

## **SECTION B                   SCOPE OF WORK**

The following roof areas and types of roofs are the basis of the scope of work and pricing for this RFP which also represents the estimated total roof area:

<b>Department</b>	<b># of Bldgs</b>	<b>Low Slope (Sq. Ft.)</b>	<b>Steep Slope (Sq. Ft.)</b>	<b>Total Area</b>
DCPS	128	5,580,000	980,000	6,560,000
DGS Municipal	109	3,150,000	340,000	3,490,000
DHS	17	50,000	90,000	140,000
DMPED	6	170,000	90,000	260,000
DPR	80	810,000	320,000	1,130,000
FEMS	38	260,000	100,000	360,000
MPD	31	650,000	60,000	710,000
<b>Totals</b>	<b>409</b>	<b>10,670,000</b>	<b>1,980,000</b>	<b>12,650,000</b>

The Consultant shall furnish all materials, labor, development support, safety equipment, and access equipment including any ladders and lift equipment required to provide the roof management program described below.

### **B.1    Operation and Maintenance of Roof Systems**

The Consultant shall provide consulting, maintenance, and management services to manage the day-to-day operations of all DGS roofs as described in detail below including at a minimum the following:

#### **B.1.1   Roof Surveys and Assessment**

The Consultant shall provide a visual on-the-roof survey of all DGS facilities listed in the scope of work of this RFP. The surveys shall be performed by the Consultant with the purpose of developing a comprehensive roof condition database for all roofs included in the existing DGS facilities such that each roof is surveyed on a yearly basis. The Consultant must procure any equipment (e.g. ladders, lifts) as needed to perform roof surveys. The Consultant shall take core cut samples of all low slope roof systems to determine the components of the entire system including membrane, vapor barrier, insulation, roof deck material, and any other components. All cores shall be repaired according to manufacturer specifications at the completion of the core sample process.

Each survey will include survey-grade global positioning system (“GPS”) data for every individual roof component and feature along with photographs for all roof perimeters, drains, major equipment, and deficiencies. The survey shall provide a roof inventory for existing conditions to include the following:

1. Provide field measure and record dimensions of roof areas, and locate all roof penetrations and other significant roof features;
2. Take core-cuts of each individual low-slope roof section to verify the roof assembly in place. Locate core(s) on roof plan for future identification. Permanently patch core on the same day as core cut using standard industry practice as provided by the roof system manufacturer and/or the National Roofing Contractors Association (“NRCA”) as appropriate for the roof system;
3. Closely visually inspect the roof system components in order to assess roof condition including field membrane, wall flashings, projection/penetration flashings, counter-flashings, parapet coping caps, sheet metal, drainage, drainage devices, signs and location of leakage, potential leakage, masonry parapets, and other adjacent roof conditions that may affect the watertight integrity of the building;
4. Photograph roof field, details and existing defects for documentation and future reference. Electronically link all photos to inventory, condition, defect and field of roof items in the system database;
5. Mark deficiencies on the roof and document their location on the roof plan by action code and action code legend;
6. Inventory and photograph heating, ventilating, and air conditioning (HVAC) equipment showing manufacturer labels; and
7. All information gathered shall be entered into a roof management database. The data shall be web-based and available to DGS for unlimited use by multiple users with a user access code and password.

### **B.1.2 Condition Assessment Report**

For each building, a Condition Assessment Report (“CAR”) shall capture the following:

1. Roof synopsis of findings in single page summary form;
2. Roof maintenance, repairs and replacement recommendations for a ten (10) year period;
3. Include estimated remaining service life (“ERSL”) and recommended replacement date that is outside of the 10 year plan period for all roofs surveyed;
4. Options for roof restoration in lieu of roof replacement at the end of ERS�;
5. A 10 year budget for the total cost of ownership including roof maintenance, repairs restoration and/or replacement over a 10 year planning period;
6. Roof system information documenting existing roof assembly;
7. Testing Results - as appropriate (i.e., asbestos testing, moisture testing);
8. Roof condition index evaluation documenting the condition and rate the condition/status of the following:
  - i. Quality of original construction and subsequent maintenance
  - ii. Leak and leak damage
  - iii. Roof field membrane

- iv. Perimeter flashings
  - v. Projection flashings
  - vi. Sheet metal components
  - vii. Drainage
  - viii. ERSL
9. Miscellaneous (parapet walls, mechanical equipment, etc.). A narrative and recommended course(s) of action(s) to help analyze the roofing situation in conjunction with both short-term and long-range needs and objectives and a brief summary of work for any roof that is recommended for replacement during the five (5) year planning period;
  10. Photographs and a photograph log depicting detailing conditions found with a label as to what the photo is identifying. The photos shall be digital photos, and their location designated on the roof plan. The photos shall be available in the online database system described herein;
  11. An online interactive roof plan showing all roof boundaries, rooftop equipment and projections/penetrations, drain locations, as well as survey information such as slope direction, areas of significant ponding water, photo locations, and action codes as to any repairs that are recommended. The roof plan shall include a legend identifying all roof components, recommended repairs, core sample locations, etc.; and
  12. Post-Assessment Roof Repair Management. At the direction of DGS, the Consultant shall manage the “DGS on-call roofing contractors” that are dispatched to repair defects noted during the survey process, and shall provide quality assurance to ensure that permanent repairs are performed correctly and in a timely manner.

### **B.1.3 Annual Preventive Maintenance (Flat and Low Slope Roofs)**

The Consultant shall manage the annual preventive maintenance for DGS roofs. The Consultant shall provide annual (once per year) preventive maintenance inspections and manage minor repair work as performed by other selected contractors, on all low slope roof sections. At a minimum, the preventive maintenance scope shall include the following:

1. Inspect all roof surface, drains, scuppers, gutters, downspouts and other roof components;
2. Identify debris, clogs and other foreign materials to be removed, including but not limited to any growing plants, construction materials and other abandoned materials;
3. Test all drainage system components to confirm proper operation;
4. Identify and make recommendations on preventative maintenance, including:
  - i. Inspect, identify and record minor roof defects as necessary (splits, tears, holes, etc.);
  - ii. Identify and record where reseal is necessary around roof penetrations, equipment curbs, skylights, miscellaneous flashings, etc.;
  - iii. Recommend products that are compatible with existing roof systems;
  - iv. Identify and records any loose or disconnected metal work (flashings, counter-flashings, gutters and downspouts) and any required seal for water and air intrusion and check for proper fit and water-tightness during the inspection process;
  - v. Locate, photograph and report conditions that require permanent repair methods;
  - vi. Report to DGS any conditions that are health and/or safety related;

- vii. Report to DGS the accumulation of foreign or contaminated material; and
- viii. Upload findings in DGS' system of record for capturing work order requests. Currently, DGS utilizes Salesforce for this purpose.

At the direction of DGS, the Consultant shall manage the “DGS on-call roofing contractors” that are dispatched to address any items identified during the annual preventive maintenance and repair activities and shall provide quality assurance to ensure that repairs are performed correctly and in a timely manner.

The Consultant shall photograph and record all preventative maintenance and repair activities, the date performed, before and after photos and include all information in the roof information database required as part of the Contract.

**The Consultant shall manage the repair work as conducted by other contractors but in no event will such repair be provided or conducted by the Consultant.**

#### **B.1.4 Preventive Maintenance Checklists**

The Consultant shall develop preventive maintenance plans for each roof section included in the Contract and provide for quick generation of checklists and visual instruction materials as part of the roof information database to be provided as part of the Contract. The plans shall be tied to the specific inventory items on that roof section so the checklist could be utilized as a “work order” and used by DGS employees or contractors.

#### **B.1.5 24/7 Leak Response Call Center**

The Consultant shall provide a phone and email-based call center for DGS to utilize for leak calls and other roof-related emergencies to include dispatch of contractors and verification of requirements and work completed. This call center shall provide an integrated process to assess roof-related problems; select and dispatch a qualified contractor to perform temporary and permanent repairs; document completed work and provide quality control/quality assurance; and maintain current information in the DGS roof asset management database.

Specifically, the Consultant shall provide a 24/7 call center for roof-related emergencies that provides both phone and/or email-based access for DGS staff and approved District of Columbia Public Schools (“DCPS”) staff to report roof-related emergencies. The Consultant shall provide subject matter expertise to draft technical scopes to address roof leaks repairs. DGS shall procure qualified and approved roofing contractors to perform such repairs. The Consultant shall provide weekly and monthly reporting on the status of all reported roof issues and coordinates quality control and invoice review/approval for DGS.

**As part of the roof top quality assurance under B.1.5, the roof Consultant shall inspect repair work to ensure that the correct permanent repair methods are used in a timely manner. If repairs are not up to quality standards, the Consultant shall create a report noting deficiencies and directing the roofing contractors to make the proper repairs, and require photo audits from the contractors to document corrected repairs.**

## **B.1.6 RESERVED**

## **B.1.7 Steep Slope Roof Inspections and Maintenance**

The Department has responsibility for maintenance and repair of all District owned roofs. Steep sloped roofs are all roofs over 4:12 pitch. The Consultant shall provide a detailed assessment of these steep sloped roof systems and develop a plan for maintenance and improvement to increase the safety, longevity and performance of these historic roof assets. For the steep slope roofs, the Consultant shall also provide the same services outlined under **Section B.1.3** in addition to the specific requirements associated with steep sloped roofs discussed under this section. The Consultant shall provide lift equipment and safety equipment to access these roofs for inspection. Permanent fall-protection anchors are not installed or available on these roofs at the present time. The Consultant shall follow all required industry safety standards while performing this task.

## **B.1.8 Moisture Analysis**

The Consultant shall provide moisture detection using non-destructive techniques that are appropriate for the roof system. This shall include, but not limited to:

1. Infrared scans, handheld and aerial;
2. Nuclear roof moisture surveys;
3. Capacitance testing using hand-held and /or walk behind equipment; and
4. Vector mapping using low voltage, high voltage and hybrid.

The Consultant shall provide a summary of its approach to each of these methods including the limitations inherent in each approach, safety considerations, and positive verification of moisture during and after the non-destructive testing process. The Consultant shall provide a listing of:

1. Equipment owned and used for moisture testing;
2. A summary of project experience using various methods of moisture testing; and
3. Credentials of the Consultant's staff including training, experience and certifications.

## **B.2 Capital Requirements for Roof Systems**

The Consultant shall provide consulting and management services to support the annual capital projects for all DGS roofs. Specific tasks are defined in the following sections.

### **B.2.1 Design, Specification and Bid Package Preparation**

The Consultant shall provide the following services for those roofs determined by the Consultant and DGS to require re-roofing, green roof installation and/or roof restoration/rehabilitation:

1. Conduct a field investigation to gather needed roof construction information, details, etc. for the preparation of roof specifications and detail drawings;
2. Evaluate design criteria for roof system selection and specifications. The Consultant shall

prepare and submit a design review summary to DGS. The Consultant shall review the design review summary with DGS with system recommendation and the merits and shortcomings of each option or product. Where possible, proposed equivalent products should also be specified;

3. Prepare specifications, detail drawings, and roof plan(s) based on the alternative selected, including structural analysis and capacity for installation of recommended/desired roofing. The roof plans and details shall be in sufficient detail to provide to bidding contractors to assure complete and comprehensive roof design;
4. Work with DGS to assemble instructions to bidders, proposal bid forms, general and special conditions, technical specifications, roof plans, and details for use as bid documents.
5. Provide preliminary bid documents to DGS for review. The Consultant shall gain approval from the selected roof membrane manufacturer(s), assuring that the specification of the roofing system will qualify for the manufacturer's warranty; and
6. Develop an independent government estimate (IGE) for each roofing project based on needs, proposed plans and specifications.

## **B.2.2 Roof Top Quality Assurance**

The Consultant shall provide the following services as agreed with DGS during the construction phase of roof restoration, re-roofing and green roof installation.

**B.2.2.1 Project Administration.** If requested, the Consultant shall provide the following administration services:

1. Schedule and conduct a preconstruction meeting with the selected roofing contractors to reinforce all project criteria and requirements. The Consultant shall respond to questions and issue meeting minutes;
2. Receive from the roofing contractors, and review, all shop drawings, product data, samples, and other submittals; coordinate them with information contained in the contract documents and approve or reject the same;
3. Observe the work by providing regular site visits to all roofing projects as agreed to by DGS. Record the progress of the work and submit written progress reports to DGS. Documentation shall include filed reports and photographs;
4. Provide clarifications in writing to any roofing contractors requiring interpretation of the intent of the drawings and specifications. Assist in the resolution of issues that may arise;
5. Perform a safety audit to review the roofing contractors' safety procedures and verify that the project is being managed in a safe manner as required by Occupational Safety and Health Administration ("OSHA") regulations, DGS's safety requirements, and other safety practices mandated by the contract documents. Prepare a report of observations, including photographic documentation when necessary;
6. Review the applications for payment as submitted by roofing contractors, and approve or reject such applications in whole or in part and forward to DGS for final approval/payment; maintain records of all such applications and approvals;
7. Recommend necessary or desirable changes to DGS, review requests for changes, assist in negotiating roofing contractors' requests, and prepare and distribute change orders for necessary approval;

8. Conduct final inspections to evaluate the completion of the work of the roofing contractors at completion. Develop and submit completion punch list; and
9. Provide a job closeout file including the information and paperwork developed during the roof construction project (for full-time construction observation projects only).

### **B.2.3 Roof Betterment Management**

The Consultant shall identify defects on DGS facilities as part of the annual inspection process outlined elsewhere in this scope of work. Not all of these defects and associated repairs are high priority items and many can be safely deferred, but should be monitored. However, some of these defects require immediate repair. Bundling repairs into efficient bid packages is key to achieving high value, lowest cost and high performance. The Consultant shall implement and oversee project work, ensuring the work is completed according to the agreed upon plan, budget and schedule. Specifically, the Consultant shall:

1. Prioritize repair projects and prepare budget estimates for all projects based on inspections already completed, underway now, or for any new requirements that develop during the term of the Contract;
2. Review priorities and budgets with DGS management for approval and budgeting;
3. Organize and build repair projects into a consolidated bid package as directed by DGS;
4. Assist DGS in assembling list of qualified roofing contractors;
5. Support DGS during procurement phase by answering RFI's and bidders' questions;
6. Respond to field questions;
7. Provide quality assurance/inspection services; and
8. Review invoices for completed work.

All completed work shall be included in an updated data set as part of the online roof management application provided by the Consultant under the Contract.

### **B.2.4 Support to Design and Construction Management Contracts**

The DGS capital program includes major renovation and/or new construction of schools and other DGS facilities. The Consultant shall provide support to the design and construction management teams on these projects to assure that DGS roofing standards are incorporated into these projects. Services shall be provided on a time and material ("T&M") basis and must be approved by DGS in advance.

### **B.2.5 Roof Asset Management Plan ("RAMP")**

At the completion of annual roof inspections and maintenance, and on an annual basis, the Consultant shall formulate conclusions and recommendations for each roof section on each building by analyzing and evaluating observations and findings to provide an appropriate course of action to ensure a full roof service life, typically twenty (20) years or more.

The Consultant shall develop cost estimates of corrective action required to extend roof service life by using various industry standard techniques (to include but not limited to; preventative

maintenance, repair, restoration or replacement). Present cost estimate in standard cost estimating spreadsheets and life cycle cost analysis. Current costs for material and labor will be updated in the database and used for estimating purposes.

The Consultant shall provide reporting tools in the roof management program software application consisting of project information, observations, findings, conclusions, suggestions or recommendations, cost estimates, and supporting documents (photographs, roof plans, etc.). The Consultant shall develop a RAMP by District's fiscal year (October 1 through September 30) in spreadsheet format for a ten (10) year period based on condition as determined above. The RAMP should indicate priority, building number/name, roof membrane type, estimated remaining roof service life, type work necessary, and estimated cost to accomplish the recommended work. In the case of roof repair, include repair item headings to generally indicate type of repairs required. All recommended repairs for a single roof shall be specified for accomplishment at the same time with the following exception: minimal repairs may be recommended to extend a deteriorating roof "a few years" until replacement becomes inevitable. (Example: repair isolated leak area on aged and weathered built-up roof that has essentially reached the end of its useful service life ignoring other potential repairs that will not significantly extend roof life and are not necessary to return the roof to a watertight condition).

### **B.3 Energy and Sustainability Support**

DGS owned facilities with very large energy consumers. The District is committed to improving energy performance through effective energy stewardship. This is managed through the DGS SE. The DGS SE goals are to reduce and de-carbonize energy consumption. To that end, the DGS SE is working to dramatically improve the efficiency of building energy usage, employ cutting-edge technology to manage buildings, incentivize occupants to conserve power and seek to acquire commodities in a way that creates minimal exposure to commodity price volatility and de-carbonizes the energy supply.

DGS and its DGS SE will issue a separate procurement to focus on specific energy needs and requirements which will seek an energy consultant to evaluate the entire building envelop. The selected Consultant under this RFP shall coordinate and collaborate, as directed by DGS, with the energy consultant as selected under the separate procurement and all future Energy and Sustainability initiatives involving roof installations.

### **B.4 Online Roof Information System and Database**

The Consultant shall provide all roof information developed in the above tasks through a web-based online roof information system and database (i.e., more than an excel spreadsheet). The Consultant shall explain how its roof management application addresses the following:

1. **Field data collection** of descriptive data, attributes, defects, photos, and GPS coordinates and upload to the roof information database. Automatic collection is preferred, to avoid data entry errors from field information to the system database;
2. **Standard roof work breakdown structure** that uses standard descriptions of all roof information items to provide consistency for all roof surveys;



3. **Completing calculations of roof areas;**
4. **Selecting** roof features and retrieving related descriptive data, defect information, repair status, photos, date and time of survey, repair, and maintenance activities;
5. **Provision to store and retrieve warranty information** in data form and as a scanned document along with other roof related documents such as as-built drawings, specifications, construction documents, leak response documents, contracts, etc.;
6. **Roof condition score** or other metric to store roof condition assessment data that allows for section level, building level, folder level and portfolio level roof condition summary of information;
7. **Cost estimating tools** to provide total cost of ownership estimates to include preventive and corrective maintenance, roof restoration and roof replacement;
8. **Reporting tools** that allow for online/on-demand generation of roof reports including condition assessment reports, preventative maintenance checklists, quantity takeoff data, cost estimates, work orders for preventive maintenance and corrective maintenance. All reports shall be generated in **MS WORD** or **MS EXCEL**;
9. Data Analysis that shows the impact of various investment scenarios on roof conditions over a ten (10) year period;
10. **Native System Database** shall be Microsoft SQL Server and shall be fully compatible with DC/DGS **ESRI ArcGIS** applications and work order management systems;
11. **System Security** shall be verified including current SSL certificates;
12. DGS is the owner of the data. At the completion of the Contract, the Consultant shall work with the District to transfer and transition the database information to DGS.

## **B.5 Deliverables List.**

In addition to the deliverables as set forth in **Sections B.1, B.2, B.3** and **B.4** of this RFP, the Consultant shall provide the following deliverables as part of the Contract:

### **B.5.1 Operation and Maintenance of Roof Systems**

The Consultant shall provide the following deliverables documenting work performed as described in **Section B.1** above.

#### **B.5.1.1. Roof Information Database**

To include all assessment elements described in **Section B.1.1**. All information gathered shall be entered into a roof management database described in **Section B.4**. The data shall be web-based and available to DGS for unlimited use by multiple users with a user access code and password.

#### **B.5.1.2 Condition Assessment Report**

For each building, a report in compliance with **Section B.1.2**.

#### **B.5.1.3 Annual Preventive Maintenance and Minor Repair Summary Report**

Document all maintenance and completed repairs for annual preventative maintenance as

specified in **Section B.1.3**.

#### **B.5.1.4 Preventive Maintenance Checklists**

As specified in **Section B.1.4** for every roof section in the DGS portfolio. Checklists shall include frequency of recommended work and visual instruction materials showing step-by-step instructions to perform the work.

#### **B.5.1.5 24/7 Leak Response Status Reports**

The Consultant shall provide weekly and monthly reporting on the status of all reported roof issues and coordinate quality control and invoice review/approval for DGS, and in coordination with **Section B.1.5**.

#### **B.5.1.6 Green Roof Maintenance Status Reports**

Quarterly reports showing descriptions and photographs of all green roof maintenance activities performed as specified in **Section B.1.6**.

#### **B.5.1.7 Steep Slope Roof Assessment Report**

Assessment reports and data shall be loaded into the roof management system as per **Section B.1.7**.

#### **B.5.1.8 Moisture Analysis**

For each building, a report in compliance with **Section B.1.8**.

### **B.6 Capital Requirements for Roof Systems**

The Consultant shall provide the following deliverables documenting work performed as described in **Section B.2** of this RFP.

#### **B.6.1 Design and Specification/Bid Package**

1. Review Design Summary as specified in **Section B.2.1**
2. Provide Specifications, detail drawings, and roof plan(s) based on the alternative selected as per **Section B.2.1**
3. Provide Instructions to bidders, proposal forms, general and special conditions, technical specifications, roof plans, and details for use as bid documents
4. Provide Construction estimate IGE

#### **B.6.2 Roof Top Quality Assurance Reports**

1. Deliverables are in coordination with **Section B.2.2**
2. Provide preconstruction meeting summary, attendee list, response to questions and meeting minutes

3. Approval/rejection notice for shop drawings and submittals
4. Provide construction (roof top) observations progress reports as specified in **Section B.2**
5. Review and recommendations for applications for payment as submitted by Roofing Consultant
6. Change orders for approval and distribution
7. Provide project Safety Audit Reports
8. Provide Job closeout file including the information and paperwork developed during the roof construction project (for full-time construction observation projects only)

### **B.6.3 Roof Betterment Management**

1. Deliverables are in coordination with **Section B.2.3**
2. Repair project statement of work and consolidated bid package
3. Review/approve invoices for completed work
4. Update roof management application

### **B.6.4 Support Design and Construction Management Contracts**

Reports and technical documents as required to support the efforts as described in **Section B.2.4**.

### **B.6.5 Roof Asset Management Plan (RAMP)**

Comprehensive Roof Asset Management Plan as described in **Section B.2.5**.

### **B.6.6 Online Roof Information System and Database**

Fully functional roof and energy information management application that complies with all requirements as specified in **Section B.4**.

### **B.6.7 Monthly Status Reports**

Summarize project status, progress toward individual deliverables, issues/challenges and recommendations