



Erosion and Sedimentation Control for LEED™ 2.1 in Seattle

This fact sheet provides information and resources to assist Seattle area contractors in achieving LEED™ Sustainable Sites Prerequisite 1, Erosion and Sedimentation Control. This fact sheet is one of several in a series on how LEED™ applies to you. See the fact sheet [A Contractor's Introduction to LEED™](#) for an overview of the U.S. Green Building Council's LEED Certification System™, as it applies to contractors. The Resource Venture also offers free information, assistance and referrals to help you achieve your project's LEED™ goals.

LEED™ 2.1 Sustainable Sites Prerequisite 1: Erosion & Sedimentation Control

The **intent** of this prerequisite is to control erosion and reduce negative impacts on water and air quality. It is a requirement (prerequisite) for all LEED™ projects.

Design a sediment and erosion control plan, specific to the site, that conforms to United States Environmental Protection Agency (EPA) Document No. EPA 832/R-92-005 (September 1992), Storm Water Management for Construction Activities, Chapter 3, OR local erosion and sedimentation control standards and codes, whichever is more stringent. The plan shall meet the following objectives:

- Prevent loss of soil during construction by stormwater runoff and/or wind erosion, including protecting topsoil by stockpiling for reuse.
- Prevent sedimentation of storm sewer or receiving streams and/or air pollution with dust and particulate matter.

A review of EPA and City of Seattle construction stormwater control best management practices conducted by Seattle Public Utilities (SPU) and the Department of Planning and Development concluded that **compliance with Director's Rule 16-2000 results in equivalent or more stringent stormwater protection than EPA 833-R-92-005**. Therefore, the design team, civil engineer and contractor simply need to comply with local code when designing erosion and sedimentation controls to meet this LEED™ prerequisite.

LEED™ Documentation Requirements

Each credit a project attempts to achieve using the LEED™ system requires documentation to prove the activity was completed. LEED™ Version 2.1 uses LEED™ Letter Templates to certify that LEED™ requirements are met for each prerequisite and credit. Additional documentation may still be required. Generally, the civil engineer will develop a construction stormwater plan and complete the Letter Template. Some contractors are involved in developing this plan, but the contractor's primary responsibility is implementation. The documentation requirement is:

- Provide the LEED™ Letter Template, signed by the civil engineer or responsible party, declaring whether the project follows local erosion and sedimentation control standards or the referenced EPA standard. Provide a brief list of the measures implemented. If local standards and codes are followed, describe how they meet or exceed the referenced EPA standard.
- To help Seattle projects document compliance with this credit, the City of Seattle conducted a comparison of the EPA referenced standard and Seattle Code. (see *Where to Get More Information*.)

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Additional Recommended Documentation

The following documentation is recommended as good practice for operating an environmentally responsible job-site and as back up for an audit of your project's LEED™ application. A portion of the credits in each application will be audited, and the contractor should be prepared with back-up documentation for credits they are involved in implementing.

- Develop an erosion control plan for implementing the civil engineer's construction stormwater plan. This plan outlines your crew's and subcontractors' responsibilities for installing, maintaining, and using the specified erosion and sedimentation control BMPs and is required on many public works projects.
- The AGC of Washington Education Foundation offers a "Temporary Erosion Control Specialist" certification course on developing such plans (see *Where to Get More Information*).

Erosion and Sedimentation Control Guidelines

The intent of this LEED™ requirement is to control erosion *to reduce negative impacts on water and air quality*. On a local level, the listing of certain salmonid species under the Endangered Species Act has brought increased scrutiny of construction and other activities that impact the health of local waterways. To address both issues, use the following guidelines to help develop and then implement a successful erosion and sedimentation control plan.

□ **Get involved early**

Since implementing the plan is your responsibility, your early involvement can make the difference between success and failure. You can bring to the table your knowledge of cost-effective BMPs that meet both LEED™ requirements and Seattle code. Your participation in planning assures the approved plan works well for you, your company, the client, LEED™ and Seattle regulators. Some factors to bring to the table:

■ **Prevent erosion in the first place**

Removing sediment and associated pollutants from the water once erosion has occurred is far more expensive and time-consuming than preventing erosion in the first place.

Therefore, your top priority is to prevent erosion by limiting site disturbance, stabilizing any exposed soils, and controlling the flow of water on the site. Specific measures are discussed in the "Seattle Construction Stormwater Control Technical Requirements Manual," (see *Where to Get More Information*.)

■ **Treatment is next**

Many projects in Seattle will not have the space for large treatment facilities such as sediment ponds, so you will probably rely on measures such as silt fences, straw bales and gravel filter berms. Compost filter berms are rapidly gaining favor for their effectiveness and reasonable cost.

- **On-site protocols prevent problems** To prevent illicit discharges of sediment or chemical pollution, you will need protocols for vehicles coming on and off the site, such as a tire wash and procedures for handling problem substances and spills. Any useful experiences you've had with these measures should be conveyed to the team developing the plan.

■ **Maintenance is key**

Your primary duty as a contractor on a LEED™ project is implementation of the resulting plan's measures, including maintenance. Regular inspection and maintenance of site protection measures are crucial to making sure the plan works as designed. Minimally, inspect all measures after a heavy rainfall (1/2 inch in less than 24 hours).

Cost

- Because the Seattle code is equal to or more stringent than LEED™, meeting this LEED™ prerequisite in Seattle will not add cost, except for the minor administrative cost needed to complete LEED™ documentation. However, the cost of the construction stormwater program will vary widely with the specific BMPs that are selected.

Where to Get More Information

- The **Resource Venture's** Sustainable Building Program offers free assistance to Seattle design and construction professionals. Call us to arrange a visit to your job site or office. We can provide advice on construction stormwater plans and techniques, and address LEED™ questions.

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- **Seattle Construction Stormwater Control Technical Requirements Manual**

Code requirements and BMPs for erosion and sedimentation control on Seattle construction sites. To download the document, visit www.ci.seattle.wa.us/dclu/Codes/dr/DR2000-16.pdf (DCLU Director's Rule number 16-2000)

- **LEED Sustainable Sites Prerequisite: Comparison of Seattle & Referenced Standard**

To help Seattle projects document compliance with this credit, representatives of Seattle Public Utilities and the Seattle Department of Planning and Development conducted a comparison of the EPA referenced standard and Seattle Code, including an analysis of stringency. To download the document, visit www.cityofseattle.net/sustainablebuilding/Leeds/default.htm

- **Keep It On Site**

Manual created for residential builders in Kitsap County. It includes BMPs appropriate for a variety of projects. Visit www.obrienandco.com to download a copy.

- **Construction Site Erosion and Sediment Control Certification Course**

Course designed by the AGC Education Foundation to help implement and maintain effective Temporary Erosion and Sedimentation Control plans. 12 hours. WSDOT certification upon completion. Meets Department of Ecology requirements for Contractor Erosion and Spill Control Lead (CESCL) certification. For more information, visit www.agcwa.com/Public/edprograms.asp.

- **LEED™ Reference Guide Version 2.1**

The Reference Guide discusses the credits and prerequisites of the LEED Rating System™ in depth and provides information on documentation requirements. The architect can give the contractor photocopies of the credits and prerequisites for which the contractor is responsible, or the guide can be purchased at www.usgbc.org.

At Your Service

The Resource Venture provides *free* information and assistance to help Seattle design and construction professionals improve their building project's environmental performance. We are a partnership of the Greater Seattle Chamber of Commerce and Seattle Public Utilities.



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