Triple Life Cycle Assessment – Toward Sustainable Design of Municipal Capital Facilities

Richard Gelb

Sustainable Building Coordinator, Seattle Parks and Recreation Strategic Advisor, Office of Sustainability and Environment <u>richard.gelb@seattle.gov</u> 206-684-0631

Seattle Office of Sustainability & Environment www.cityofseattle.net/environment

Seattle Parks and Recreation Sustainable Building Program <u>www.cityofseattle.net/parks/sustainable</u>



Seattle's Urban Sustainability Agenda

- Overarching goal: practice and promote sustainable solutions that:
 - ✓ Reduce resource consumption and prevent pollution and health risks;
 - ✓ Reduces life-cycle costs;
 - ✓ Build community and enhance social capital;
 - ✓Achieve multiple benefits



Sustainable Development Program Overview – Departmental Perspective









The Fiscal Lifecycle





The Fiscal Lifecycle





The Social Lifecycle





The Social Lifecycle





The Environmental Lifecycle





The Environmental Lifecycle







Sustainable design solutions (for public projects) can be seen when looking through these 3 lens concurrently:



Downstream – end of useful life impacts and contributions Lifecycle Social Benefit Assessment

Downstream – end of useful life impacts and contributions Lifecycle Environmental Assessment

Midstream – life of facility impacts and contributions

Midstream – life of facility impacts and contributions



Screening-level Sustainable Design Assessment



City of Seattle





Office of Sustainability and Environment

GCity of Seattle





Conclusion

- This approach is being employed by Seattle Parks Department ... is linked to an Environmental Management System
- other City Departments are interested
- The Seattle Design Commission will be using this approach as part of their design review process
- We are moving toward a sustainable infrastructure program and policy that (likely) will be linked to a triple lifecycle approach

