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## Division of Facilities Development

# Vegetated Roof System Guideline Policy (R10/01/2012)

**Reference: DFD Master Specification for Vegetated Roofing, Sections 07 33 63.01, 07 33 63.02 & 07 33 63.03**

**Reference: DOA-DFD Minimal Design Standards for Roofing Systems**

### **Vegetated Roof System Estimated Construction Costs**

Agency shall prepare the following documentation for presentation. Provide written documentation concerning all associated project construction costs, in detail, to achieve a minimum twenty (20) year warranted, composite, vegetated roof assembly over waterproof membrane roof system.

Provide detail of all cost associated with structural design required to accommodate the vegetated roof assembly over waterproof membrane roof system versus a conventional waterproof roof system.

### **Agency Vegetated Roof Maintenance Schedule**

Identify all expected routine maintenance of the composite vegetated roof assembly over waterproof membrane roof system for a minimum 20-yr period, to be performed by the Agency to maintain the system. System care costs to include all Agency related labor and materials associated with the following to maintain the assembly; watering, weeding, replanting, aeration of growth media, growth media testing and fertilization of the vegetated roof system and other known costs. Identify the Agency funding source that will be used for this work.

### **Roof System Cost Comparison**

Provide written documentation describing in detail the costs of a conventional roof waterproofing membrane system compared to one that includes this specified vegetated roof system overlay assembly. Cost shall be calculated for a minimum twenty (20) year.

### **Value Enhancements**

Provide written documentation addressing water retention, heat and cooling benefit's and all other value enhancements that will be achieved by employing this system over the 20-yr expected life of the vegetated roof assembly over waterproof membrane roof system, compared to a conventional roof waterproofing membrane system minus the vegetated overlay. Provide R-value and/or U-values achieved by installation of the vegetated roof assembly over waterproof membrane roof system.

Identify whether or not the vegetated roof assembly will have public access and be visible from the building itself or adjacent Agency buildings.

### **Roof Life Expectancy and Replacement Costs**

Provide written documentation of a reasonable, industry standard life expectancy of the vegetated roof assembly portion only, and of the waterproof membrane system portion of the composite system. Calculate the future replacement cost of the roof waterproof membrane portion under the vegetated roof system assembly, including costs to relocate the vegetated roof system assembly components to allow proper

replacement of the waterproof membrane and/or the complete replacement of the entire vegetated roof assembly over waterproof membrane roof system.

**Safety Rails, Tie-off Bracket and/or Cabling, Worker Personal Safety Equipment, Code and Possible Handicap Roof Area Access and Agency Roof Access Written Policy/Manual concerning Worker Roof Area Access and Safety Requirements**

Agency shall identify the funding source available for annual costs associated with the following issues, throughout the expected life of the vegetated roof assembly over waterproof membrane roof system to be used for the follow applications; Minimum of two (2) roof system inspection per year.

Agency Policy/Manual shall address safety and access code issues required to access the roof system for maintenance, care and viewing. Provide expected costs for permanently secured or approved weighted railing and/or permanently secured safety tie-off equipment and locations of each on the roof and worker personal safety equipment.

Agency shall identify insurance coverage required for Agency personal including Agency part time LTE workers accessing the roof system.

Agency shall develop a written safety program, policy/manual identifying personnel approved to access the roof area, to include a roof access sign in book for approved personnel to include entry date and time and description of work to be perform by all entering the roof area. Identify safety training required of all personnel approved by the Agency to enter the roof area.

**Water Access**

Provide written documentation addressing water availability for care of the vegetated roof system and its cost to provide such service into the scope of the project. Provide documentation as to the construction costs to provide water access to the vegetated roof assembly waterproof membrane roof system.

**Cistern**

Provide written report as to the feasibility of providing a cistern in the scope of the project used to catch run-off water prior to entering the storm sewer system.