LEGISLATIVE REFERENCE BUREAU FISCAL ANALYSIS

PUBLIC WORKS COMMITTEE **ITEM 5, FILE #081301**

JANUARY 28, 2009 **AMENDED 2/6/09** **AMY E. HEFTER**

File Number 081301 is a resolution authorizing the Library Director to submit and execute a proposal for a 2009 Stormwater Best Management Practices Partnership grant for $250,000 from the Milwaukee Metropolitan Sewerage District (MMSD) for the green roof project at the Central Library.

Background

1. The 2009 Budget included $950,000 in capital funding to support an ongoing program of maintenance to the exterior façade of the Central Library. This reflects the tear off of existing roofing materials and installation of a low maintenance green roof of the Central Library annex. A structural engineer verified that the building can support a green roof and a green roof architect provided budgetary information.

2. The Central Library annex (30,000 sq. ft.) was re-roofed in 1986 with a Gates EPDM system. Leaks began developing 8 to10 years later but the manufacturer had gone out of business. Work done in 1995 tried to address the problems but a consultant advised that the insulation was saturated and the entire system should be torn off. In 2004 a consultant re-emphasized the need to completely replace the roof. Repairs are needed 4 or 5 times a year due to leaks.

3. Installation of a green roof would reduce stormwater runoff as well as energy consumption. Green roofs also protect underlying roof materials which can double the life of a roof.

4. A green roof commonly refers to a vegetative roof system that contains live plants atop the roof membrane. A vegetative roof system offers environmental benefits but a roof can also be considered green if it is environmentally friendly. The International Council for Research and Innovation in Building and Construction recognizes a roof as sustainable if it adheres to the following tenets:

   - Minimizes the burden on the environment by using the earth's resources responsibly.
   - Conserves energy by improving the roof's thermal efficiency.
   - Extends roof life span by improving long-term performance.

   Source: Facilitiesnet.com "*Defining Green Roofs*" by Laura M. Cavanaugh, August 2008
   http://www.facilitiesnet.com/roofing/article/Defining-Green-Roofs-Go-Beyond-Vegetative-Systems--9418

5. Types of Green Roofs:

   Extensive Green Roof: Soil depth of 1-6 inches and a weight load of 15-50 pounds per square foot. Plants such as sedums and prairies flowers are used because they are low to the ground, will not be destroyed by nesting birds, require less maintenance and can tolerate most any weather conditions.

   Intensive Green Roof: Soil depth of 6-24 inches and a weight load of 80-150 pounds per square foot. Greater variety of plants including hardy perennials, native flowers, shrubs and trees, require regular maintenance including weeding and water.

Discussion

1. MMSD has issued a request for proposal to provide grant funding for stormwater management projects that can demonstrate best practices in managing volume, rate and quality of stormwater runoff.

2. The Library requests to submit a proposal to MMSD for a grant to assist in the funding of the Central Library annex green roof project under the 2009 Stormwater Best Management Practices Partnership Program.

3. The costs of a conventional roof replacement would result in capital borrowing of $700,000 versus the requested capital borrowing of $950,000 for a green roof; per file attachment titled "Cost-Benefit Analysis of Installing Green Roof vs. Conventional Roof at Central Library." The Milwaukee Public Library also asserts through Department of Administration-Budget and Management Division analysis that total energy cost savings are $438,344.93 over 40 years, and an increased life span of underlying roofing material results in a net estimated overall savings of $294,232.39 in today's dollars over 40 years.

Fiscal Impact

1. The Library Director requests authorization to submit a proposal for a 2009 Stormwater Best Management Practices Partnership grant from MMSD in the amount of $1,200,000 with a City share of $950,000 (capital funds) and a grantor share of $250,000.

2. Anticipated award date is April 20, 2009.

cc: Paula Kiely Marianne Walsh
Taj Schoening Jacob Miller

Prepared by: Amy E. Hefter, X2290
LRB-Research & Analysis Section
January 23, 2009
Updated: February 6, 2009