C140 - Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units

ASTM C150 – Standard Specification for Portland Cement

ASTM C418 - Standard Test Method for Abrasion Resistance of Concrete by Sandblasting

ASTM C595 - Standard Specification for Blended Hydraulic Cements

ASTM C936 – Solid Concrete Interlocking Paving Units

ASTM C979 – Standard Specification for Pigments for Integrally Colored Concrete

ICPI – Interlocking Concrete Pavement Institute

PICP – Permeable Interlocking Concrete Pavers

(C) MATERIAL REQUIREMENT - Materials shall be approved in accordance with Section 106 requirements, and as described below.

- a. All unit pavers shall meet surface requirements of the latest Americans with Disabilities Act (ADA) requirements and accessibility guidelines.
- b. Unit pavers shall be of the type, style, color, and other details as described in the Contract Documents and in accordance with all manufacturer's recommendations for the selected unit paver system.
 - i. Type I:
 1. Shape: Rectangular
 2. Size: 4-5 in. width, 8-9.5 in. length, 3-3.5 in thickness
 3. Color: Light gray
 - ii. Type II:
 1. Shape: L-shaped
 2. Size: 4-5 in. width on short end, 8-10 in. length on long end, 3-3.5 in thickness
 3. Color: Light gray
- c. Concrete Unit Pavers: The material and fabrication for the unit pavers shall meet or exceed the requirements of ASTM C936 "Solid Concrete Interlocking Paving Units" and must allow a minimum infiltration rate of 60 in/hr through the pavement upon installation.
 - i. Portland cement: ASTM C150, Type 1.
 - ii. Aggregate: Normal weight ASTM C33.
 - iii. Pigments: ASTM C979 and as specified in the Contract Documents.
 - iv. Other constituents: Previously established by test or experience as suitable for use in concrete, in compliance with applicable ASTM standards or as otherwise approved by the Engineer
 - v. Paver physical properties:
 1. Provide only sound units free of defects that would allow proper placing of units to achieve the specified pavement strength and performance.

2. Compressive strength: ASTM C140, when delivered to the project site, average compressive strength of not less than 8,000 psi, with no individual unit less than 7,200 psi.
3. Absorption: ASTM C140, average absorption not greater than 5%, with no individual unit greater than 7%.
4. Resistance to freezing and thawing: ASTM C67, with no breakage and not greater than 1% loss in dry mass of any individual unit after 50 cycles of freezing and thawing.
5. Abrasion resistance: ASTM C418, maximum volume loss of 0.915 cubic inches / 7.75 sq. in. Average thickness loss of no more than 0.118" (3 mm) due to abrasion testing.
6. Dimension tolerances: Length +/- 1/16", Height +/- 1/8"
- d. Other Material Unit Pavers: Clay, brick, or other alternate materials shall be utilized as called for in the Contract Documents and shall meet physical properties described above in 3(e), unless otherwise specified in Contract Documents.
- e. Bedding and Joints: AASHTO #8 aggregate or similar, as directed by the Contract Documents and in accordance with DDOT Special Provision for Aggregate Base Course for Permeable Pavement and Bioretention.

(D) SUBMITTALS - Contractor shall submit drawings and documentation as required in this specification and obtain written acceptance of submittals before using the materials or methods requiring approval.

- a. **Contractor Qualifications** – At the time of bid submission, Contractor shall:
 - i. Submit the name and qualifications of the installer, providing written evidence of project experience and proficiency in successfully completing permeable unit paver construction including a minimum of three (3) completed projects, total square footage to exceed the project quantities with owner information, addresses and a sample of the product used, or photographs and details as to the product type and style including the manufacturer's mold assembly with patterns, dimensions, all edge details and radii, spacer bars, and the mold head or shoe; and
 - ii. Submit written evidence of an Installer who will be onsite at all times during the unit paver installation, with a current certificate from the ICPI Installer Certification Program and a record of completion from the PICP Specialist Course, or
 - iii. Submit written evidence that the Contractor will obtain the service of a consultant who has the required certifications and who will be on site at all times during the unit paver installation, acting as the installer for the project.
- b. **Testing Agency** – Within seven (7) days after notice to proceed, the Contractor shall submit the name and location of a third party QA testing agency with experience in testing permeable interlocking unit pavements, who will oversee and document

production and assembly. Use of testing services will not relieve contractor of the responsibility to furnish materials and construction in full compliance with the Contract Documents.

- c. **Producer Qualifications** – Within seven (7) days after notice to proceed, the Contractor shall furnish the name and location of the plant that will produce the unit pavers.
 - i. **Product Information:** The plant shall provide product information including all material sources and all manufacturers’ recommendations that are relevant to the project.
 - ii. **Certifications:** The plant shall provide current certifications, signed by the material sources as relevant, stating that the materials will meet or exceed all specified requirements.
 - iii. **Samples:** The plant shall provide three (3) samples of unit pavers.
- d. **Test Panels** – At least fifteen (15) days before construction of permeable interlocking unit pavers, and following the engineer’s acceptance of the qualifications described above, the Contractor shall provide a minimum of one (1) test panel for acceptance. Place, joint and cure the test panel, to be a minimum of 275 square feet in size or as specified in the Contract Documents, at the required project thickness to demonstrate to the engineer’s satisfaction that the unit pavers and design flow rates are acceptable, and that a satisfactory pavement can be installed at the site location. Testing shall be in accordance with Section (G).
- e. **Test Reports** - Submit test reports certifying compliance with all material and physical requirements stated herein. All tests shall have been conducted not more than twelve (12) months before manufacturing of the unit pavers.

(E) PREPARATION OF GRADE-

- a. **Subgrade Preparation** – Shall be in accordance with DDOT Special Provision for Aggregate Base Course for Permeable Pavement and Bioretention.
- b. **Base Materials** – Shall be in accordance with DDOT Special Provision for Aggregate Base Course for Permeable Pavement and Bioretention.
- c. **Edge Restraints** - Install all edge restraints of the types, locations and dimensions shown on the Contract Documents and at the lines and grades required. Permeable pavement shall not be allowed without edge restraints around the entire perimeter without the written approval of the Engineer.
- d. **Protection** - Shall be in accordance with DDOT Special Provision for Aggregate Base Course for Permeable Pavement and Bioretention.

(F) INSTALLATION

- a. **Pre-Placement Conference** - A mandatory pre-installation conference will take place at least two (2) weeks prior to installation of the unit pavers and shall include at a minimum engineer, inspector, general contractor, permeable unit paver installer, manufacturer, and field testing agency.

- b. Install base materials in accordance with the DDOT Special Provision for Aggregate Base Course for Permeable Pavement and Bioretention
 - c. Moisten, spread and screed aggregate bedding material and fill any voids left by screed rails. Do not roll or compact the bedding material prior to placing unit pavers.
 - d. Lay the unit pavers in the type, style, pattern, dimensions, and locations with joint widths as recommended by the Manufacturer and shown on the Contract Documents. Maintain consistent and uniform patterns for the entire pavement area.
 - e. Fill gaps at the edges of the paved area with cut units. Cut pavers subject to vehicular traffic shall be no smaller than 1/3 of a whole unit and shall have no sharp edges. Patterns shall be maintained to the extent possible in placing cut units to fill gaps in the pattern. Stagger blocks to avoid running bond or other straight joints or seams in the pattern.
 - f. Fill the openings and joints with ASTM #8 aggregate. Sweep excess aggregate from the surface.
 - g. Compact and seat the unit pavers into the bedding material using a low amplitude, 75-90 Hz plate compactor capable of at least 5,000 lbf centrifugal compaction force. This will require at least two (2) passes with the plate compactor over the entire surface.
 - h. Apply additional ASTM #8 aggregate to the openings and joints as needed, filling them in completely, then remove excess aggregate by sweeping, and make at least two (2) more passes with the plate compactor over the entire surface.
 - i. All unit pavers within six (6) feet of the laying face must be fully compacted at the completion of each day's work.
- (G) TESTING** - Testing responsibilities will be performed by the Contractor's testing agency or the Manufacturer at the Contractor's expense, as described below. Testing may also be performed by the owner as work progresses. Failure to detect defective work or materials early will not prevent rejection if a defect is discovered nor shall it obligate the owner for final acceptance at any time.
- a. Manufacturer's Testing – Testing of the materials to demonstrate compliance with the requirements shall be the combined responsibility of the Contractor and the manufacturer. Test results shall be approved by the Engineer in advance of the construction work.
 - b. Smoothness Testing - Test finished unit paver system with a 10 foot straightedge, applied parallel with and at right angles to the center line of the paved area. Correct deviations in the surface in excess of one-half (1/2) inch by removing the unit pavers as necessary and then loosening, adding or removing material, re-shaping, watering, and recompact. The smoothness requirements specified herein apply only to the top lift of each layer, when base course is constructed in more than one lift.
 - c. Infiltration Testing - The full permeability of the pavement surface shall be tested prior to final acceptance by application of clean water at least 5 gallons per minute, using a hose or other distribution device. Water used for the test shall be clean, free of suspended solids and deleterious liquids. All applied water shall infiltrate directly

without large puddle formation or surface runoff, and the testing shall be observed by the Engineer. A minimum flow rate of 60 inches per hour is required.

(H) PROTECTION-

- a. As construction is completed, maintain and protect the permeable pavement. Correct deficiencies in thickness, composition, construction, and smoothness, which develop during the maintenance, to conform to the requirements specified herein.
- b. Finishing along the edges of the permeable pavement for protection during construction shall be until the site is fully stabilized, at which time excess filter fabric and impermeable liners can be cut back to the pavement edges.
- c. In addition, runoff onto permeable pavement shall be minimized until the site is fully stabilized as described in the Contract Documents. Diversion ditches or other approved types of erosion and sediment control measures shall be placed at the toe of slopes which are adjacent to permeable pavement, to prevent sediment from washing into pavement areas at all times during and after construction. Any sediment accumulation onto the permeable pavement shall be removed immediately by cleaning or replacement of the aggregate by the Contractor at no cost to the owner.

(I) MEASURE & PAYMENT - The unit of measure for Permeable Unit Pavers will be in square yards for the type(s) specified in the Contract Documents. The actual number of square yards complete in place will be paid for at the contract unit price per square yard, or adjusted unit price per square yard, which payment includes unit pavers, bedding material, and joint filler, complete and in place. Payment will include costs for furnishing all materials, labor, tools, equipment and incidentals to complete the work.

C.24 POROUS RUBBER SIDEWALK, ITEM 608 992

(A) GENERAL DESCRIPTION - This work shall consist of furnishing and placing the items specified to construct porous rubber sidewalk, as shown in the contract documents, or as directed by the Engineer.

(B) SUBMITTALS

- a. Manufacturer's Certifications.
- b. Proposed Mix Design
- c. Samples for Verification: Provide two 6" diameter samples, in specified color, full thickness

(C) PROJECT CONDITIONS

- a. Minimize exposure to wind and heat before curing materials are applied.
- b. Avoid placing if rain, snow, or frost is forecast within 24 hours unless measures are taken as described later. Always protect fresh paving from moisture and freezing.

(D) MATERIAL REQUIREMENT - All materials shall meet the requirements set forth in the Standard Specifications or modified in the Special Provisions.

a. SUBBASE

- i. Base aggregates shall be #57 coarse aggregate (3/4" to 1 1/2") with no fines and shall meet the durability requirements of ASTM C 33.

b. POROUS RUBBER SIDEWALK

- i. Bonding: Have the capacity to bind with: wood; steel; concrete; aluminum; compacted aggregate; enamel tile, or; fiberglass.
 - ii. Resistance to degradation: Resistant to: chlorine; ozone; bromine; muriatic acid; salt water; oil; transmission oil, and; hydraulic oil.
 - iii. Aggregate: Triple-washed coarse chipped granite aggregate (3/8 to 1/2 inch) per ASTM C 33.
 1. Nominal maximum aggregate size shall not exceed 1/3 of the specified paving thickness.
 - iv. Rubber: Recycled passenger tires ground to 3/8" nominal with the wire remnants removed. Colorizing performed at the factory as tested and certified by Manufacturer.
 - v. Binding agent: urethane liquid prepolymer based upon Diphenylmethane-Diisocyanate as tested and certified by Flexible Porous Paving Manufacturer, K. B. Industries, Inc.
 - vi. Air Entraining Agents: Prohibited.
 - vii. Mix Design: Using materials acceptable to the Manufacturer design a tentative mix and test for the consistency intended for use on the work and specified.
 1. The volume by weight of aggregate per cu. yd. shall be 50% of the total dry mix.
 2. The volume by weight of the rubber product per cu. yd. shall be 50% of the total dry mix.
 3. Permeability: Pervious infiltration rate of 2,000 gallons/square foot/hour.
 - viii. Color: Beach stone.
- c. ROOT BARRIER FABRIC: material that is used to prevent infiltration of plant and tree roots into porous rubber sidewalk.

(E) CONSTRUCTION REQUIREMENTS –

a. SUBGRADE PREPARATION

- i. Prepare subgrade as specified in the contract documents.
- ii. Construct subgrade to ensure that the required paving thickness is obtained in all locations.

- iii. Keep all traffic off of the subgrade during construction to the maximum extent practical. Regrade subgrade disturbed by delivery vehicles or other construction traffic, as needed.
 - iv. Compact the material added to obtain final subgrade elevation.
 - v. Determine subgrade permeability in accordance with ASTM D3385 before porous paving placement. Confirm that subgrade permeability meets requirements of Contract Documents.
- b. SUBBASE
- i. Prepare subbase in accordance with contract documents. Installed over a Geotextile.
- c. SETTING FORMWORK
- i. Set, align, and brace forms so that the hardened paving meets the tolerances specified herein.
 - ii. Apply form release agent to the form face which will be in contact with porous paving, immediately before placing paving.
 - iii. The vertical face of previously placed concrete may be used as a form.
 - 1. Protect previously placed paving from damage.
 - 2. Do not apply form release agent to previously placed concrete.
 - 3. Apply bonding agent to face of surfaces when adhesion is desired.
- d. BATCHING, MIXING, AND DELIVERY
- i. Batch and mix on site in compliance with Manufacturer's written specifications, except that discharge shall be completed within 5 minutes of the introduction of urethane to the dry products.
- e. PLACING AND FINISHING PAVING
- i. Do not place porous paving on frozen or wet subgrade or subbase.
 - ii. Deposit porous paving either directly onto the subgrade or subbase by wheelbarrow or by material handler onto the subgrade or subbase, unless otherwise specified.
 - iii. Deposit porous paving between the forms to an approximately uniform height.
 - iv. Spread the porous paving using a come-along, short-handle, square-ended shovel or rake.
 - v. Use steel trowels to finish to the elevations and thickness specified in Contract Documents.
- f. FINAL SURFACE TEXTURE
- i. Final surface of porous paving shall be smoothed with bull float and magnesium trowels.

g. EDGING

- i. When forms are not used, bevel the edge of the top surface to a 45° slope.

h. CURING

- i. Begin curing within 20 minutes of paving discharge, unless longer working time is accepted by the Manufacturer.
 - ii. Completely cover the paving surface with a minimum 4 mil thick polyethylene sheet only if rain or sprinklers are imminent within 20 minutes. Cut sheeting to a minimum of a full placement width.
 1. Cover all exposed edges of paving with polyethylene sheet.
 2. Secure curing cover material without using dirt.
 - iii. Cure paving for a minimum of 24 uninterrupted hours, unless otherwise specified.
- i. COLD-WEATHER CONSTRUCTION
- i. In cold weather when temperatures may fall below freezing just after an installation, utilize a fan to maintain airflow over porous paving during the curing process.

(F) MEASURE & PAYMENT - The unit of measure for porous rubber sidewalk will be the square yard. Payment for porous rubber sidewalk will be made at the Contract unit price per square yard which will include, backfill, compaction, porous rubber sidewalk, root barrier and all labor, materials, tools, equipment and incidentals needed to complete work specified.

**C.25 PCC CURB AND PCC CURB & GUTTER, VARIABLE DEPTHS,
ITEM 609 993**

This S.P. supplements and modifies 609.01.

(A) GENERAL DESCRIPTION - This work shall consist of construction of the Portland cement concrete curb around bumpouts, adjacent to existing curb, and next to sidewalk as shown on the plans or as directed by the Engineer. The new PCC curb shall match the cross sectional dimension of the existing adjacent curb in the field around the existing parks/islands.

(B) MEASURE & PAYMENT - The unit of measure for PCC Curb, Variable Depth, and PCC Curb and Gutter, Variable Depth, will be per linear foot or cubic yard. The number of linear foot will be actual number of linear feet of the curb, measured complete in place. The number of linear feet of curb will be paid for at contract unit price per linear feet, which payment will include furnishing, hauling, and placing all materials including joints, reinforcements, curing, and backfill, and for furnishing all equipment, tools, labor, and incidentals necessary to complete the work.

C.26 SAWCUT, ITEM 600 009

This S.P. supplements and modifies 207.

- (A) **GENERAL DESCRIPTION** - This work shall consist of saw cutting existing pavement as shown on the plans or as directed by the Engineer.
- (B) **CONSTRUCTION REQUIREMENTS** – Before excavating, cuts through existing hard surface roadways shall be made by saw cutting through the full depth of the hard surface along the limit line. The types of paving materials to be cut are indicated in the contract documents but are not guaranteed.
- (C) **MEASURE & PAYMENT** - The unit of measure for sawcut will be the linear foot. The number of sawcut shall be made at the contract unit price per linear foot, which payment will include furnishing, hauling, saw cutting the perimeter to a neat line, and furnishing all equipment, tools, labor, and incidentals necessary to complete the work. Removal and disposal of pavement materials will be paid under Hard Surface Excavation.

C.27 CURB INLETS, ITEM 609 994; CURB CUTS, 609 994

This S.P. supplements and modifies 609.01.

- (A) **GENERAL DESCRIPTION** - This work shall consist of construction of the Portland cement concrete curb inlets and curb cuts as shown on the plans or as directed by the Engineer. The new curb inlets and curb cuts shall match the cross sectional dimension of the adjacent.
- (B) **MATERIAL REQUIREMENTS** – All materials shall meet the requirements set forth in the Standard Specifications or modified in the Special Provisions. Materials not listed herein shall be considered incidental and included in the cost of other pay items.
- (C) **MEASURE & PAYMENT** - The unit of measure for curb inlets and curb cuts will be per each (EA). The number of curb inlets and curb shall be made at the contract unit price per each, which payment will include furnishing, hauling, and placing all materials including joints, concrete, stone, geotextile, curing, and backfill, and for furnishing all equipment, tools, labor, and incidentals necessary to complete the work.

C.28 BIORETENTION SOIL; PLANT BED SOIL; LAWN SOIL; SAND-BASED STRUCTURAL SOIL; ITEM, 610 058

This Special Provision supplements the Standard Specifications.

(A) GENERAL DESCRIPTION - This work consists of supplying, testing, amending, mixing and installing various planting soil categories for use in stormwater management and horticultural plantings, covering the following:

- a. Bioretention Soil: soil blend for use in stormwater bioretention facilities.
- b. Plant Bed Soil: planting medium for trees, shrubs, and groundcovers in Plant Beds
- c. Lawn Soil: planting medium for lawn areas
- d. Sand Based Structural Soil: soil blend for trees where planting soils are beneath paved surfaces and horticultural subsoil.

(B) MATERIALS

a. GENERAL

i. Soils mixtures are composed of a blend of three base components: base loam, organic material and sand. The Soil Supplier is responsible for locating and obtaining approval of sources for base loam, organic material and sand that meet the Specification requirements. The Soil Supplier is responsible for mixing the components. Approximate mixing ratios are as specified herein, but may require adjustment, depending on the characteristics of the final base materials.

ii. Base Components

- 1. Base Loam: a natural A-horizon growing medium free from admixtures.
- 2. Organic Material or Compost: a fully decomposed yard waste organic material.
- 3. Sand: uniformly-graded medium to coarse sand.

b. BASE LOAM

i. Base Loam shall be natural A-horizon topsoil free of subsoil, large stones, earth clods, sticks, stumps, clay lumps, roots or other objectionable, extraneous matter or debris. Base Loam shall also be free of quack-grass rhizomes, Agropyron Repens, and the nut-like tubers of nutgrass, Cyperus Esculentus, and all other primary noxious weeds. Base Loam shall not be delivered or used for planting while in a frozen or muddy condition. Base Loam for mixing shall conform to the following grain size distribution for material passing the #10 sieve:

<u>U.S. Sieve Size</u> <u>Number</u>	<u>Percent Passing</u>	
	<u>Minimum</u>	<u>Maximum</u>
10	---	100
18	85	100
35	70	95

60	54	85
140	42	68
270	36	60
0.002 mm	3	12

- ii. Maximum size shall be one-inch largest dimension. The maximum retained on the #10 sieve shall be 20% by weight of the total sample. Tests shall be by combined hydrometer and wet sieving in compliance with ASTM D422 after destruction of organic matter by ignition. The organic content shall be between 3.0 and 6.0 percent by weight. Base Loam shall have a well-developed and stable crumb structure.
 - iii. Unless otherwise recommended by the Soil Supplier's Soil Scientist: Cation Exchange Capacity shall be not less than 12 and Soluble Salts shall be not more than 2,000 ppm/2.0 mmhos/cm.
- c. COARSE SAND

- i. Sand for blending, protection layer above filter fabrics, and drainage below planting soils shall be uniformly graded medium to coarse sand consisting of clean, inert, rounded to sub-angular grains of quartz or other durable rock free from loam or clay, mica, surface coatings and deleterious materials with the following gradation for material passing the #10 sieve

U.S. Sieve Size Number	Percent Passing	
	Minimum	Maximum
10	100	--
18	60	80
35	25	45
60	8	20
140	0	8
270	0	3
0.002 mm	0	0.5

- ii. Maximum size shall be one-inch largest dimension. The maximum retained on the #10 sieve shall be 15% by weight of the total sample. The ratio of the particle size for 70% passing (D70) to the particle size for 20% passing (D20) shall be 3.0 or less ($D70/D20 < 3.0$). Tests shall be by combined hydrometer and wet sieving in compliance with ASTM D422 after destruction of organic matter by ignition.
- iii. Coarse sand shall be non-calcitic and shall not be derived from serpentine. pH shall be less than 7.5.

d. ORGANIC AMENDMENT (COMPOST)

- i. Organic Matter for amending planting soils shall be a stable, humus-like material produced from the aerobic decomposition and curing of leaf and yard waste composted for a minimum of one year (12 months). The leaf and yard waste compost shall be free of debris such as plastics, metal, concrete or other debris. The leaf and yard waste compost shall be free of stones larger than 1/2", larger branches and roots. Wood chips over 1" in length or diameter shall be removed by screening. The compost shall be a dark brown to black color and be capable of supporting plant growth with appropriate management practices in conjunction with addition of fertilizer and other amendments as applicable, with no visible free water or dust, with no unpleasant odor, and meeting the following criteria as reported by laboratory tests.
- ii. The ratio of carbon to nitrogen shall be in the range of 12:1 to 25:1.
- iii. Stability shall be assessed by the Solvita procedure. Protocols are specified by the Solvita manual. The compost must achieve a maturity index of 6 or more as measured by the Solvita scale. Stability tests shall be conducted by a DDOT approved lab.
- iv. Pathogens/Metals/Vector Attraction reduction shall meet 40 CFR Part 503 rule, Table 3, page 9392, Vol. 58 No. 32, (for applications to soils with human activity).
- v. Organic Content shall be at least 20 percent (dry weight). One hundred percent of the material shall pass a 3/8-inch (or smaller) screen. Debris such as metal, glass, plastic, wood (other than residual chips), asphalt or masonry shall not be visible and shall not exceed one percent dry weight. Organic content shall be determined by weight loss on ignition for particles passing a number 10 sieve.
- vi. pH: The pH shall be between 6.5 to 7.2 as determined from a 1:1 soil:distilled water suspension using a glass electrode pH meter American Society of Agronomy Methods of Soil Analysis.
- vii. Salinity: Electrical conductivity of a one to five soil to water ratio extract shall not exceed 2.5 mmhos/cm (dS/m).
- viii. The compost shall be screened to 1/2 inch maximum particle size and shall contain no more than 3 percent material finer than 0.002mm as determined by hydrometer test on ashed material.
- ix. Chemical analysis shall be undertaken for Nitrate Nitrogen, Ammonium Nitrogen, Phosphorus, Potassium, Calcium, Aluminum, Magnesium, Iron, Manganese, Lead, Soluble Salts, Cation Exchange Capacity, soil reaction (pH), and buffer pH. The Soil Supplier's Soil Scientist shall provide a recommendation as to the suitability of the compost based on review of the test results.

e. SOIL ADDITIVES

- i. Ground Limestone: dolomitic limestone and contain not less than 50 percent of total carbonates and 25 percent total magnesium with a neutralizing value of at

least 100 percent. Material shall be ground to such fineness that 40 percent will pass 100 mesh U.S. standard sieve and 98 percent will pass through 20 mesh U.S. standard sieve.

- ii. Acidulant for adjustment of planting soils pH shall be commercial grade sulfur, ferrous sulfate, or aluminum sulfate for horticultural use that are unadulterated. Acidulants shall be delivered in unopened containers with the name of the manufacturer, material, analysis and net weight appearing on each container.
- iii. Fertilizer: slow-release granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in a composition as recommended by the Soil Testing Laboratory.
- iv. Use of peat moss is prohibited.

(C) SUBMITTALS AND TESTING-

- a. Critical Path Processing - Soils Testing Report Submittals. The Contractor is responsible for recognizing that these project materials warrant timely and serious attention, that the testing process to achieve approved materials shall be considered a lead time item, and that under no circumstance shall failure to comply with all specification requirements be an excuse for a delay or for expedient substitution of unacceptable material(s).
- b. Sources for Soil Components and Soil Mixes: Within seven (7) days after notice to proceed, submit information identifying sources for soil components and the firm responsible for mixing of soil mixes:
 - i. Soil mix supplier shall have a minimum of five years of experience at supplying custom planting soil mixes.
 - ii. Submit supplier name, address, telephone and fax numbers and contact name.
 - iii. Submit certification that accepted supplier is able to provide sufficient quantities of materials and mixes for the entire project.
- c. Testing Agency: Within seven (7) days after notice to proceed, Contractor shall furnish the name and location of the proposed testing agency. Agency proposed for testing of horticultural soils shall be an approved member of the Performance Assessment Program (PAP) administered by the North American Proficiency Testing (NAPT) Oversight Committee. The Testing agency shall be accepted by the Chief Engineer.
- d. Product Data: No later than 30 days prior to planned soil construction, submit most recent printed information from manufacturer for:
 - i. Organic Material: identify the material(s) from of which is it composed and identify the location where material was composted.
 - ii. Fertilizers
 - iii. Ground Limestone

iv. Sulfur

e. Samples and Test Reports: Submit representative samples and reports to the Chief Engineer and the Testing Agency as described herein for approval. Delivered materials shall closely match the approved samples.

i. Submit 1 gallon soil samples and horticultural soil test reports in two phases.

1. Planting Soil Base Components:

- a. Base Loam
- b. Organic Amendment (Compost)
- c. Sand

Submit samples of above to the Testing Agency. Submit soil testing reports to Chief Engineer no later than 21 days prior to planned soil construction.

2. Only after approval of base components, submit soil blend mixes / mediums for approval. Mixing and batching of soil mediums in the same manner as bulk soils will be prepared for delivery to site, and shall include:

- a. Bioretention Soil
- b. Plant Bed Soil
- c. Lawn Soil
- d. Sand-Based Structural Soil

Submit samples of above to the Testing Agency. Submit duplicate samples and soil testing reports to Chief Engineer no later than 14 days prior to planned soil construction.

3. Samples of each soil type delivered to the site shall be taken and tested for conformance with the Specification Requirements. Submit duplicate samples and soil testing reports to Chief Engineer.

ii. Soil Sampling Method: Sampling shall be done by the Soil Supplier. Samples shall be representative of the material to be brought to the site. Each sample shall be a Composite Sample, which consists of 5 separate subsamples taken from a minimum of (5) different locations at each source and mixed together to make the test sample.

iii. Test Reports shall be certified and shall cover the items below. All reports must be from recent analyses, less than 90 days old, and represent materials that are available for delivery to the site.

- 1. Mechanical gradation (sieve analysis) shall be performed and compared to the USDA Soil Classification System.
- 2. The silt and clay content shall be determined by a Hydrometer Test of soil passing the #270 sieve. Percent clay (0.002 mm) shall be reported separately in addition to silt (ASTM D-422-63, hydrometer method).

3. Chemical analysis shall be undertaken for Nitrate Nitrogen, Ammonium Nitrogen, Phosphorus, Potassium, Calcium Magnesium, Aluminum, Manganese, Cation Exchange Capacity, Soluble Salts, acidity (pH) and buffer pH. Tests shall be conducted in accordance with Recommended Soil Testing Procedures for the Northeastern United States, Current Edition, Northeastern Regional Publication No. 493; Agricultural Experiment Stations of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont and West Virginia. Tests include the following:
 - a. Test for soil Organic Matter by loss of weight on ignition, as described in Northeastern Regional Publication No. 493.
 - b. Test for soil CEC by exchangeable acidity method as described in Northeastern Regional Publication No. 493.
 - c. Test for soil Soluble Salts shall be by the 1:2 (v:v) soil: water Extract Method as described in Northeastern Regional Publication No. 493.
 - d. Test for Buffer pH by the SMP method as described in Northeastern Regional Publication No. 493.
 - e. Certified reports on analyses from producers of composted organic materials are required. Analyses will include all tests for criteria specified herein.
 - f. Density Tests: ASTM D 2922-01: Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth). ASTM D698 Test Method For Laboratory Compaction Characteristics Of Soil Using Standard Effort. Contractor shall perform In-place density tests at a rate of one test per 2,000 square feet for each type of material placed.
 - g. Test data and recommendations for soil amendments including but not limited to: nitrogen, phosphorus, potassium and limestone
- f. Certificates: No later than 7 days prior to planned soil construction, submit certification that soil blend components and soil mediums meet applicable environmental standards of the District of Columbia.

(D) PROPORTIONING - Soil Supplier shall uniformly mix ingredients on an approved hard surface area or with soil blending equipment. Soils and Organic Amendment shall be maintained moist, not wet, during mixing. Amendments shall not be added unless approved to extent and quantity by the owner and additional tests have been conducted to verify type and quantity of amendment is acceptable. Percentages of components, unless otherwise noted, will be established upon completion of individual test results for components of the various mixes. After component percentages are determined by the Soil Supplier's Soil Scientist, each planting soil medium shall be tested for physical and chemical analysis.

- a. **BIORETENTION SOIL** - Bioretention Soil shall consist of a blend of approximately 55% by volume Coarse Sand, 20% by volume Base Loam and 25% by volume of

Organic Amendment. The components shall be blended to create a uniform mixture that meets the following criteria. Percentages will be adjusted as necessary to achieve a final the following grain size distribution and criteria below for material passing the #10 sieve:

<u>U.S. Sieve Size Number</u>	<u>Percent Passing by weight</u>	
	<u>Minimum</u>	<u>Maximum</u>
10	100	--
18	68	95
35	38	65
60	22	37
140	15	22
270	12	14
0.002 mm	1	4

- i. Maximum size shall be one inch largest dimension. The maximum retained on the #10 sieve shall be 15% by weight of the total sample.
 - ii. The ratio of the particle size for 70% passing (D70) to the particle size for 20% passing (D20) shall be 4.5 or less ($D70/D20 < 4.5$).
 - iii. The final mix shall have a saturated hydraulic conductivity of not less than 4.0 inches per hour according to test procedure ASTM D5856-95 (2000) when compacted to a minimum of 86 percent Standard Proctor ASTM D698.
 - iv. Organic content shall be between 3.0 and 4.0 percent.
 - v. Unless otherwise specified or recommended by the Soil Supplier's Soil Scientist: pH shall be between 6.5 and 7.2; CEC shall be a minimum of 7; P-Index shall be between 10 and 30; and Soluble Salts shall be less than 500 ppm/0.5 mmhos/cm.
- b. PLANT BED SOIL - Base Loam, Sand and Compost, each as specified above, shall be combined in approximately equal parts by volume Sand, Base Loam and Compost to create a uniform blend which meets the following requirements. Percentages will be adjusted as necessary to achieve the following grain size distribution and criteria below for material passing the #10 sieve:

<u>U.S. Sieve Size Number</u>	<u>Percent Passing</u>	
	<u>Minimum</u>	<u>Maximum</u>
10	100	--

18	80	95
35	56	80
60	32	56
140	23	32
270	19	23
0.002 mm	2.5	8

- i. Maximum size shall be one inch largest dimension. The maximum retained on the #10 sieve shall be 15% by weight of the total sample.
 - ii. Saturated hydraulic conductivity of the mix: not less than 3 inches per hour according to ASTM D5856-95 (2000) when compacted to a minimum of 84% Standard Proctor, ASTM 698.
 - iii. Organic content: between 5.0 and 6.5 percent by weight.
 - iv. Unless otherwise specified or recommended by the Soil Supplier's Soil Scientist: pH shall be between 6.5 and 7.2; CEC shall be a minimum of 10; and Soluble Salts shall be less than 2,000 ppm/2.0 mmhos/cm.
- c. LAWN SOIL - Base Loam, Sand and Compost, each as specified above, shall be combined in an approximate mix ratio of 45% by volume Sand to 30 % by volume Base Loam to 25% by volume Compost to create a uniform blend which meets the following requirements. Percentages will be adjusted as necessary to achieve a final the following grain size distribution and criteria below for material passing the #10 sieve:

<u>U.S. Sieve Size Number</u>	<u>Percent Passing</u>	
	<u>Minimum</u>	<u>Maximum</u>
10	100	--
18	80	95
35	56	80
60	32	56
140	18	30
270	15	18
0.002 mm	2.5	6

- i. Maximum size shall be one inch largest dimension. The maximum retained on the #10 sieve shall be 15% by weight of the total sample.
- ii. The ratio of the particle size for 80% passing (D80) to the particle size for 30% passing (D30) shall be 6.0 or less (D80/D30 <6.0).

- iii. Saturated hydraulic conductivity of the mix: not less than 4 inches per hour according to ASTM D5856-95 (2000) when compacted to a minimum of 86% Standard Proctor, ASTM 698.
 - iv. Organic content: between 4.0 and 5.0 percent by weight. Compost shall be added as necessary to meet minimum organic content requirement.
 - v. Unless otherwise specified or recommended by the Soil Supplier's Soil Scientist: pH shall be between 6.5 and 7.2; CEC shall be a minimum of 8; and Soluble Salts shall be less than 1,000 ppm/1.0 mmhos/cm.
- d. SAND-BASED STRUCTURAL SOIL - Sand-Based Structural Soil shall consist of a blend of approximately 60% by volume Coarse Sand, 15% by volume Base Loam and 25% by volume Organic Amendment. The components shall be blended to create a uniform mixture. Percentages will be adjusted as necessary to achieve a final the following grain size distribution and criteria below for material passing the #10 sieve:

<u>U.S. Sieve Size Number</u>	<u>Percent Passing</u>	
	<u>Minimum</u>	<u>Maximum</u>
10	100	--
18	68	90
35	38	63
60	18	39
140	10	18
270	8	10
0.002 mm	1	4

- i. Maximum size shall be one inch largest dimension. The maximum retained on the #10 sieve shall be 15% by weight of the total sample.
- ii. The ratio of the particle size for 70% passing (D70) to the particle size for 20% passing (D20) shall be 3.2 or less ($D70/D20 < 3.2$).
- iii. The final mix shall have a saturated hydraulic conductivity of not less than 6.0 inches per hour according to test procedure ASTM D5856-95 (2000) when compacted to a minimum of 94 percent Standard Proctor ASTM D698.
- iv. Organic content shall be between 2.5 and 3.5 percent.
- v. Unless otherwise specified or recommended by the Soil Supplier's Soil Scientist: pH shall be between 6.5 and 7.2; CEC shall be a minimum of 6; and Soluble Salts shall be less than 500 ppm/0.5 mmhos/cm.

(E) PREPARATION AND MIXING OF PLANTING SOIL MIXES- Preparation, amendment, and mixing of the planting soil shall be performed at the Soil Supplier location. The following procedure shall be followed:

- a. Soil shall be amended to meet pH requirements and horticultural deficiencies as determined by the Testing Agency.
- b. Examine soil and remove foreign materials, stones and organic debris over 1/2" in size.
- c. Correct deficiencies in soil as directed by horticultural soil test results. If lime is to be added, it shall be mixed with dry soil before fertilizer is added and mixed.
- d. Planting soil mixtures shall be produced with equipment that blends together each component in a thorough and uniform manner.
- e. Preparation and mixing shall be accomplished when the soil moisture content is less than field capacity and at a moisture content approved by DDOT and Soil Scientist.
- f. Incorporate pre-plant fertilizer as directed.

(F) DELIVERY, STORAGE AND HANDLING

- a. Material shall not be handled or hauled when it is wet, as after a heavy rainfall or is frozen. Soil shall be handled only when the moisture content is less than at field capacity. DDOT or the Soil Scientist shall be consulted to determine if the soil is too wet to handle. Stockpiles shall be covered during wet weather.
- b. Contractor shall store and handle packaged materials in strict compliance with manufacturer's instructions and recommendations. Protect all materials from weather, damage, injury and theft.

(G) PRE-INSTALLATION EXAMINATION AND PREPARATION

- a. Coordinate activities with other project contractors so that there is no soil disturbance from traffic or other construction activities subsequent to placement.
- b. Pre-Installation Examination Required: The Contractor shall examine previous work, related work, and conditions under which this work is to be performed and shall notify DDOT in writing of all deficiencies and conditions detrimental to the proper completion of this work. Beginning work means Contractor accepts substrates, previous work, and conditions. The Contractor shall not place any planting soil until all work in adjacent areas is complete and approved by DDOT and Soil Scientist.
- c. Examination of Conditions: Prior to the start of soil placement existing conditions shall be reviewed. Any deficiencies shall be noted and related to DDOT in writing prior to acceptance of the subgrade by the Landscape Contractor. Deficiencies include, but shall not be limited to the following:
 - i. Construction debris present within the planting areas.
 - ii. The subgrade is at incorrect depths for installing the designed soil profile and/or drainage layer.

- iii. Incomplete irrigation and/or subsurface drainage installation.

(H) SUBGRADE PREPARATION

- a. Coordinate the following scarification work to eliminate subgrade compaction resultant from Construction Operations when located in lawn and planting areas.
 - i. General Site Subgrade Compaction Mitigation for all planting areas that are not heavily compacted:
 - 1. Immediately prior to placing any Planting Soil or any drainage materials beneath planting soils, the entire subgrade shall be loosened to a minimum depth of 3-inches using the teeth of a backhoe or other suitable equipment.
 - 2. After the subgrade soils have been loosened, re-compressed and inspected, remove any stones or debris 6” or greater and dispose off of the project site. Do not bury large stones or debris.

(I) PREPARATION OF SOILS

- a. Soil Moisture Content- The contractor or soil supplier shall not work soil when moisture content is so great that excessive compaction will occur, nor when it is so dry that dust will form in the air or that clods will not break readily, nor when it is frozen. Apply water, if necessary, to bring soil to an optimum moisture content for tilling and planting.
 - i. Field Tests
 - 1. Form soil in palm of hand, if soil retains shape and crumbles upon touching, the soil may be worked.
 - 2. If the soil will not retain shape it is too dry and should not be worked.
 - 3. If the soil retains shape and will not crumble, it is too wet and should not be worked.
 - 4. If the soil glistens or free water is present after lightly patting the sample, the soil is too wet and should not be worked.

(J) PLACEMENT OF DRAINAGE MATERIALS AND SOIL LAYERS

- a. Preparation for Placement of Planting Soils
 - i. Notify DDOT of soil placement operations at least seven calendar days prior to the beginning of work.
 - ii. Prevent compacting soils by beginning work in corner, against walls, or the center of isolated beds, and progressing outwards towards borders.
 - iii. Never move or work Planting Soils when wet or frozen.
 - iv. Place barricades as required to prevent compaction of planting soil from vehicles, equipment, or pedestrian traffic.
- b. In accordance with the Contract Document and Detail Drawings, proceed with placement of base materials as follows:

- i. Where geosynthetics are required per the contract plans, place geosynthetic layers in accordance with DDOT approved specification for Geosynthetics for Stormwater Management.
 - ii. Where subsurface storage is required, place sand or stone layer as shown on the drawings in accordance with DDOT approved specification for Aggregate Base Course for Permeable Pavement and Bioretention.
 - iii. Where subsurface drainage is required, install in accordance with DDOT specifications.
- c. General Placement Requirements
- i. Planting Soils or drainage materials may be spread by using a wide track bulldozer size D-5 or smaller or may be dumped and spread with the bucket of a backhoe from the edge of the loosened area. No rubber-tired equipment or heavy equipment except for a small bulldozer shall pass over the subsoils (subgrade) after they have been loosened and recompressed. If the Contractor plans to utilize such areas for any use of heavy equipment, this work should be carried out prior to beginning the process of loosening soils or filling in that area.
 - ii. Place and spread Planting Soils in layers as specified to a thickness greater than required such that after settlement,
 - iii. The surface area of each lift, including the subgrade after it has been compacted, shall be scarified by raking immediately prior to placing the next lift.
 - iv. Place and spread topmost layers of planting medium to the thickness such that, after settlement, finished grades conform to the lines, grades and elevations shown on the Drawings. Ensure proper drainage in an uninterrupted pattern free of hollows and pockets.
- d. Place Bioretention Soil as follows:
- i. Bioswales: Place and spread in lifts not greater than twelve inches and compact each layer to a density of 85% plus or minus 2% of Standard Proctor.
 - ii. Bioretention Soil beneath Suspended Pavements: Place and spread in lifts not greater than twelve inches and compact each layer to a density of 80% plus or minus 2% of Standard Proctor.
 - iii. Other Bioretention: Place and spread in lifts not greater than twelve inches and compact each layer to a density of 83% plus or minus 2% of Standard Proctor.
- e. Place and spread Planting Bed Soil in lifts not greater than twelve inches and compact to a density of 82% plus or minus 2% of Standard Proctor Maximum Dry Density.
- f. Place and spread Lawn Soil in lifts not greater than twelve inches and compact to a density of 86% plus or minus 2% of Standard Proctor Maximum Dry Density.
- g. Place Sand Based Structural Soil as follows:

- i. Beneath Pavements: Spread in lifts not greater than eight inches and compact with a minimum of two passes of vibratory compaction equipment to a density of 95% plus or minus 1% of Standard Proctor.
- ii. As Horticultural Subsoil: Spread in lifts not greater than twelve inches and compact to a density of 85% plus or minus 1% of Standard Proctor.

(K) PROTECTION

- a. Protect newly graded areas from traffic, freezing and erosion. Keep free of trash, debris or construction materials from other work.
- b. Repair and re-establish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or compaction due to subsequent construction operations or weather conditions. Scarify or remove and replace material to a depth as directed by the DDOT and Soil Scientist; reshape and re-compact at optimum moisture content to the required density.
- c. Where settling occurs, before final acceptance or during the warranty period, remove finish surfacing, backfill with additional approved soil, compact to specified rates, and restore any disturbed areas to a condition acceptable to the Owner.

(L) COORDINATION AND EXCESS MATERIALS

- a. Coordinate activities with other project contractors so that there is no soil disturbance from traffic or other construction activities subsequent to placement.
- b. Excess Planting Soil Mixtures and Materials: Remove excess planting mediums and materials from the site.

(M)POST-INSTALLATION TESTING - In-place density testing shall be performed by the Contractor at a rate of 1 per 2000 square feet for each type of material placed. The standard test for surface and subsurface density shall be ASTM D 2922-01: Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

(N) MEASURE & PAYMENT

- a. Bioretention Soil, planting bed soil, lawn soil and sand-based structural soil each will be measured in cubic yards complete in place.
- b. Payment will be made at the respective contract unit price per cubic yard, which payment will include preparing areas to receive the soil, furnishing, transporting, installing and testing the soil mixtures including all amendments, and all labor, tools, equipment and incidentals necessary to complete the work.

C.29 MULCH (3-INCH DEPTH TRIPLE-SHREDDED), ITEM 610 060

This S.P. supplements and modifies 823.04(C).

(A) MATERIAL REQUIREMENT - Shredded Hardwood Bark Mulch shall be free from deleterious materials and suitable as a top dressing of trees and shrubs, passing through a #3 sieve and sized between 3/8"-1/2", dark tan and brown in color. Contractor shall provide 1 gallon sample of mulch to the Engineer for approval.

(B) MEASURE & PAYMENT

Payment for mulch will be made at the respective contract unit price per square yard, which payment will include furnishing, transporting, and installing mulch including all labor, tools, equipment and incidentals necessary to complete the work.

C.30 MAINTENANCE OF HIGHWAY TRAFFIC, ITEM 616 001

This S.P. supplements 104.02.

Reference to the MUTCD (Manual on Uniform Traffic Control Devices for Streets and Highways, U.S. Department of Transportation, Federal Highway Administration) shall be to the 2009 edition (or latest edition) and subsequent revisions.

There are no arterial streets within the project limits of either site. Requirements set forth by 104.02 for arterial streets do not apply. Maintenance of Highway Traffic shall be per the project plans and specifications below.

(A) WORK SEQUENCING. The contractor may work on multiple facilities in a project area simultaneously under the following conditions:

- a. An excavated area does not flow to a finished area.
- b. One lane of parking is preserved and travel lanes are kept open per the project plans.
- c. Impacts to residents is minimized.

(B) TRASH COLLECTION: The contractor shall facilitate any trash removal from alleys when the alley access is blocked due to construction.

(C) MEASURE & PAYMENT: Payment for Maintenance of Highway Traffic will be made at the contract lump sum price, which payment will include all lane closure, signs, flagmen, barriers, steel plates, labor, materials, tools, equipment and incidentals necessary to complete the work as specified herein.

C.31 EROSION AND SEDIMENT CONTROL, ITEM 628 002

This S.P. modifies and supplements 107.16(A) and 628 of the Standard Specifications.

(A) GENERAL DESCRIPTION - Work under this item includes the application of approved measures throughout the life of the project to prevent land erosion, to prevent sediment deposits on the neighboring land and roadways, and to prevent siltation of all stormwater practice installations and drainage structures. This item shall include all erosion and sediment control measures taken during the construction improvements.

(B) MATERIAL REQUIREMENT - The erosion and sediment control measures shall include, but are not limited to, the use of berms, dikes, dams, sediment basins, sediment traps, filters, silt fence, fiber mats, netting, gravel or crushed stone, mulch, grasses, slope drains and other methods as directed by the Engineer.

The Contractor may use the Erosion and Sediment Control drawings in the contract plans without submitting them for approval. If the Contractor wishes to use an alternate approach, drawings and details, complying with the 2003 District of Columbia Soil Erosion and Sedimentation Control Act Handbook, shall be submitted for approval as SHOP DRAWINGS, subject to approval by the Engineer.

(C) MEASURE & PAYMENT - No actual measure will be made. Payment for Erosion and Sediment Control, Item 628 002 will be made at the contract lump sum price, which payment will include all labor, materials, tools, equipment and incidentals necessary to complete the work as specified herein. Also included is the removal and disposal of all materials and restoration of the affected areas to the satisfaction of the Engineer.

C. 32 PROGRESS PHOTOGRAPHS, ITEM 108 002

This section modifies 108.08.

(A) GENERAL DESCRIPTION - Progress photographs shall be taken by the Contractor at each project site and at each BMP during construction. View locations will be designated. Contractor shall take approximately five (5) photographs at each BMP location at each stage of construction. The stages of construction for permeable pavement areas shall be prior to construction, after excavation, during installation of aggregate and underdrain, during pavement installation, and at completion. The stages of construction for bioretention areas shall be prior to construction, after excavation, during installation of aggregate and underdrain, after soil placement, during planting, and at completion.

(B) MATERIAL REQUIREMENT - Photographs shall be in color in digital jpeg format with minimum dimensions of 2250 x 3000 pixels. The photos shall be provided in electronic format, via compact disk, USB drive, or other means acceptable to the Engineer. Progress photos shall be provided to the Engineer monthly.

(C) MEASURE & PAYMENT - Measurement for Progress Photographs will be the job. Payment for Progress Photographs will be at the Contract Lump Sum price, which payment will include all labor, tools, equipment and incidentals necessary to produce the required photographs.

C.33 UTILITY INVESTIGATION, ITEM 200 008

- (A) **DESCRIPTION** – Work consists of locating sewer service lateral lines that cross proposed BMP's in the Lafayette project area. All sewer service lines shall be located to a quality level B. The vertical location of at least one sewer service line per block shall be determined.
- (B) **SUBMITTALS** – Contractor shall submit Utility Investigation plan at the time of bid submission. Contractor shall submit investigation results after lines are located to Chief Engineer for review.
- (C) **MATERIALS** – All materials necessary shall meet the requirements of the standard specifications and special provisions.
- a. Waterproofing Geomembrane – 200010
- (D) **CONSTRUCTION REQUIREMENTS** – Sewer service lines that are less than five feet vertical distance from the bottom of the BMP facility shall have a waterproofing membrane placed at the bottom of the excavation over the line and spread for three feet on each side of the service line. The line shall be fully covered with the membrane. The waterproofing membrane shall be placed during the construction of each BMP.
- (E) **MEASURE AND PAYMENT** – The unit of measure for Utility Investigation will be the job. Payment for Utility Investigation will be made at the contract lump sum price, which payment will include all locating services, excavation, backfill, and restoration as needed, and all labor, materials, tools, equipment and incidentals necessary to complete the work.

Waterproofing geomembrane material installation will be placed during BMP excavation and will be paid for under separate item.

C.34 PROJECT SECURITY

- (A) **GENERAL** - Portions of the general project site will be open to the public during construction. The Contractor shall take necessary measures to prevent vandalism and theft of materials, equipment, and tools, as well as the completed work on the project site. DDOT shall not be held liable for any loss or damage resulting there from.
- (B) **MEASURE AND PAYMENT** – No direct measure or payment will be made. The cost of the project security shall be reflected, and distributed among the various contract Pay items.

C.35 ELECTRICAL SAFETY

(A) GENERAL REQUIREMENTS - Prior to the start of work where work may occur within 10 feet of an overhead line carrying 600 volts or more, the Contractor shall notify the utility at least 5 working days before any work begins in order to identify energized lines or equipment. The Contractor shall allow the proper safety arrangements to be put in place by the utility before commencing their work. Compliance with the mutually acceptable safety arrangements shall be the responsibility of the Contractor.

The Contractor shall inform employees of the hazards and corresponding precautions when working near high voltage. Where there is potential for proximity or contact with energized lines or equipment, work shall not begin until a safety meeting is conducted and appropriate steps are taken to identify, mark, and warn against accidental contact. Supervisors shall review operations daily to ensure compliance. Energized electrical lines or equipment shall be conspicuously marked and workers shall be reminded of their locations. All equipment used in the vicinity shall be marked with warning decals regarding electrical contact. When an equipment operator is unable to assess clearances, provide a “spotter” to observe for clearances and direct the operator.

Failure to comply with the Occupational Safety and Health Act (OSHA) 1926.1408, the Maryland High Voltage Line Act, or Virginia’s Overhead High Voltage Line Safety Act is a violation of law. The law applies to both professional and non-professional workers. No one is exempt from compliance.

All costs associated with protection of work in proximity to high voltage lines shall be reflected in the unit prices for the appropriate pay item.

C.36 D.C. WATER AND SEWER AUTHORITY (WASA) SPECIFICATIONS

(A) GENERAL REQUIREMENTS - WASA Specifications and Standard Drawings are to be used for water and sewer work where applicable. These specifications and drawings supersede applicable sections of Division 300 the District of Columbia Standard Specifications for Highways and Structures, 2009, the Standard Drawings and amendments thereto.

C. 37 AS-BUILT DRAWINGS, ITEM 108 004

This section modifies 108.12

As-Built drawings shall be provided in Autocad, Microstation, and PDF format. As-built drawings for DC Water shall be provided per specifications of DC Water and Sewer Authority.

SECTION D: PACKAGING AND MARKING

N/A

SECTION E: INSPECTION AND ACCEPTANCE

- E.1** The inspection and acceptance requirements for this contract shall be governed by the DDOT Standard Specifications for Highways and Structures, 2009, unless otherwise stated in the project Specifications and Special Provisions.

SECTION F: PERIOD OF PERFORMANCE AND DELIVERABLES

F.1 TERM OF CONTRACT

The term of the contract shall be for a period of 220 days from date of award specified on the cover page of this contract. The MacFarland project site work shall be completed in the first 150 days and the Lafayette project work shall be completed by the end of the project period of performance, 220 days.

F.2 DELIVERABLES

The Contractor shall perform the activities required to successfully complete the District's requirements and submit each deliverable to the COTR identified in section G.9 in accordance with the following:

- F.2.1** The Contractor shall submit to the District, as a deliverable, the report described in section H.5.5 which is required by the 51% District Residents New Hires Requirements and First Source Employment Agreement. If the Contractor does not submit the report as part of the deliverables, the District shall not make final payment to the Contractor pursuant to section G.3.2.

SECTION G: CONTRACT ADMINISTRATION

G.1 INVOICE PAYMENT

- G.1.1** The District will make payments to the Contractor, upon the submission of proper invoices, at the prices stipulated in this contract, for supplies delivered and accepted or services performed and accepted, less any discounts, allowances or adjustments provided for in this contract.
- G.1.2** The District will pay the Contractor on or before the 30th day after receiving a proper invoice from the Contractor.

G.2 INVOICE SUBMITTAL

- G.2.1** The Contractor shall submit proper invoices on a monthly basis or as otherwise specified in Section G.4. Invoices shall be prepared in duplicate and submitted to the agency Chief Financial Officer with concurrent copies to the Contracting Officer's Technical Representative (COTR) specified in Section G.9 below. The address of the CFO is:

District Department of Transportation
Office of the Chief Financial Officer
55 M Street, SE, 7th Floor
Washington, DC 20003
Telephone: 202-673-6813

- G.2.2** To constitute a proper invoice, the Contractor shall submit the following information on the invoice:
- G.2.2.1** Contractor's name, federal tax ID and invoice date (date invoices as of the date of mailing or transmittal);
 - G.2.2.2** Contract number and invoice number;
 - G.2.2.3** Description, price, quantity and the date(s) that the supplies or services were delivered or performed;
 - G.2.2.4** Other supporting documentation or information, as required by the Contracting Officer;
 - G.2.2.5** Name, title, telephone number and complete mailing address of the responsible official to whom payment is to be sent;
 - G.2.2.6** Name, title, phone number of person preparing the invoice;

G.2.2.7 Name, title, phone number and mailing address of person (if different from the person identified in G.2.2.6 above) to be notified in the event of a defective invoice; and

G.2.2.8 Authorized signature.

G.3 FIRST SOURCE AGREEMENT REQUEST FOR FINAL PAYMENT

G.3.1 For contracts subject to the 51% District Residents New Hires Requirements and First Source Employment Agreement requirements, final request for payment must be accompanied by the report or a waiver of compliance discussed in section H.5.5.

G.3.2 The District shall not make final payment to the Contractor until the agency CFO has received the Contracting Officer's final determination or approval of waiver of the Contractor's compliance with 51% District Residents New Hires Requirements and First Source Employment Agreement requirements.

G.4 PAYMENT

G.4.1 Partial Payments

Unless otherwise specified in this contract, payment will be made on partial deliverables of goods and services accepted by the District if the Contractor requests it and the amount due on the deliverables is in accordance with the following:

“Payment will be made on completion and acceptance of each item for which the price is stated in the Schedule in Section B.”

G.5 ASSIGNMENT OF CONTRACT PAYMENTS

G.5.1 In accordance with 27 DCMR 3250, the Contractor may assign to a bank, trust company, or other financing institution funds due or to become due as a result of the performance of this contract.

G.5.2 Any assignment shall cover all unpaid amounts payable under this contract, and shall not be made to more than one party.

G.5.3 Notwithstanding an assignment of contract payments, the Contractor, not the assignee, is required to prepare invoices. Where such an assignment has been made, the original copy of the invoice must refer to the assignment and must show that payment of the invoice is to be made directly to the assignee as follows:

“Pursuant to the instrument of assignment dated _____, make payment of this invoice to (name and address of assignee).”

G.6 THE QUICK PAYMENT CLAUSE

G.6.1 Interest Penalties to Contractors

G.6.1.1 The District will pay interest penalties on amounts due to the Contractor under the Quick Payment Act, D.C. Official Code §2-221.01 *et seq.*, for the period beginning on the day after the required payment date and ending on the date on which payment of the amount is made. Interest shall be calculated at the rate of 1% per month. No interest penalty shall be paid if payment for the completed delivery of the item of property or service is made on or before:

- a) the 3rd day after the required payment date for meat or a meat product;
- b) the 5th day after the required payment date for an agricultural commodity; or
- c) the 15th day after the required payment date for any other item.

G.6.1.2 Any amount of an interest penalty which remains unpaid at the end of any 30-day period shall be added to the principal amount of the debt and thereafter interest penalties shall accrue on the added amount.

G.6.2 Payments to Subcontractors

G.6.2.1 The Contractor must take one of the following actions within seven (7) days of receipt of any amount paid to the Contractor by the District for work performed by any subcontractor under this contract:

- a) Pay the subcontractor for the proportionate share of the total payment received from the District that is attributable to the subcontractor for work performed under the contract; or
- b) Notify the District and the subcontractor, in writing, of the Contractor's intention to withhold all or part of the subcontractor's payment and state the reason for the nonpayment.

G.6.2.2 The Contractor must pay any subcontractor or supplier interest penalties on amounts due to the subcontractor or supplier beginning on the day after the payment is due and ending on the date on which the payment is made. Interest shall be calculated at the rate of 1% per month. No interest penalty shall be paid on the following if payment for the completed delivery of the item of property or service is made on or before:

- a) the 3rd day after the required payment date for meat or a meat product;
- b) the 5th day after the required payment date for an agricultural commodity; or
- c) the 15th day after the required payment date for any other item.

G.6.2.3 Any amount of an interest penalty which remains unpaid by the Contractor at the end of any 30-day period shall be added to the principal amount of the debt to the subcontractor and thereafter interest penalties shall accrue on the added amount.

G.6.2.4 A dispute between the Contractor and subcontractor relating to the amounts or entitlement of a subcontractor to a payment or a late payment interest penalty under the Quick Payment Act does not constitute a dispute to which the District of Columbia is a party. The District of Columbia may not be interpleaded in any judicial or administrative proceeding involving such a dispute.

G.6.3 Subcontract requirements

G.6.3.1 The Contractor shall include in each subcontract under this contract a provision requiring the subcontractor to include in its contract with any lower-tier subcontractor or supplier the payment and interest clauses required under paragraphs (1) and (2) of D.C. Official Code §2-221.02(d).

G.7 CONTRACTING OFFICER (CO)

Contracts will be entered into and signed on behalf of the District only by contracting officers. The contact information for the Contracting Officer is:

Ms. Courtney Lattimore.
Contracting Officer
Office of Contracting and Procurement
District Department of Transportation
55 M Street, SE, 7th Floor
Washington, DC 20003
Telephone: 202-671-2270
E-mail address: Courtney.lattimore@dc.gov

G.8 AUTHORIZED CHANGES BY THE CONTRACTING OFFICER

G.8.1 The CO is the only person authorized to approve changes in any of the requirements of this contract.

G.8.2 The Contractor shall not comply with any order, directive or request that changes or modifies the requirements of this contract, unless issued in writing and signed by the CO.

G.8.3 In the event the Contractor effects any change at the instruction or request of any person other than the CO, the change will be considered to have been made without authority and no adjustment will be made in the contract price to cover any cost increase incurred as a result thereof.

G.9 CONTRACTING OFFICER’S TECHNICAL REPRESENTATIVE (COTR)

G.9.1 The COTR is responsible for general administration of the contract and advising the CO as to the Contractor’s compliance or noncompliance with the contract. The COTR has the responsibility of ensuring the work conforms to the requirements of the contract and such other responsibilities and authorities as may be specified in the contract. These include:

G.9.1.1 Keeping the CO fully informed of any technical or contractual difficulties encountered during the performance period and advising the CO of any potential problem areas under the contract;

G.9.1.2 Coordinating site entry for Contractor personnel, if applicable;

G.9.1.3 Reviewing invoices for completed work and recommending approval by the CO if the Contractor’s prices and costs are consistent with the contractual amounts and progress is satisfactory and commensurate with the rate of expenditure;

G.9.1.4 Reviewing and approving invoices for deliverables to ensure receipt of goods and services. This includes the timely processing of invoices and vouchers in accordance with the District’s payment provisions; and

G.9.1.5 Maintaining a file that includes all contract correspondence, modifications, records of inspections (site, data, equipment) and invoice or vouchers.

G.9.2 The address and telephone number of the COTR is:

Meredith Upchurch
LID Team Lead
Infrastructure Project Management Administration
District Department of Transportation
55 M Street, SE, 4th Floor
Washington, DC 20003
Telephone: 202-671-4663
Email: Meredith.upchurch@dc.gov

G.9.3 The COTR shall NOT have the authority to:

1. Award, agree to, or sign any contract, delivery order or task order. Only the CO shall make contractual agreements, commitments or modifications;
2. Grant deviations from or waive any of the terms and conditions of the contract;
3. Increase the dollar limit of the contract or authorize work beyond the dollar limit of the contract,
4. Authorize the expenditure of funds by the Contractor;
5. Change the period of performance; or
6. Authorize the use of District property, except as specified under the contract.

G.9.4 The Contractor will be fully responsible for any changes not authorized in advance, in writing, by the CO; may be denied compensation or other relief for any additional work performed that is not so authorized; and may also be required, at no additional cost to the District, to take all corrective action necessitated by reason of the unauthorized changes.

SECTION H: SPECIAL CONTRACT REQUIREMENTS

H.1 HIRING OF DISTRICT RESIDENTS AS APPRENTICES AND TRAINEES

H.1.1 For all new employment resulting from this contract or subcontracts hereto, as defined in Mayor's Order 83-265 and implementing instructions, the Contractor shall use its best efforts to comply with the following basic goal and objectives for utilization of bona fide residents of the District of Columbia in each project's labor force:

H.1.1.1 At least fifty-one (51) percent of apprentices and trainees employed shall be residents of the District of Columbia registered in programs approved by the District of Columbia Apprenticeship Council.

H.1.2 The Contractor shall negotiate an Employment Agreement with the Department of Employment Services ("DOES") for jobs created as a result of this contract. The DOES shall be the Contractor's first source of referral for qualified apprentices and trainees in the implementation of employment goals contained in this clause.

H.2 DEPARTMENT OF LABOR WAGE DETERMINATIONS

In accordance with the applicable provisions of 29 CFR, Part 1, which requires that the correct wage determination and the appropriate wage rates therein, is incorporated into this contract, General Wage Decision No. DC20080001, Modification No. 14, dated 12/19/2008 is attached as Section J.6 and contains the specific applicable wage rates which are:

PAVING AND INCIDENTAL GRADING RATES <OR> HEAVY AND HIGHWAY CONSTRUCTION RATES

Further, as set forth in 29 CFR, Part 1, Section 1.6(c)(3)(IV), if the intent to award letter is not issued within ninety (90) days of bid opening, all intervening modifications (or new wage decision) will be made a part of this contract by modification to the Contract. The Contractor shall be reimbursed for any added labor cost monthly upon submission of sufficient documentation with his/her monthly request for payment. Attachment J.2 replaces Section 103.02A, 103.02B and 103.02C of the Standard Specifications for Highways and Structures, 2009. The contractor must adhere to the labor

H.3 PUBLICITY

The Contractor shall at all times obtain the prior written approval from the CO before the Contractor, any of its officers, agents, employees or subcontractors, either during or after expiration or termination of the contract, make any statement, or issue any material, for publication through any medium of communication, bearing on the work performed or data collected under this contract.

H.4 FREEDOM OF INFORMATION ACT

The District of Columbia Freedom of Information Act, at D.C. Official Code §2-532 (a-3), requires the District to make available for inspection and copying any record produced or collected pursuant to a District contract with a private contractor to perform a public function, to the same extent as if the record were maintained by the agency on whose behalf the contract is made. If the Contractor receives a request for such information, the Contractor shall immediately send the request to the COTR who will provide the request to the FOIA Officer for the agency with programmatic responsibility in accordance with the D.C. Freedom of Information Act. If the agency with programmatic responsibility receives a request for a record maintained by the Contractor pursuant to the contract, the COTR will forward a copy to the Contractor. In either event, the Contractor is required by law to provide all responsive records to the COTR within the timeframe designated by the COTR. The FOIA Officer for the agency with programmatic responsibility will determine the releasability of the records. The District will reimburse the Contractor for the costs of searching and copying the records in accordance with D.C. Official Code §2-532 and Chapter 4 of Title 1 of the *D.C. Municipal Regulations*.

H.5 51% DISTRICT RESIDENTS NEW HIRES REQUIREMENTS AND FIRST SOURCE EMPLOYMENT AGREEMENT

H.5.1 The Contractor shall comply with the First Source Employment Agreement Act of 1984, as amended, D.C. Official Code §2-219.01 *et seq.* (“First Source Act”).

H.5.2 The Contractor shall enter into and maintain, during the term of the contract, a First Source Employment Agreement, (Section J.4) in which the Contractor shall agree that:

- (1) The first source for finding employees to fill all jobs created in order to perform this contract shall be the DOES; and
- (2) The first source for finding employees to fill any vacancy occurring in all jobs covered by the First Source Employment Agreement shall be the First Source Register.

H.5.3 The Contractor shall submit to DOES, no later than the 10th of each month following execution of the contract, a First Source Agreement Contract Compliance Report (“contract compliance report”) to verify its compliance with the First Source Agreement for the preceding month. The contract compliance report for the contract shall include the:

- (1) Number of employees needed;
- (2) Number of current employees transferred;
- (3) Number of new job openings created;
- (4) Number of job openings listed with DOES;
- (5) Total number of all District residents hired for the reporting period and the cumulative total number of District residents hired; and

- (6) Total number of all employees hired for the reporting period and the cumulative total number of employees hired, including:
 - (a) Name;
 - (b) Social security number;
 - (c) Job title;
 - (d) Hire date;
 - (e) Residence; and
 - (f) Referral source for all new hires.

H.5.4 If the contract amount is equal to or greater than \$100,000, the Contractor agrees that 51% of the new employees hired for the contract shall be District residents.

H.5.5 With the submission of the Contractor's final request for payment from the District, the Contractor shall:

- (1) Document in a report to the CO the Contractor's compliance with section H.5.4 of this clause; or
- (2) Submit a request to the CO for a waiver of compliance with section H.5.4 and include the following documentation:
 - (a) Material supporting a good faith effort to comply;
 - (b) Referrals provided by DOES and other referral sources;
 - (c) Advertisement of job openings listed with DOES and other referral sources; and
 - (d) Any documentation supporting the waiver request pursuant to section H.5.6.

H.5.6 The CO may waive the provisions of section H.5.4 if the CO finds that:

- (1) A good faith effort to comply is demonstrated by the Contractor;
- (2) The Contractor is located outside the Washington Standard Metropolitan Statistical Area and none of the contract work is performed inside the Washington Standard Metropolitan Statistical Area which includes the District of Columbia; the Virginia Cities of Alexandria, Falls Church, Manassas, Manassas Park, Fairfax, and Fredericksburg, the Virginia Counties of Fairfax, Arlington, Prince William, Loudoun, Stafford, Clarke, Warren, Fauquier, Culpeper, Spotsylvania, and King George; the Maryland Counties of Montgomery, Prince Georges, Charles, Frederick, and Calvert; and the West Virginia Counties of Berkeley and Jefferson.
- (3) The Contractor enters into a special workforce development training or placement arrangement with DOES; or
- (4) DOES certifies that there are insufficient numbers of District residents in the labor market possessing the skills required by the positions created as a result of the contract.

H.5.7 Upon receipt of the Contractor’s final payment request and related documentation pursuant to sections H.5.5 and H.5.6, the CO shall determine whether the Contractor is in compliance with section H.5.4 or whether a waiver of compliance pursuant to section H.5.6 is justified. If the CO determines that the Contractor is in compliance, or that a waiver of compliance is justified, the CO shall, within two business days of making the determination forward a copy of the determination to the agency Chief Financial Officer and the COTR.

H.5.8 Willful breach of the First Source Employment Agreement, or failure to submit the report pursuant to section H.5.5, or deliberate submission of falsified data, may be enforced by the CO through imposition of penalties, including monetary fines of 5% of the total amount of the direct and indirect labor costs of the contract. The Contractor shall make payment to DOES. The Contractor may appeal to the D.C. Contract Appeals Board as provided in this contract any decision of the CO pursuant to this section H.5.8.

H.5.9 The provisions of sections H.5.4 through H.5.8 do not apply to nonprofit organizations.

H.6 SECTION 504 OF THE REHABILITATION ACT OF 1973, as amended.

During the performance of the contract, the Contractor and any of its subcontractors shall comply with Section 504 of the Rehabilitation Act of 1973, as amended. This Act prohibits discrimination against disabled people in federally funded programs and activities. See 29 U.S.C. § 794 *et seq.*

H.7 AMERICANS WITH DISABILITIES ACT OF 1990 (ADA)

During the performance of this contract, the Contractor and any of its subcontractors shall comply with the ADA. The ADA makes it unlawful to discriminate in employment against a qualified individual with a disability. See 42 U.S.C. §12101 *et seq.*

H.8 WAY TO WORK AMENDMENT ACT OF 2006

H.8.1 Except as described in H.8.8 below, the Contractor shall comply with Title I of the Way to Work Amendment Act of 2006, effective June 8, 2006 (D.C. Law 16-118, D.C. Official Code §2-220.01 *et seq.*) (“Living Wage Act of 2006”), for contracts for services in the amount of \$100,000 or more in a 12-month period.

H.8.2 The Contractor shall pay its employees and subcontractors who perform services under the contract no less than the current living wage published on the OCP website at www.ocp.dc.gov.

H.8.3 The Contractor shall include in any subcontract for \$15,000 or more a provision requiring the subcontractor to pay its employees who perform services under the contract no less than the current living wage rate.

- H.8.4** The DOES may adjust the living wage annually and the OCP will publish the current living wage rate on its website at www.ocp.dc.gov.
- H.8.5** The Contractor shall provide a copy of the Fact Sheet attached as J.6 to each employee and subcontractor who performs services under the contract. The Contractor shall also post the Notice attached as J.5 in a conspicuous place in its place of business. The Contractor shall include in any subcontract for \$15,000 or more a provision requiring the subcontractor to post the Notice in a conspicuous place in its place of business.
- H.8.6** The Contractor shall maintain its payroll records under the contract in the regular course of business for a period of at least three (3) years from the payroll date, and shall include this requirement in its subcontracts for \$15,000 or more under the contract.
- H.8.7** The payment of wages required under the Living Wage Act of 2006 shall be consistent with and subject to the provisions of D.C. Official Code §32-1301 *et seq.*
- H.8.8** The requirements of the Living Wage Act of 2006 do not apply to:
- (1) Contracts or other agreements that are subject to higher wage level determinations required by federal law;
 - (2) Existing and future collective bargaining agreements, provided, that the future collective bargaining agreement results in the employee being paid no less than the established living wage;
 - (3) Contracts for electricity, telephone, water, sewer or other services provided by a regulated utility;
 - (4) Contracts for services needed immediately to prevent or respond to a disaster or imminent threat to public health or safety declared by the Mayor;
 - (5) Contracts or other agreements that provide trainees with additional services including, but not limited to, case management and job readiness services; provided that the trainees do not replace employees subject to the Living Wage Act of 2006;
 - (6) An employee under 22 years of age employed during a school vacation period, or enrolled as a full-time student, as defined by the respective institution, who is in high school or at an accredited institution of higher education and who works less than 25 hours per week; provided that he or she does not replace employees subject to the Living Wage Act of 2006;
 - (7) Tenants or retail establishments that occupy property constructed or improved by receipt of government assistance from the District of Columbia; provided, that the tenant or retail establishment did not receive direct government assistance from the District;
 - (8) Employees of nonprofit organizations that employ not more than 50 individuals and qualify for taxation exemption pursuant to section 501(c)(3) of the Internal Revenue Code of 1954, approved August 16, 1954 (68A Stat. 163; 26 U.S.C. § 501(c)(3));

- (9) Medicaid provider agreements for direct care services to Medicaid recipients, provided, that the direct care service is not provided through a home care agency, a community residence facility, or a group home for mentally retarded persons as those terms are defined in section 2 of the Health-Care and Community Residence Facility, Hospice, and Home Care Licensure Act of 1983, effective February 24, 1984 (D.C. Law 5-48; D.C. Official Code § 44-501); and
- (10) Contracts or other agreements between managed care organizations and the Health Care Safety Net Administration or the Medicaid Assistance Administration to provide health services.

H.8.9 The Mayor may exempt a contractor from the requirements of the Living Wage Act of 2006, subject to the approval of Council, in accordance with the provisions of Section 109 of the Living Wage Act of 2006.

H.9 SUBCONTRACTING REQUIREMENTS

H.9.1 Mandatory Subcontracting Requirements

H.9.1.1 For contracts in excess of \$250,000, at least 35% of the dollar volume shall be subcontracted to certified small business enterprises; provided, however, that the costs of materials, goods, and supplies shall not be counted towards the 35% subcontracting requirement unless such materials, goods and supplies are purchased from certified small business enterprises.

H.9.1.2 If there are insufficient qualified small business enterprises to completely fulfill the requirement of paragraph H.9.1.1, then the subcontracting may be satisfied by subcontracting 35% of the dollar volume to any certified business enterprises; provided, however, that all reasonable efforts shall be made to ensure that qualified small business enterprises are significant participants in the overall subcontracting work.

H.9.1.3 A prime contractor which is certified as a small, local or disadvantaged business enterprise shall not be required to comply with the provisions of sections H.9.1.1 and H.9.1.2.

H.9.2 Subcontracting Plan

If the prime contractor is required by law to subcontract under this contract, it must subcontract at least 35% of the dollar volume of this contract in accordance with the provisions of section H.9.1. The prime contractor responding to this solicitation which is required to subcontract shall be required to submit with its bid, a notarized statement detailing its subcontracting plan. Bids responding to this IFB shall be deemed nonresponsive and shall be rejected if the bidder is

required to subcontract, but fails to submit a subcontracting plan with its bid. Once the plan is approved by the CO, changes to the plan will only occur with the prior written approval of the CO and the Director of DSLBD. Each subcontracting plan shall include the following:

- H.9.2.1** A description of the goods and services to be provided by SBEs or, if insufficient qualified SBEs are available, by any certified business enterprises;
- H.9.2.2** A statement of the dollar value of the bid that pertains to the subcontracts to be performed by the SBEs or, if insufficient qualified SBEs are available, by any certified business enterprises;
- H.9.2.3** The names and addresses of all proposed subcontractors who are SBEs or, if insufficient SBEs are available, who are certified business enterprises;
- H.9.2.4** The name of the individual employed by the prime contractor who will administer the subcontracting plan, and a description of the duties of the individual;
- H.9.2.5** A description of the efforts the prime contractor will make to ensure that SBEs, or, if insufficient SBEs are available, that certified business enterprises will have an equitable opportunity to compete for subcontracts;
- H.9.2.6** In all subcontracts that offer further subcontracting opportunities, assurances that the prime contractor will include a statement, approved by the contracting officer, that the subcontractor will adopt a subcontracting plan similar to the subcontracting plan required by the contract;
- H.9.2.7** Assurances that the prime contractor will cooperate in any studies or surveys that may be required by the contracting officer, and submit periodic reports, as requested by the contracting officer, to allow the District to determine the extent of compliance by the prime contractor with the subcontracting plan;
- H.9.2.8** A list of the type of records the prime contractor will maintain to demonstrate procedures adopted to comply with the requirements set forth in the subcontracting plan, and assurances that the prime contractor will make such records available for review upon the District's request; and

H.9.2.9 A description of the prime contractor's recent effort to locate SBEs or, if insufficient SBEs are available, certified business enterprises, and to award subcontracts to them.

H.9.3 Subcontracting Plan Compliance Reporting

If the Contractor has an approved subcontracting plan required by law under this contract, the Contractor shall submit to the CO and the Director of DSLBD, no later than the 21st of each month following execution of the contract, a Subcontracting Plan Compliance Report to verify its compliance with the subcontracting requirements for the preceding month. The monthly subcontracting plan compliance report shall include the following information:

H.9.3.1 The dollar amount of the contract or procurement;

H.9.3.2 A brief description of the goods procured or the services contracted for;

H.9.3.3 The name of the business enterprise from which the goods were procured or services contracted;

H.9.3.4 Whether the subcontractors to the contract are currently certified business enterprises;

H.9.3.5 The dollar percentage of the contract awarded to SBEs, or if insufficient SBEs, to other certified business enterprises;

H.9.3.6 A description of the activities the Contractor engaged in, in order to achieve the subcontracting requirements set forth in its plan; and

H.9.3.7 A description of any changes to the activities the Contractor intends to make by the next month to achieve the requirements set forth in its plan.

H.9.4 Enforcement and Penalties for Breach of Subcontracting Plan

H.9.4.1 If during the performance of this contract, the Contractor fails to comply with its approved subcontracting plan, and the CO determines the Contractor's failure to be a material breach of the contract, the CO shall have cause to terminate the contract under the default clause of the Standard Contract Provisions.

H.9.4.2 There shall be a rebuttable presumption that a contractor willfully breached its approved subcontracting plan if the contractor (i) fails to submit any required monitoring or compliance report; or (ii) submits a monitoring or compliance report with the intent to defraud.

H.9.4.3 A contractor that is found to have willfully breached its approved subcontracting plan for utilization of certified business enterprises in the performance of a contract shall be subject to the imposition of penalties, including monetary fines of \$15,000 or 5% of the total amount of the work that the contractor was to subcontract to certified business enterprises, whichever is greater, for each such breach.

SECTION I: CONTRACT CLAUSES

I.1 APPLICABILITY OF STANDARD CONTRACT PROVISIONS

The Standard Contract Provisions for use with District of Columbia Government Supplies and Services Contracts dated March 2007 (“SCP”) are incorporated as part of the contract. To obtain a copy of the SCP go to www.ocp.dc.gov, click on OCP Policies under the heading “Information”, then click on “Standard Contract Provisions – Supplies and Services Contracts”.

I.2 CONTRACTS THAT CROSS FISCAL YEARS

Continuation of this contract beyond the current fiscal year is contingent upon future fiscal appropriations.

I.3 CONFIDENTIALITY OF INFORMATION

The Contractor shall keep all information relating to any employee or customer of the District in absolute confidence and shall not use the information in connection with any other matters; nor shall it disclose any such information to any other person, firm or corporation, in accordance with the District and federal laws governing the confidentiality of records.

I.4 TIME

Time, if stated in a number of days, will include Saturdays, Sundays, and holidays, unless otherwise stated herein.

I.5 RIGHTS IN DATA

I.5.1 “Data,” as used herein, means recorded information, regardless of form or the media on which it may be recorded. The term includes technical data and computer software. The term does not include information incidental to contract administration, such as financial, administrative, cost or pricing, or management information.

I.5.2 The term “Technical Data”, as used herein, means recorded information, regardless of form or characteristic, of a scientific or technical nature. It may, for example, document research, experimental, developmental or engineering work, or be usable or used to define a design or process or to procure, produce, support, maintain, or operate material. The data may be graphic or pictorial delineations in media such as drawings or photographs, text in specifications or related performance or design type documents or computer printouts. Examples of technical data include research and engineering data, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identifications, and related information, and computer

software documentation. Technical data does not include computer software or financial, administrative, cost and pricing, and management data or other information incidental to contract administration.

- I.5.3** The term “Computer Software”, as used herein means computer programs and computer databases. “Computer Programs”, as used herein means a series of instructions or statements in a form acceptable to a computer, designed to cause the computer to execute an operation or operations. "Computer Programs" include operating systems, assemblers, compilers, interpreters, data management systems, utility programs, sort merge programs, and automated data processing equipment maintenance diagnostic programs, as well as applications programs such as payroll, inventory control and engineering analysis programs. Computer programs may be either machine-dependent or machine-independent, and may be general purpose in nature or designed to satisfy the requirements of a particular user.
- I.5.4** The term "computer databases", as used herein, means a collection of data in a form capable of being processed and operated on by a computer.
- I.5.5** All data first produced in the performance of this Contract shall be the sole property of the District. The Contractor hereby acknowledges that all data, including, without limitation, computer program codes, produced by Contractor for the District under this Contract, are works made for hire and are the sole property of the District; but, to the extent any such data may not, by operation of law, be works made for hire, Contractor hereby transfers and assigns to the District the ownership of copyright in such works, whether published or unpublished. The Contractor agrees to give the District all assistance reasonably necessary to perfect such rights including, but not limited to, the works and supporting documentation and the execution of any instrument required to register copyrights. The Contractor agrees not to assert any rights in common law or in equity in such data. The Contractor shall not publish or reproduce such data in whole or in part or in any manner or form, or authorize others to do so, without written consent of the District until such time as the District may have released such data to the public.
- I.5.6** The District will have restricted rights in data, including computer software and all accompanying documentation, manuals and instructional materials, listed or described in a license or agreement made a part of this contract, which the parties have agreed will be furnished with restricted rights, provided however, notwithstanding any contrary provision in any such license or agreement, such restricted rights shall include, as a minimum the right to:
- I.5.6.1** Use the computer software and all accompanying documentation and manuals or instructional materials with the computer for which or with which it was acquired, including use at any District installation to which the computer may be transferred by the District;

I.5.6.2 Use the computer software and all accompanying documentation and manuals or instructional materials with a backup computer if the computer for which or with which it was acquired is inoperative;

I.5.6.3 Copy computer programs for safekeeping (archives) or backup purposes; and modify the computer software and all accompanying documentation and manuals or instructional materials, or combine it with other software, subject to the provision that the modified portions shall remain subject to these restrictions.

I.5.7 The restricted rights set forth in section I.5.6 are of no effect unless

(i) the data is marked by the Contractor with the following legend:

RESTRICTED RIGHTS LEGEND

Use, duplication, or disclosure is subject to restrictions stated in Contract No. _____ with (Contractor's Name); and

(ii) If the data is computer software, the related computer software documentation includes a prominent statement of the restrictions applicable to the computer software. The Contractor may not place any legend on the computer software indicating restrictions on the District's rights in such software unless the restrictions are set forth in a license or agreement made a part of the contract prior to the delivery date of the software. Failure of the Contractor to apply a restricted rights legend to such computer software shall relieve the District of liability with respect to such unmarked software.

I.5.8 In addition to the rights granted in Section I.5.6 above, the Contractor hereby grants to the District a nonexclusive, paid-up license throughout the world, of the same scope as restricted rights set forth in Section I.5.6 above, under any copyright owned by the Contractor, in any work of authorship prepared for or acquired by the District under this contract. Unless written approval of the Contracting Officer is obtained, the Contractor shall not include in technical data or computer software prepared for or acquired by the District under this contract any works of authorship in which copyright is not owned by the Contractor without acquiring for the District any rights necessary to perfect a copyright license of the scope specified in the first sentence of this paragraph.

I.5.9 Whenever any data, including computer software, are to be obtained from a subcontractor under this contract, the Contractor shall use this clause, I.5, Rights in Data, in the subcontract, without alteration, and no other clause shall be used to enlarge or diminish the District's or the Contractor's rights in that subcontractor data or computer software which is required for the District.

I.5.10 For all computer software furnished to the District with the rights specified in Section I.5.5, the Contractor shall furnish to the District, a copy of the source code with such rights of the scope specified in Section I.5.5. For all computer software furnished to the District with the restricted rights specified in Section I.5.6, the District, if the Contractor, either directly or through a successor or affiliate shall cease to provide the maintenance or warranty services provided the District under this contract or any paid-up maintenance agreement, or if Contractor should be declared bankrupt or insolvent by a court of competent jurisdiction, shall have the right to obtain, for its own and sole use only, a single copy of the then current version of the source code supplied under this contract, and a single copy of the documentation associated therewith, upon payment to the person in control of the source code the reasonable cost of making each copy.

I.5.11 The Contractor shall indemnify and save and hold harmless the District, its officers, agents and employees acting within the scope of their official duties against any liability, including costs and expenses, (i) for violation of proprietary rights, copyrights, or rights of privacy, arising out of the publication, translation, reproduction, delivery, performance, use or disposition of any data furnished under this contract, or (ii) based upon any data furnished under this contract, or based upon libelous or other unlawful matter contained in such data.

I.5.12 Nothing contained in this clause shall imply a license to the District under any patent, or be construed as affecting the scope of any license or other right otherwise granted to the District under any patent.

I.5.13 Paragraphs I.5.6, I.5.7, I.5.8, I.5.11 and I.5.12 above are not applicable to material furnished to the Contractor by the District and incorporated in the work furnished under contract, provided that such incorporated material is identified by the Contractor at the time of delivery of such work.

I.6 OTHER CONTRACTORS

The Contractor shall not commit or permit any act that will interfere with the performance of work by another District contractor or by any District employee.

I.7 SUBCONTRACTS

The Contractor hereunder shall not subcontract any of the Contractor's work or services to any subcontractor without the prior written consent of the CO. Any work or service so subcontracted shall be performed pursuant to a subcontract agreement, which the District will have the right to review and approve prior to its execution by the Contractor. Any such subcontract shall specify that the Contractor and the subcontractor shall be subject

to every provision of this contract. Notwithstanding any such subcontract approved by the District, the Contractor shall remain liable to the District for all Contractor's work and services required hereunder.

I.8 INSURANCE

- A. **GENERAL REQUIREMENTS.** The Contractor shall procure and maintain, during the entire period of performance under this contract, the types of insurance specified below. The Contractor shall have its insurance broker or insurance company submit a Certificate of Insurance to the CO giving evidence of the required coverage prior to commencing performance under this contract. In no event shall any work be performed until the required Certificates of Insurance signed by an authorized representative of the insurer(s) have been provided to, and accepted by, the CO. All insurance shall be written with financially responsible companies authorized to do business in the District of Columbia or in the jurisdiction where the work is to be performed and have an A.M. Best Company rating of A-VIII or higher. The Contractor shall require all of its subcontractors to carry the same insurance required herein. The Contractor shall ensure that all policies provide that the CO shall be given thirty (30) days prior written notice in the event the stated limit in the declarations page of the policy is reduced via endorsement or the policy is canceled prior to the expiration date shown on the certificate. The Contractor shall provide the CO with ten (10) days prior written notice in the event of non-payment of premium.
1. Commercial General Liability Insurance. The Contractor shall provide evidence satisfactory to the CO with respect to the services performed that it carries \$1,000,000 per occurrence limits; \$2,000,000 aggregate; Bodily Injury and Property Damage including, but not limited to: premises-operations; broad form property damage; Products and Completed Operations; Personal and Advertising Injury; contractual liability and independent contractors. The policy coverage shall include the District of Columbia as an additional insured, shall be primary and non-contributory with any other insurance maintained by the District of Columbia, and shall contain a waiver of subrogation. The Contractor shall maintain Completed Operations coverage for five (5) years following final acceptance of the work performed under this contract.
 2. Automobile Liability Insurance. The Contractor shall provide automobile liability insurance to cover all owned, hired or non-owned motor vehicles used in conjunction with the performance of this contract. The policy shall provide a \$1,000,000 per occurrence combined single limit for bodily injury and property damage.

3. Workers' Compensation Insurance. The Contractor shall provide Workers' Compensation insurance in accordance with the statutory mandates of the District of Columbia or the jurisdiction in which the contract is performed.

Employer's Liability Insurance. The Contractor shall provide employer's liability insurance as follows: \$500,000 per accident for injury; \$500,000 per employee for disease; and \$500,000 for policy disease limit.

- B. DURATION. The Contractor shall carry all required insurance until all contract work is accepted by the District, and shall carry the required General Liability; any required Professional Liability; and any required Employment Practices Liability insurance for five (5) years following final acceptance of the work performed under this contract.
- C. LIABILITY. These are the required minimum insurance requirements established by the District of Columbia. **HOWEVER, THE REQUIRED MINIMUM INSURANCE REQUIREMENTS PROVIDED ABOVE WILL NOT IN ANY WAY LIMIT THE CONTRACTOR'S LIABILITY UNDER THIS CONTRACT.**
- D. CONTRACTOR'S PROPERTY. Contractor and subcontractors are solely responsible for any loss or damage to their personal property, including but not limited to tools and equipment, scaffolding and temporary structures, rented machinery, or owned and leased equipment. A waiver of subrogation shall apply in favor of the District of Columbia.
- E. MEASURE OF PAYMENT. The District shall not make any separate measure or payment for the cost of insurance and bonds. The Contractor shall include all of the costs of insurance and bonds in the contract price.
- F. NOTIFICATION. The Contractor shall immediately provide the CO with written notice in the event that its insurance coverage has or will be substantially changed, canceled or not renewed, and provide an updated certificate of insurance to the CO.
- G. CERTIFICATES OF INSURANCE. The Contractor shall submit certificates of insurance giving evidence of the required coverage as specified in this section prior to commencing work. Evidence of insurance shall be submitted to the Contracting Officer listed in Section G.7 above.
- H. DISCLOSURE OF INFORMATION. The Contractor agrees that the District may disclose the name and contact information of its insurers to any third party which presents a claim against the District for any damages or claims resulting from or arising out of work performed by the Contractor, its agents, employees, servants or subcontractors in the performance of this contract.

I.9 EQUAL EMPLOYMENT OPPORTUNITY

In accordance with the District of Columbia Administrative Issuance System, Mayor's Order 85-85 dated June 10, 1985, the forms for completion of the Equal Employment Opportunity Information Report are incorporated herein as Section J.3. An award cannot be made to any bidder who has not satisfied the equal employment requirements.

I.10 ORDER OF PRECEDENCE

The contract awarded as a result of this IFB will contain the following clause:

ORDER OF PRECEDENCE

A conflict in language shall be resolved by giving precedence to the document in the highest order of priority that contains language addressing the issue in question. The following documents are incorporated into the contract by reference and made a part of the contract in the following order of precedence:

- (1) An applicable Court Order, if any
- (2) Contract document
- (3) Standard Contract Provisions
- (4) Contract attachments other than the Standard Contract Provisions
- (5) IFB, as amended
- (6) Bid

I.11 CONTRACTS IN EXCESS OF ONE MILLION DOLLARS

Any contract in excess of \$1,000,000 shall not be binding or give rise to any claim or demand against the District until approved by the Council of the District of Columbia and signed by the CO.

I.11.1 Pre-Award Approval

The award and enforceability of this contract is contingent upon approval of the Council of the District of Columbia. In accordance with D.C. Official Code §2-301.05a and §1-204.51(c), the Council of the District of Columbia must approve an award of any contract that has term extending beyond twelve (12) months.

I.12 GOVERNING LAW

This contract, and any disputes arising out of or related to this contract, shall be governed by, and construed in accordance with, the laws of the District of Columbia.

I.13 COORDINATION WITH OTHERS

This S.P. supplements Article 18 of the Standard Specifications 103.01.

The Contractor is alerted that other contracts either associated with this project or of different scope either have been, will be, or may be released or let for work in the vicinity of the project area.

The Contractor shall coordinate his work and cooperate fully with all others in order to eliminate or curtail delays and interference of any kind. Particular attention shall be made with regard to proper maintenance of highway traffic through the project area. The Contractor shall perform lane closings and re-openings so as not to cause interference with others or to be in conflict with performance of traffic maintenance by others. The District assumes no liability for contract delays or costs resulting from the performance or non-performance of others.

The District will not consider any claims for compensation due to delay, other than written authorized time extensions.

I.14 CONTRACTOR IDENTIFICATION

All Contractors doing business with the District of Columbia Government shall have a Federal Tax Identification Number.

Please refer any question regarding this matter to Office of the Chief Financial Officer of the District Department of Transportation, Telephone (202) 673-6813.

I.15 BID GUARANTY

This S.P. supplements Article 12, Bond Requirements, Part A, of the INSTRUCTIONS TO BIDDERS, STANDARD CONTRACT PROVISIONS FOR USE WITH SPECIFICATIONS FOR DISTRICT OF COLUMBIA GOVERNMENT CONSTRUCTION PROJECTS, 1973, AS AMENDED.

The Bid Guaranty period shall be one-hundred and twenty (120) calendar days after opening of the bids.

I.16 DISPUTES

This S.P. supplements and modifies Article 7 of the Standard Specifications 103.01.

Claims by the District against a Contractor:

- A. Claim as used in Section A of this clause means a written demand or written assertion by the District seeking, as a matter of right, the payment of money in a sum certain, the adjustment of Contract terms, or other relief arising under or

relating to this Contract. A claim arising under a contract, unlike a claim relating to that contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant.

- B. All claims by the District against a Contractor arising under or relating to a contract shall be decided by the Contracting Officer.
 - 1. The Contracting Officer shall send written notice of the claim to the Contractor. The Contracting Officer's written decision shall do the following:
 - a. Provide a description of the claim or dispute;
 - b. Refer to the pertinent Contract terms;
 - c. State the factual areas of agreement and disagreement;
 - d. State the reasons for the decision, including any specific findings of fact, although specific findings of fact are not required and, if made, shall not be binding in any subsequent proceeding;
 - e. If all or any part of the claim is determined to be valid, determine the amount of monetary settlement, the Contract adjustment to be made, or other relief to be granted;
 - f. Indicate that the written document is the Contracting Officer's final decision; and
 - g. Inform the Contractor of the right to seek further redress by appealing the decision to the Contract Appeals Board.
 - 2. The decision shall be supported by reasons and shall inform the Contractor of his or her rights as provided herein.
 - 3. The authority contained in this clause shall not apply to a claim or dispute for penalties or forfeitures prescribed by statute or regulation which another District agency is specifically authorized to administer, settle, or determine.
 - 45. This clause shall not authorize the Contracting Officer to settle, compromise, pay, or otherwise adjust any claim involving fraud.
- C. The decision of the Contracting Officer shall be final and not subject to review unless an administrative appeal or action for judicial review is timely commenced by the District as authorized by D.C. Official Code §2-309.04.
- D. Pending final decision of an appeal, action, or final settlement, the Contractor shall proceed diligently with performance of the Contract in accordance with the decision of the Contracting Officer.

SECTION J: ATTACHMENTS

The following list of attachments are incorporated into the solicitation by reference:

Attachment Number	Document
J.1	Government of the District of Columbia Standard Contract Provisions for Use with the Supplies and Services Contracts (March 2007) available at www.ocp.dc.gov click on “Solicitation Attachments”
J.2	U.S. Department of Labor Wage Determination Wage Determination No.: (DC130001, Modification 13 dated 10/4/2013)
J.3	Office of Local Business Development Equal Employment Opportunity Information Report and Mayor’s Order 85-85 available at www.ocp.dc.gov click on “Solicitation Attachments”
J.4	Department of Employment Services First Source Employment Agreement available at www.ocp.dc.gov click on “Solicitation Attachments”
J.5	Way to Work Amendment Act of 2006 - Living Wage Notice
J.6	Way to Work Amendment Act of 2006 - Living Wage Fact Sheet
J.7	Tax Certification Affidavit
J.8	Cost/Price Certification and Data Package available at www.ocp.dc.gov click on “Solicitation Attachments”
J.9	Appendix A- Subcontractor approval request form
J.10	Appendix B- CBE package
J.11	Appendix C- Geotechnical Report: Data Report for RiverSmart Project-Lafayette, Washington, DC (169)
J.12	Appendix D- Geotechnical Report: Data Report for RiverSmart Project-MacFarland, Washington, DC (89)
J.13	Appendix E- Geotechnical Report: Hydrogeological Services for Stormwater Management- Green Alleys Project (77)

Attachment Number	Document
J.14	Appendix F- Utility Investigation Results for Riversmart Washington project (19) – documents are provided via the following link: : https://www.dropbox.com/sh/h3m7kf2m34mlgyi/riRpfZ0DeG

**SECTION K: REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS
OF BIDDERS**

Bidder/Offeror Certifications
available at www.ocp.dc.gov click on “Solicitation Attachments”

SECTION L: INSTRUCTIONS, CONDITIONS AND NOTICES TO BIDDERS

L.1 METHOD OF AWARD

L.1.1 The District reserves the right to accept/reject any/all bids resulting from this solicitation. The Contracting Officer may reject all bids or waive any minor informality or irregularity in bids received whenever it is determined that such action is in the best interest of the District.

L.1.2 The District intends to award a single contract resulting from this solicitation to the responsive and responsible bidder who has the lowest bid.

L.2 PREPARATION AND SUBMISSION OF BIDS

L.2.1 Bidders shall submit a signed original and **2** copies. The District will not accept a facsimile copy of a bid as an original bid. All items accepted by the District, all pages of the Invitation for Bids (IFB), all attachments and all documents containing the bidder's offer shall constitute the formal contract. **Each bid shall be submitted as specified in Section A.3 in a sealed envelope conspicuously marked with the Bidder's name and the title : "Bid in Response to Solicitation No. DCKA-2013-B-0160 Riversmart".**

L.2.2 The original bid shall govern if there is a variance between the original bid and the copy submitted by the bidder. Each bidder shall return the complete solicitation as its bid.

L.2.3 The District may reject as non-responsive any bid that fails to conform in any material respect to the IFB.

L.2.4 The District may also reject as non-responsive any bids submitted on forms not included in or required by the solicitation. Bidders shall make no changes to the requirements set forth in the solicitation.

L.2.5 The bidder must bid on all CLINs to be considered for this award. Failure to bid on all CLINs in section B.4 will render the bid non-responsive and disqualify a bid.

L.3 FAMILIARIZATION WITH CONDITIONS

Bidders shall thoroughly familiarize themselves with the terms and conditions of this solicitation, acquainting themselves with all available information regarding difficulties which may be encountered and the conditions under which the work is to be accomplished. Bidders will not be relieved from assuming all responsibility for properly estimating the difficulties and the cost of performing the services required herein due to their failure to

investigate the conditions or to become acquainted with all information, schedules and liability concerning the services to be performed.

L.4 BID SUBMISSION DATE AND TIME

Bids must be submitted no later than 2:00 p.m. local time on *[December 4, 2013]* as specified in Section A.9.

L.5 WITHDRAWAL OR MODIFICATION OF BIDS

A bidder may modify or withdraw its bid upon written, telegraphic notice, or facsimile transmission if received at the location designated in the solicitation for submission of bids, but not later than the exact time set for opening of bids.

L.6 LATE SUBMISSIONS, LATE MODIFICATIONS, AND LATE WITHDRAWALS

L.6.1 Bids, modifications to bids, or requests for withdrawals that are received in the designated District office after the exact local time specified above, are “late” and shall be considered only if they are received before the award is made and one (1) or more of the following circumstances apply:

- a. The bid or modification was sent by registered or certified mail no later than the fifth (5th) day before the date specified for receipt of bids; or
- b. The bid or modification was sent by mail and it is determined by the CO that the late receipt at the location specified in the solicitation was caused by mishandling by the District after receipt.

L.6.2 Postmarks

The only acceptable evidence to establish the date of a late bid, late modification or late withdrawal sent either by registered or certified mail shall be a U.S. or Canadian Postal Service postmark on the wrapper or on the original receipt from the U.S. or Canadian Postal Service. If neither postmark shows a legible date, the bid, modification or withdrawal shall be deemed to have been mailed late. When the postmark shows the date but not the hour, the time is presumed to be the last minute of the date shown. If no date is shown on the postmark, the bid shall be considered late unless the bidder can furnish evidence from the postal authorities of timely mailing.

L.6.3 Late Submissions

A late bid, late request for modification or late request for withdrawal shall not be considered, except as provided in this section.

L.6.4 Late Modifications

A late modification of a successful bid which makes its terms more favorable to the District will be considered at any time it is received and may be accepted.

L.6.5 Late Bids

A late bid, late modification or late withdrawal of a bid that is not considered shall be held unopened, unless opened for identification, until after award and then retained with unsuccessful bids resulting from this solicitation.

L.7 HAND DELIVERY OR MAILING OF BIDS

Bidders must deliver or mail their bids to the address in Section A.8 of the cover page.

L.8 ERRORS IN BIDS

Bidders are expected to read and understand fully all information and requirements contained in the solicitation; failure to do so will be at the bidder's risk. In event of a discrepancy between the unit price and the total price, the unit price shall govern.

L.9 QUESTIONS ABOUT THE SOLICITATION

If a prospective bidder has any questions relative to this solicitation, the prospective bidder shall submit the questions in writing to the CO. The prospective bidder shall submit questions no later than fourteen (14) calendar days prior to the closing date and time indicated for this solicitation. The District will not consider any questions received less than fourteen (14) calendar days before the date set for submission of bids. The District will furnish responses promptly to all prospective bidders. An amendment to the solicitation will be issued, if that information is necessary in submitting bids, or if the lack of it would be prejudicial to any prospective bidders. Oral explanations or instructions given before the award of the contract will not be binding.

L.10 PRE-BID CONFERENCE

A Pre-Bid Conference will be held at [2:00m./p.m.] on November 18, 2013 at (55 M street, SE, Washington, DC 20003 Suite 748). Prospective bidders will be given an opportunity to ask questions regarding this solicitation at the conference. The purpose of the conference is to provide a structured and formal opportunity for the District to accept questions from bidders on the solicitation document as well as clarify the contents of the

solicitation. Attending bidders must complete the Pre-Bid Conference attendance roster at the conference so that bidder attendance can be properly recorded.

Impromptu questions will be permitted and spontaneous answers will be provided at the District's discretion. Verbal answers given at the Pre-Bid Conference are only intended for general discussion and do not represent the District's final position. All oral questions must be submitted in writing following the close of the Pre-Bid Conference but no later than five (5) working days after the Pre-Bid Conference in order to generate an official answer. Official answers will be provided in writing to all prospective bidders who are listed on the official bidder's list as having received a copy of the solicitation. Answers will be posted on the OCP website at www.ocp.dc.gov

L.10 FAILURE TO SUBMIT BIDS

Recipients of this solicitation not responding with a bid should not return this solicitation. Instead, they should advise the CO listed in section G.7, by letter or postcard whether they want to receive future solicitations for similar requirements. It is also requested that such recipients advise the Contracting Officer, of the reason for not submitting a bid in response to this solicitation. If a recipient does not submit a bid and does not notify the CO, that future solicitations are desired, the recipient's name may be removed from the applicable mailing list.

L.11 BID PROTESTS

Any actual or prospective bidder or contractor who is aggrieved in connection with the solicitation or award of a contract, must file with the D.C. Contract Appeals Board (Board) a protest no later than ten (10) business days after the basis of protest is known or should have been known, whichever is earlier. A protest based on alleged improprieties in a solicitation which are apparent prior to bid opening or the time set for receipt of initial bids shall be filed with the Board prior to bid opening or the time set for receipt of initial bids. In procurements in which bids are requested, alleged improprieties which do not exist in the initial solicitation, but which are subsequently incorporated into this solicitation, must be protested no later than the next closing time for receipt of bids following the incorporation. The protest shall be filed in writing, with the Contract Appeals Board, 717 14th Street, N.W., Suite 430, Washington, D.C. 20004. The aggrieved person shall also mail a copy of the protest to the Contracting Officer.

L.12 SIGNING OF BIDS

L.12.1 The bidder shall sign the bid and print or type its name on the Solicitation, Offer and Award form of this solicitation. Each bid must show a full business address and telephone number of the bidder and be signed by the person or persons legally authorized to sign contracts. Erasures or other changes must be initialed by the person signing the bid. Bids signed by an agent shall be accompanied by evidence

of that agent's authority, unless that evidence has been previously furnished to the Contracting Officer.

L.12.2 All correspondence concerning the bid or resulting contract will be mailed to the address shown on the bid in the absence of written instructions from the bidder or contractor to the contrary. Any bid submitted by a partnership must be signed with the partnership name by a general partner with authority to bind the partnership. Any bid submitted by a corporation must be signed with the name of the corporation followed by the signature and title of the person having authority to sign for the corporation. Bidders shall complete and sign all Representations, Certifications and Acknowledgments as appropriate. Failure to do so may result in a bid rejection.

L.13 ACKNOWLEDGMENT OF AMENDMENTS

The bidder shall acknowledge receipt of any amendment to this solicitation (a) by signing and returning the amendment; (b) by identifying the amendment number and date in the space provided for this purpose in Section A, Solicitation, Offer and Award form; or (c) by letter, telegram or e-mail from an authorized representative. The District must receive the acknowledgment by the date and time specified for receipt of bids. A bidder's failure to acknowledge an amendment may result in rejection of its bid.

L.14 BIDS WITH OPTION YEARS

The bidder shall include option year prices in its bid. A bid may be determined to be nonresponsive if it does not include option year pricing.

L.15 LEGAL STATUS OF BIDDER

Each bid must provide the following information:

L.15.1 Name, address, telephone number and federal tax identification number of bidder;

L.15.2 A copy of each District of Columbia license, registration or certification that the bidder is required by law to obtain. This mandate also requires the bidder to provide a copy of the executed "Clean Hands Certification" that is referenced in D.C. Official Code §47-2862, if the bidder is required by law to make such certification. If the bidder is a corporation or partnership and does not provide a copy of its license, registration or certification to transact business in the District of Columbia, the bid shall certify its intent to obtain the necessary license, registration or certification prior to contract award or its exemption from such requirements; and

L.15.3 If the bidder is a partnership or joint venture, the names and addresses of the general partners or individual members of the joint venture, and copies of any joint venture or teaming agreements.

L.16 BID OPENING

The District shall publicly open bids submitted in response to this IFB. The District shall read aloud or otherwise make available the name of each bidder, the bid price, and other information that is deemed appropriate.

L.17 CERTIFICATES OF INSURANCE

Prior to commencing work, the Contractor shall have its insurance broker or insurance company submit certificates of insurance giving evidence of the required coverages as specified in Section I.8 to the Contracting Officer.

L.18 GENERAL STANDARDS OF RESPONSIBILITY

The prospective contractor must demonstrate to the satisfaction of the District its capability in all respects to perform fully the contract requirements; therefore, the prospective contractor must submit relevant documentation within five (5) days of the request by the District.

L.18.1 To be determined responsible, a prospective contractor must demonstrate that it:

- (a) Has adequate financial resources, or the ability to obtain such resources, required to perform the contract;
- (b) Is able to comply with the required or proposed delivery or performance schedule, taking into consideration all existing commercial and governmental business commitments;
- (c) Has a satisfactory performance record;
- (d) Has a satisfactory record of integrity and business ethics;
- (e) Has a satisfactory record of compliance with the applicable District licensing and tax laws and regulations;
- (f) Has a satisfactory record of compliance with labor and civil rights laws and rules, and the First Source Employment Agreement Act of 1984, as amended, D.C. Official Code §2-219.01 *et seq.*;

- (g) Has, or has the ability to obtain, the necessary organization, experience, accounting, and operational control, and technical skills;
- (h) Has, or has the ability to obtain, the necessary production, construction, technical equipment, and facilities;
- (i) Has not exhibited a pattern of overcharging the District;
- (j) Does not have an outstanding debt with the District or the federal government in a delinquent status; and
- (k) Is otherwise qualified and is eligible to receive an award under applicable laws and regulations.

L.18.2 If the prospective contractor fails to supply the information requested, the CO shall make the determination of responsibility or nonresponsibility based upon available information. If the available information is insufficient to make a determination of responsibility, the CO shall determine the prospective contractor to be nonresponsible.

L.19 SPECIAL STANDARDS OF RESPONSIBILITY

L.19.1 In addition to the general standards of responsibility set forth in section L.18, the prospective contractor must demonstrate to the satisfaction of the District that it meets the qualifications to install Porous Asphalt Pavement, Pervious Portland Cement Concrete Pavement, and Permeable Interlocking Concrete Pavers. Required qualifications and submittal requirements are outlined in the specifications for each of these items in Section C. The bidder must submit with its bid convincing evidence that demonstrates that the bidder meets the Special Standard(s) of Responsibility. At a minimum, a bidder must provide the evidence as stated in the specifications for each of the pavement items in Section C.

SECTION M: EVALUATION FACTORS

M.1. PREFERENCES FOR CERTIFIED BUSINESS ENTERPRISES

Under the provisions of the “Small, Local, and Disadvantaged Business Enterprise Development and Assistance Act of 2005”, as amended, D.C. Official Code § 2-218.01 *et seq.* (Act), the District shall apply preferences in evaluating bids from businesses that are certified by the Department of Small and Local Business Development (“DSLBD”) as small, local, disadvantaged, resident-owned, longtime resident, or local with a principal office located in an enterprise zone of the District of Columbia.

M.1.1. Application of Preferences

For evaluation purposes, the allowable preferences under the Act shall be applicable to prime contractors as follows:

- M.1.1.1** A prime contractor that is a small business enterprise certified by the DSLBD (“SBE”) will receive a three percent (3%) reduction in the bid price for a bid submitted by the SBE in response to this Invitation for Bids (IFB).
- M.1.1.2** A prime contractor that is a resident-owned business (“ROB”) certified by DSLBD will receive a five percent (5%) reduction in the bid price for a bid submitted by the ROB in response to this IFB.
- M.1.1.3** A prime contractor that is a longtime resident business (“LRB”) certified by DSLBD will receive a ten percent (10%) reduction in the bid price for a bid submitted by the LRB in response to this IFB.
- M.1.1.4** A prime contractor that is a local business enterprise (“LBE”) certified by DSLBD will receive a two percent (2%) reduction in the bid price for a bid submitted by the LBE in response to this IFB.
- M.1.1.5** A prime contractor that is a local business enterprise with its principal offices located in an enterprise zone (“DZE”) certified by DSLBD will receive a two percent (2%) reduction in the bid price for a bid submitted by the DZE in response to this IFB.
- M.1.1.6** A prime contractor that is a disadvantaged business enterprise (“DBE”) certified by DSLBD will receive a two percent (2%) reduction in the bid price for a bid submitted by the DBE in response to this IFB.
- M.1.1.7** A prime contractor that is a veteran-owned business (“VOB”) certified by DSLBD will receive no reduction in the bid price for a bid submitted by the VOB in response to this IFB.

M.1.1.8 A prime contractor that is a local manufacturing business enterprise (“LMBE”) certified by DSLBD will receive no reduction in the bid price for a bid submitted by the LMBE in response to this IFB.

M.1.2 Maximum Preference Awarded

Notwithstanding the availability of the preceding preferences, the maximum total preference to which a certified business enterprise is entitled under the Act is twelve per cent (12%) for bids submitted in response to this IFB. There will be no preference awarded for subcontracting by the prime contractor with certified business enterprises.

M.1.3 Preferences for Certified Joint Ventures

When DSLBD certifies a joint venture, the certified joint venture will receive preferences as a prime contractor for categories in which the joint venture and the certified joint venture partner are certified, subject to the maximum preference limitation set forth in the preceding paragraph.

M.1.4 Verification of Bidder’s Certification as a Certified Business Enterprise

M.1.4.1 Any vendor seeking to receive preferences on this solicitation must be certified at the time of submission of its bid. The CO will verify the bidder’s certification with DSLBD, and the bidder should not submit with its bid any documentation regarding its certification as a certified business enterprise.

M.1.4.2 Any vendor seeking certification or provisional certification in order to receive preferences under this solicitation should contact the:

Department of Small and Local Business Development
ATTN: CBE Certification Program
441 Fourth Street, NW, Suite 970N
Washington DC 20001

M.1.4.3 All vendors are encouraged to contact DSLBD at (202) 727-3900 if additional information is required on certification procedures and requirements.