

A6

TOOLS FOR MEASURING GSI BENEFITS

Tools to support decision-making about different GSI practices are available through a variety of sources. Users must enter specific information about the site under consideration, e.g., area, project location, proposed development condition, proposed green stormwater infrastructure improvements, and runoff reduction goals.

TABLE A6.1 GSI BENEFITS CALCULATOR TOOLS (CONTINUED ON NEXT PAGE)

| TOOL/SOURCE | DESCRIPTION | NOTES |
|---|--|--|
| <p>Green Values National Stormwater Management Calculator http://greenvalues.cnt.org/national/calculator.php</p> | <p>Developed by The Center for Neighborhood Technology, this online calculator can be used to compare the performance, costs, and benefits of green infrastructure to conventional stormwater practices, as well as to find the appropriate green infrastructure practice for a given location given that location’s site-specific conditions and constraints.</p> | <p>The website takes users through a step-by-step through a process of determining the average precipitation at a site, choosing a stormwater runoff volume reduction goal, defining the impervious areas of the site under a conventional development scheme, and then choosing from a range of Green Infrastructure Best Management Practices (BMPs) to find the combination that meets the necessary runoff volume reduction goal in a cost-effective way.</p> <p>The calculator is currently focused on runoff volume reduction. It does not produce any peak flow results. Volume reduction in this context implies infiltration, evapotranspiration and reuse, and does not include detention in ponds or vaults. All runoff volume captured in BMPs is assumed to be kept on site.</p> <p>The calculator is meant for a single site or a campus of buildings contained on a single site.</p> |
| <p>USEPA National Stormwater Calculator https://www.epa.gov/water-research/national-stormwater-calculator</p> | <p>EPA’s National Stormwater Calculator (SWC) is a software application that estimates the annual amount of rainwater and frequency of runoff from a specific site. Estimates are based on local soil conditions, land cover, and historic rainfall records. It is designed to be used by anyone interested in reducing runoff from a property, including site developers, landscape architects, urban planners, and homeowners.</p> <p>The SWC accesses several national databases that provide soil, topography, rainfall, and evaporation information for a chosen site. The user supplies information about the site’s land cover and selects low impact development (LID) controls they would like to use. The LID controls include seven green infrastructure practices.</p> | <p>An LID cost estimation module within the application allows planners and managers to evaluate LID controls based on comparison of regional and national project planning level cost estimates (capital and average annual maintenance) and predicted LID control performance. Cost estimation is accomplished based on user-identified size configuration of the LID control infrastructure and other key project and site-specific variables. This includes whether the project is being applied as part of new development or redevelopment and if there are existing site constraints.</p> <p>The SWC allows users to consider how runoff may vary based on historical weather and potential future climate conditions. To better inform decisions, it is recommended that users develop a range of results with various assumptions about model inputs. Please check with local authorities about whether and how use of these tools may support local stormwater management goals.</p> |

TABLE A6.1 GSI BENEFITS CALCULATOR TOOLS (CONTINUED)

| TOOL/SOURCE | DESCRIPTION | NOTES |
|---|--|---|
| NYC Green Infrastructure Co-Benefits Calculator http://www.nycgicobenefits.net/ | Developed by the New York City Department of Environmental Protection (DEP), the Co-Benefit Calculator is a single comparative tool that calculates the environmental, social, and economic benefits associated with each type of green infrastructure practice, allowing users to compare the costs and benefits of each green infrastructure practice. The metrics that the calculator uses focus on urban heat island mitigation, increased property values, green jobs, and reduced treatment needs. | |
| Water Research Foundation (WERF) SELECT Model https://www.werf.org/i/c/Tools/SELECT.aspx | SELECT is a simple planning level tool that enables a stormwater manager to examine the effectiveness of alternative scenarios for controlling stormwater pollution and the whole life cost associated with each scenario. Thus, the manager can make more informed decisions on which practices to permit with some confidence that they will meet imposed TMDL limits and also can have some confidence that the capital and O&M costs involved in implementing BMPs are known. | SELECT is encoded within an Excel spreadsheet, which means that it is intuitive and easy to use for most individuals. The control panel has several functional areas that guide users in setting defaults, inputting user information, and executing the model. WERF provides a user support website: http://select.watertoolset.net/#WhatsSELECT |