

## Summary of Response to Public Feedback

Thank you for your comments. We greatly appreciate the time dedicated to improving future Sustainable Sites reports and thank you for your contribution. The Sustainable Sites Initiative received comments from more than 450 individuals—with landscape architects representing approximately 65% of respondents—after the release of the Preliminary Report on Standards and Guidelines ([www.sustainable-sites.org/report.html](http://www.sustainable-sites.org/report.html)). While the large number of comments received prohibits us from responding to each individual comment, all of the feedback will be reviewed by committees to help guide future Sustainable Sites Initiative reports. We have also summarized the general categories of feedback below.

A wide range of professionals provided feedback, including planners, horticulturalists, academic researchers/teachers, government employees, arborists, engineers, landscape contractors, public health professionals, and employees of non-profit organizations. Typical respondents felt the report presents information that is relevant to their work and easy to understand. Many respondents appreciate the report for its potential to educate and influence land managers and policy-makers about the value of sustainable practices. Respondents also identified areas where the report needs improvement, as outlined below. As we move forward with future reports, we will thus expand our focus areas to include greater emphasis on subjects such as economics, bioregional considerations, and stewardship.

We cannot guarantee that every subject in the summary below will be incorporated into future reports, but the Sustainable Sites Initiative will use many of your comments to guide committee discussions over the next several months and to direct the development of future reports. Comments generally fell into the following four categories outlined below; some sections also include our feedback and anticipated course of action:

- 1. Structure, style, layout and clarity of the report.**
- 2. Technical topic areas of soils, hydrology, vegetation, materials, or human well-being.**
- 3. Other content or concepts**
- 4. Subjects beyond the scope of the Sustainable Sites Initiative.**

## 1) **STRUCTURE, STYLE, LAYOUT and CLARITY of the REPORT.**

As Sustainable Sites moves forward, a technical editor and designer will work on the layout, format and readability, and appropriateness for different audiences. Future reports will contain two components—a summary intended for all audiences followed by detailed guidelines intended for practitioners.

## 2) **TECHNICAL TOPIC AREAS of SOILS, HYDROLOGY, VEGETATION, MATERIALS, and HUMAN WELL-BEING.**

These comments addressed technical topics that may require further elaboration and/or clarification in future reports. These valuable insights will continue to be reviewed and discussed by committees as we develop future reports. We received feedback on the topics listed below.

### **SOILS :**

#### **A. Soil health**

- Consider expanding discussion on:
  - Definition and characteristics of healthy soils
  - Definition of topsoil and subsoils
  - Importance of soil biology
- Consider clarifying and providing additional guidance on:
  - Soil protection practices
  - Soil testing and monitoring
  - Accounting for differences in soil types, with respect to erosion control, nutrient improvement, and permeability
  - Soil erosion control

#### **B. Improving soils**

- Consider expanding discussion on:
  - Selection and use of compost as soil amendment
- Consider providing guidance on:
  - Restoring topsoil
  - Importing soil
  - Strategies to address contaminated and compacted soils
  - The role of vegetation in healthy soils
  - Additional restoration measures

#### **C. Reference soils**

- Consider providing additional guidance on:
  - Defining a reference soil for a site

- Soil characteristics (such as organic matter levels) that should mirror those of systems in the area
- Relevance of the reference soil concept in urban sites-- soil composition versus soil function

**D. Avoiding potentially harmful substances**

- Consider providing additional guidance on:
  - Organic products
  - Use of fertilizers
  - Plant selection to reduce chemical additions
  - Communication with contractors
- Consider clarifying:
  - Use of Integrated Pest Management practices
  - Pros/cons of compost teas

**E. Reuse materials on-site**

- Consider providing additional guidance on:
  - Identification of materials and methods for reuse on-site
  - Sustainable management for materials transported off-site

**F. Greenhouse gases**

- Consider providing additional guidance and clarification on the role of soils in storing carbon and reducing greenhouse gas emissions.

**G. General soils topics**

- Review potential inaccuracies identified in the report and make appropriate revisions
- Consider providing additional guidance on:
  - Soils for specific uses
  - Various soil types
  - Soil pore network
  - Impacts of current land practices
  - Economics of soil protection and restoration

**HYDROLOGY :**

**A. Reducing potable water use**

- Consider providing guidance on:
  - Sustainable use of water features
  - Efficient irrigation

**B. Water reuse**

- Consider providing guidance on:
  - Regulatory limitations on water recycling
  - Quality of rainwater and greywater
  - Health issues associated with nonpotable water use
  - Additional options for water reuse

### C. Hydrologic processes

- Consider clarifying or providing additional information on:
  - Definition of “healthy” hydrologic processes
  - Effects of site context in achieving healthy hydrologic processes
  - Water balance equations
  - Determining water target water balance conditions
  - Role of vegetation in hydrologic processes in various site types and regions
  - Quantity, quality, and destination of water leaving the site via surface flow
- Consider adding discussion on:
  - Subsurface water movement and potential pollution of groundwater
  - Effects of regional variations on infiltration
  - Additional options to increase on-site infiltration, especially in urban areas

### D. Water quality and aquatic habitats

- Consider clarifying or providing additional information on:
  - Definition of “healthy” aquatic habitats
  - Factors influencing physical stream condition
  - Wildlife and habitat management
- Consider adding discussion on:
  - Riparian, terrestrial ecosystems and marine environments
  - Pollution reduction and source control strategies
  - Vegetation for pollution reduction
  - Pollutant standards or target levels

### E. Stormwater Best Management Practices

- Consider providing additional information on:
  - References for BMP design and maintenance
  - Economic and environmental benefits of various BMPs
- Review and discuss:
  - Suggested BMPs
  - Suggested references to review

### F. General hydrology topics

- Consider clarifying:
  - Definitions of terms, including rainwater, stormwater, hydrologic components, natural hydrology, drinking water, etc.
- Consider providing guidance on:
  - Additional hydrologic systems, such as coastal regions and marine and estuarine systems
  - Regional considerations
  - Larger watershed considerations and site context within a watershed
  - Hydrology and winter issues, such as effects of salt and spaces for snow storage
  - Relationship between site hydrology and building systems
  - Building location and site context
- Review potential inaccuracies identified in the report and make appropriate revisions

## **VEGETATION :**

### **A. Conserving existing vegetation.**

- Consider providing guidance on:
  - Identifying and prioritizing on-site vegetation that should be preserved.
  - Identifying vegetation that is valuable as habitat, especially in the context of the regional landscape
  - Protecting vegetation during construction

### **B. Defining a reference landscape**

- Consider providing guidance on:
  - Methods to assess plant communities
  - Methods to assess the functionality of a landscape

### **C. Plant selection**

- Consider adding discussion on:
  - Pros/cons of native plant species
  - Pros/cons of cultivars
  - Importance of plant provenance and genetics
  - Plants that may create hazardous conditions
- Consider clarifying:
  - Definition of “native plants”
  - Definition of “site appropriate plants”
  - Plant selection hierarchy-- consider potential benefits of native and non-native species
- Consider providing guidance for:
  - Regional references for plant selection

### **D. Vegetation planning**

- Consider expanded discussion on:
  - Pros/cons of homogeneous landscapes
  - Pros/cons of plant diversity
  - Community gardens and edible plantings
  - Habitat enhancement/creation and pollinators
  - Intersection of hydrology and vegetation, including using plants for erosion control and infiltration systems
  - Vegetation planning for ecosystem services, including potential hazard mitigation and energy conservation
- Consider clarifying discussion on:
  - Use of lawn species
  - “Appropriately sized” plants

### **E. Invasive species**

- Consider providing additional guidance for:
  - Management of and monitoring for invasive plants

- Invasive species assessment tools and references
- Consider expanding discussion on:
  - The definition of “invasive species”

**F. Plant production**

- Consider clarifying discussion on:
  - Locally grown plants
- Consider expanding guidance on:
  - Sustainable plant production practices

**G. Plant maintenance**

- Consider expanding discussion on:
  - Sustainable maintenance practices and equipment
- Consider providing guidance on:
  - Maintenance plans that account for landscape succession and plant life cycles
  - Maintenance during the plant establishment phase
  - Education of users, site managers, and maintenance crews
  - Efficient irrigation
  - Tree management

**H. Compost and waste recovery**

- Consider additional tools for:
  - Disposal of invasive species waste
  - Reuse of woody waste on-site

**I. General topics**

- Consider adding more information on:
  - Vegetation shifts in the context of climate change
  - Vegetated roofs and walls
  - Scenic/aesthetic benefits of vegetation
  - Vegetation in arid climates
  - Landscape commissioning
  - Outdoor rooms
- Consider clarifying:
  - Discussion on UFORE
- Review potential inaccuracies identified in the report and make appropriate revisions

**MATERIALS :**

**A. Re-focus goals to address landscape-specific materials**

- Address the selection and maintenance processes of landscape materials

**B. Environmental health of landscape materials**

- Consider providing guidance on:
  - Lists of harmful/hazardous materials

- References for least toxic alternatives
- Safety and sustainability training for employees
- Environmentally safe materials specifically for playgrounds

**C. Materials management/maintenance**

- Consider expanding discussion on:
  - Management strategies for waste generated during maintenance and construction and demolition
  - Materials management as part of design
  - Maintenance of materials
  - On-site energy generation
  - Strategies for landscape equipment

**D. Materials selection and material attributes**

- Consider expanding discussion on:
  - Material durability
  - Use of local materials
  - Packaging associated with materials brought to site
  - Glare and visibility problems (and the ambient heat reducing effects) with material reflectivity
  - Permeable paving
- Consider providing guidance on:
  - Methods to measure sustainability and assess/weight various combinations of material attributes
  - Effects of climate on materials
- Consider clarifying:
  - Methods to assess the harvesting of materials (e.g. rock mulch)
  - Sources for certified lumber

**E. Reduce material consumption**

- Consider expanding discussion on:
  - Waste reduction strategies
- Consider clarifying guidance on:
  - Structural over-design

**F. Reuse of landscape materials**

- Consider expanding discussion on:
  - Alternatives for materials that must be removed off-site
  - Strategies to identify and reuse available materials on-site
  - Compost use and potential limitations
- Consider providing guidance on:
  - Materials that are unsuitable for reuse due to contamination

**G. Recycling materials**

- Consider providing guidance on:
  - Strategies for recycling landscape materials

- Identifying recyclable site material types

#### H. Reducing energy use

- Consider providing guidance on:
  - Methods to assess distance and type of transport for materials
- Consider expanding discussion on:
  - Sustainable landscape equipment
  - Opportunities for site to act as heat sink (including green roofs and green walls)
- Consider clarifying:
  - Lighting types and practices

#### I. General materials topics

- Discuss cost comparisons and economic incentives for materials selection and management choices
- Consider reducing focus on topics already covered by other green building rating systems (such as lighting and life cycle analysis)
- Review potential inaccuracies identified in the report and make appropriate revisions

### **HUMAN WELL-BEING :**

#### A. On-site food gardens

- Consider expanding discussion on:
  - Local, organic, and urban food gardens
  - Potential contaminants of food on-site
  - Fruit trees and other food producing vegetation for both human and wildlife consumption
  - Health/exercise value of gardening

#### B. Expand on-site learning opportunities and sensory experiences

- Consider expanding discussion on:
  - Sensory experiences associated with the site, including textures, scents, tastes, and sounds, and their mental health benefits
  - Spaces for outdoor learning environments
  - Education about site ecology and ecosystem services performed on site
  - Designs and materials that embrace local and regional landscapes
  - Scenic conservation
  - Stewardship by site users

#### C. Social spaces

- Consider providing guidance on:
  - Benefits of thoughtful indoor/outdoor relationships
  - Participatory aspects of local groups in the design, planning, and management stages of a project

- Site accessibility for various users, such as pedestrians, bicyclists, and wheelchair users
- Equitable access and environmental justice
- Outdoor seating needs
- Consider expanding discussion on:
  - Additional types of spaces that provide opportunities for social interaction
  - Children’s needs, including proper playground design, interactive elements, and IPM in children's environments
  - Multi-functional spaces
  - Identifying specific user needs

**D. Spaces for physical activity**

- Consider expanding discussion on:
  - Spaces that invite physical activity
  - Walkability in design
  - Site connectivity to recreational opportunities such as greenbelts, bike paths, streetscapes, linear parks, and other destinations
  - Site connectivity to transportation
  - Spaces for adult and child recreational areas

**E. Vegetation Selection**

- Consider providing guidance on:
  - Vegetation types, sense of place, and potential effects on health
  - Vegetation that attracts wildlife and its effect on human well-being

**F. General human well-being topics**

- Consider incorporating this section into the technical sections of vegetation, soils, hydrology, and materials
- Consider the strategies and tools in different site types and contexts, such as appropriate strategies in urban versus suburban areas
- Consider additional sections that address site type needs-- for example, schools, senior facilities, health care facilities, etc.
- Consider site planning for cultural relevance
- Consider a more holistic perspective on human health to include complete physical, mental, and social well-being
- Clarify terms such as “nature,” “human well-being,” and “public health”
- Review potential inaccuracies identified in the report and make appropriate revisions

**ALL TECHNICAL SUBCOMMITTEES :**

A wide variety of potential measures of success, recommended references, and topics for further study were suggested. All of these recommendations will be reviewed by the appropriate Technical Subcommittees for potential inclusion in future reports.

### 3) OTHER CONTENT OR CONCEPTS

A. Content areas in the existing report to expand and/or revise:

- Guiding Principles – suggested revisions to existing principles and potential additions to the list of principles will be reviewed and discussed for incorporation into future reports.
- Site Assessment – comments on social/cultural components, site context and off-site influences, and other additional site assessment components will be reviewed and discussed for incorporation into future reports.
- Program Plan – additional guidance on the program planning phase of project development will be incorporated into future reports.
- Glossary – additions and revisions will be reviewed and discussed for incorporation into future reports.
- List of references – resources that provide additional guidance to users will be reviewed and discussed for incorporation into future reports.
- Potential measures of success – desired measurable outcomes will be incorporated into future reports.

B. Concepts that need further clarification:

- Relationship between LEED and Sustainable Sites
- Audience for Sustainable Sites
- Typology of site types to illustrate the practices available to a range of sites
- Ecosystem services and urban sites
- Definition of sustainability and site sustainability

C. Additional concepts:

- Economics – including cost comparisons between traditional and sustainable methods, benefits beyond the construction phase, and costs of inaction
- Regional aspect – including providing regional references and benchmarks that can be influenced and adjusted accordingly by local organizations to meet the needs of the region
- Site context - including site selection, design and planning with the larger landscape in mind
- Maintenance – including equipment, materials, practices, long-term plans, maintenance personnel training, and addressing different climates and regions
- Construction – including construction practices, staging, and improving the connection between designers and construction
- Integrated design team – including coordination and needed experts in all phases of development to monitoring and maintenance
- Human health - including effects of site design and land use on public health
- Education – including strategies to promote land stewardship and enhance the educational component of sustainable sites
- Wildlife – including terrestrial and aquatic habitat values and effects of site design on habitat

- Energy - including methods for conservation and on-site energy generation
- Climate change – including effects of site practices on greenhouse gas levels
- Building-landscape integration and synergy
- Regenerative design
- Site Aesthetics - visual/scenic character

#### 4) **SUBJECTS BEYOND THE SCOPE OF THE SUSTAINABLE SITES INITIATIVE**

This includes:

- Specific practices or products. The goal of the initiative is to provide direction for achieving desirable outcomes through sustainable land development and management practices. However, we do not anticipate endorsing specific practices or products. Potential tools may be included as examples to help readers visualize methods to achieve the goals, but it is beyond the scope of this initiative to provide technical guidance or a step-by-step manual.
- Policy and city/regional planning. While we hope that the Sustainable Sites Initiative products will influence city and state policies and regional planning efforts, the primary focus of the initiative is to provide a voluntary rating and certification system to guide land development and management practices. We hope that the Sustainable Sites Initiative will help those involved in land development and city/regional planning to work more closely together to make sustainable planning decisions.
- Building standards and building interiors. The Sustainable Sites Initiative hopes to build on existing green building standards to address site issues and the links between the natural and built environment. However, we do not anticipate addressing building-specific or interior needs.
- Agricultural and farming practices. The Sustainable Sites Initiative will not address agricultural products or practices, since other organizations are addressing sustainable agricultural practices in detail—for instance, see the Draft National Standard for Sustainable Agriculture Practice by the Leonardo Academy and Scientific Certification Systems. We hope to encourage food gardens as potential components of a site, but we do not anticipate addressing large-scale agricultural or farming practices.