THE SUSTAINABLE SITES INITIATIVE™

An interdisciplinary effort to create voluntary national guidelines and a rating system for sustainable land design, construction and maintenance practices for landscapes of all types, with or without buildings

AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS
ASLA Library & Education Advocacy Fund

Lady Bird Johnson Wildflower center

UNITED STATES BOTANIC GARDEN

Success of Green Building

The construction market accounts for 13.4% of the U.S. GDP.

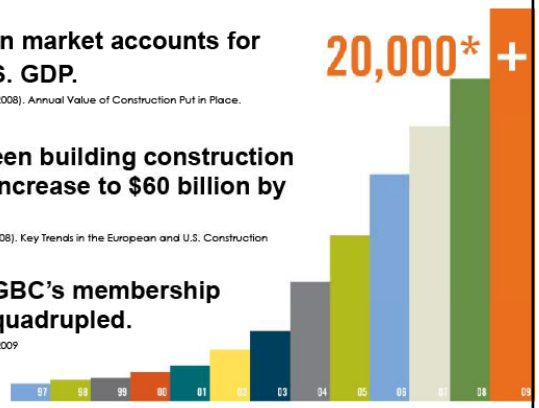
Source: Department of Commerce (2008). Annual Value of Construction Put in Place.

The value of green building construction is projected to increase to $60 billion by 2010.

Source: McGraw-Hill Construction (2008). Key Trends in the European and U.S. Construction Marketplace: SmartMarket Report.

Since 2000, USGBC's membership has more than quadrupled.

Source: U.S. Green Building Council, 2009



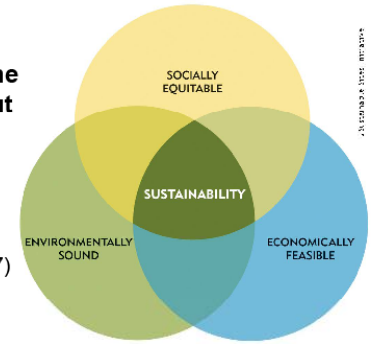
Guiding Principles

- Do no harm
- Use the precautionary principle
- Design with nature and culture
- Use a decision-making hierarchy of preservation, restoration and regeneration
- Provide regenerative systems as intergenerational equity
- Support a living process
- Use a systems thinking approach
- Use a collaborative and ethical approach
- Maintain integrity in leadership and research
- Instill a sense of stewardship

Sustainable Development

"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Brundtland Report,
Our Common Future (1987)



Framework

- Regulate global and local climate
- Detoxify and cleanse air, soil and water
- Regulate water supply
- Control erosion and retain sediment
- Provide refuge and nursery habitat/ pollination services
- Decompose, treat, and re-use waste
- Provide human health and well-being benefits
- Provide food and non-food products
- Provide cultural, educational and aesthetic values
- Mitigate potential hazards

Paradigm Change

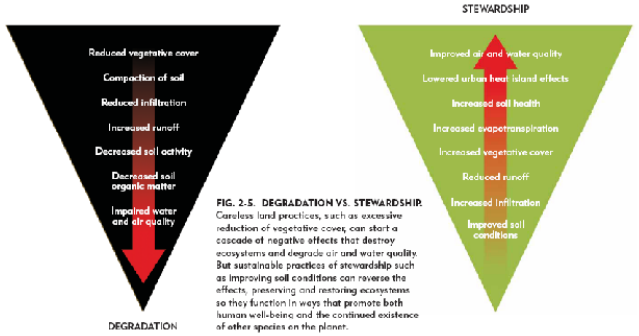


FIG. 2-5. DEGRADATION VS. STEWARDSHIP. Careless land practices, such as excessive reduction of vegetative cover, can start a cascade of negative effects that destroy ecosystems and degrade air and water quality. But sustainable practices of stewardship such as improving soil conditions can reverse the effects, preserving and restoring ecosystems so they function in ways that promote both human well-being and the continued existence of other species on the planet.

Conservation to Regeneration through Performative Landscapes

Project Applications

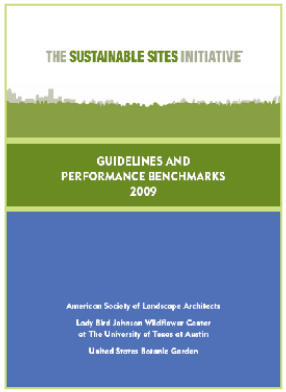
- parks, trails, campgrounds
- industrial and office parks
- govt. & medical complexes
- conservation easements
- botanical gardens
- university campuses
- residential sites
- streetscapes & plazas




Project Schedule

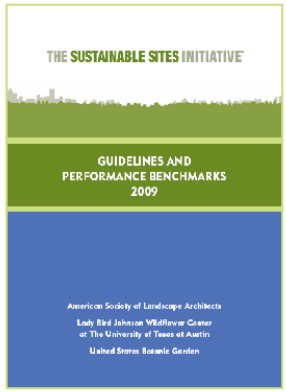
1. Guidelines and Performance Benchmarks 2009
   Released November 2009
2. Pilot Phase
   June 2010 – June 2012
3. Reference Guide
   Target publication: 2012
4. Open Enrollment
   2013

Credit Categories



- **Site Selection** — 21 poss. points
  Preserve existing resources and repair damaged systems
- **Pre-Design Assessment and Planning** — 4 poss. points
  Plan for sustainability from the onset of the project
- **Site Design – Water** — 44 poss. points
  Protect and restore site's processes and systems
- **Site Design – Soil and Vegetation** — 51 poss. points
  Protect and restore site's processes and systems
- **Site Design – Materials Selection** — 36 poss. points
  Reuse/recycle and support sustainable production practices
- **Site Design – Human Health and Well-Being** — 32 poss. points
  Build communities and a sense of stewardship
- **Construction** — 21 poss. points
  Minimize effects of construction-related activities
- **Operations and Maintenance** — 23 poss. points
  Maintain the site for long-term sustainability
- **Monitoring and Innovation** — 18 poss. points
  Reward exceptional performance

Rating System

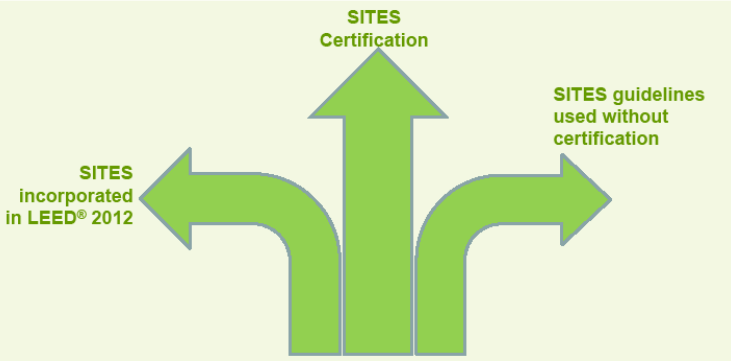


- **250 point scale**
- **Recognize % of attainment**
- **Multiple point levels for many credits**
- **4 levels of certification**
  Prerequisites plus:
  - ★ = 100 points (40%)
  - ★★ = 125 points (50%)
  - ★★★ = 150 points (60%)
  - ★★★★ = 200 points (80%)

Guidelines & Performance Benchmarks 2009

- **Credit Intent**
- **Requirements**
- **Submittal Documentation**
- **Potential Technologies and Strategies**
- **Links to other Credits**
- **Resources**

SITES Options



Goal: Widest Possible Use of SITES Guidelines & Performance Benchmarks


THE SUSTAINABLE SITES INITIATIVE™
For more information, please visit:
www.sustainablesites.org
or email
info@sustainablesites.org
AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS
Lady Bird Johnson Wildflower center
United States Botanic Garden
© 2010 Sustainable Sites Initiative

"The Science and Practice of Sustainable Sites"

Observations from Two Parks Pilot Projects

Bradner Gardens Park

Kirke Park

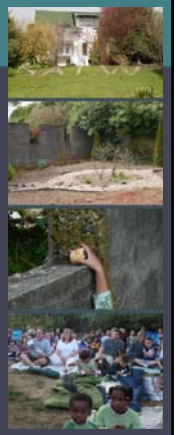
What to Expect

- Overview of each park project
- Discussion of Prerequisites
- Assessing the Credits
- Example Credit Documentation
- Take Aways / Learned Lessons
  - Project Definition
  - Credit "buckets" or types
  - System-wide implications

Bradner Gardens Park

Bradner Gardens Park

Kirke Park



20 September 2011

Kirke Park

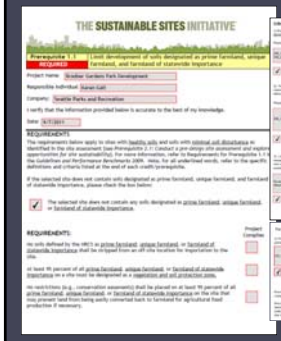
20 September 2011

The Prerequisites

- Many are relatively straight forward
  - 1.1 'limit development of farmland soils'
  - 1.3 preserve wetlands
  - 2.2 use an integrated site development process (involve owner, designer, community, maintenance)

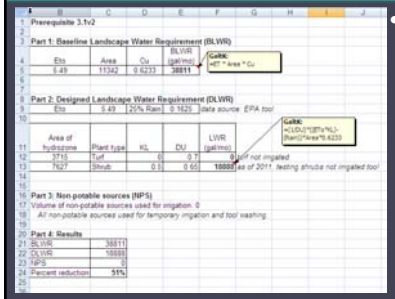
20 September 2011

Prereq 1.1 Example



20 September 2011

The Prerequisites



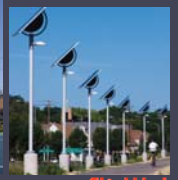
- Some require more thought and effort
  - 2.1 site assessment checklist
    - Format, nat'l ref. lists, potential suppliers research
  - 3.1 reduce potable water use for irrigation by 30%

The Prerequisites

- 4.3 soil management plan
  - Extent of soil testing, ripple effect to 8.1 maintenance plan
- 8.1 sustainable site maintenance plan
  - Specific format or 'alternative path', multi-party signatures, what about site specific vs. systemic decisions?

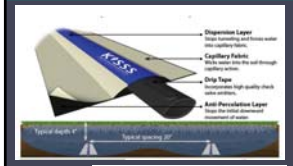
Assessing Credits

- ***Impossible*** because...
  - Site Selection / Features
    - Without a stream or wetland to protect or restore – can't go for 3.3 'protect or restore riparian, wetland'



- ***Easy*** because...
  - Standard Practice / Nature of Project
    - 6.6 Provide opportunities for outdoor physical activity
  - Buyable
    - "Sustainable" products tend to be more expensive (certified lumber, green energy)

Assessing Credits



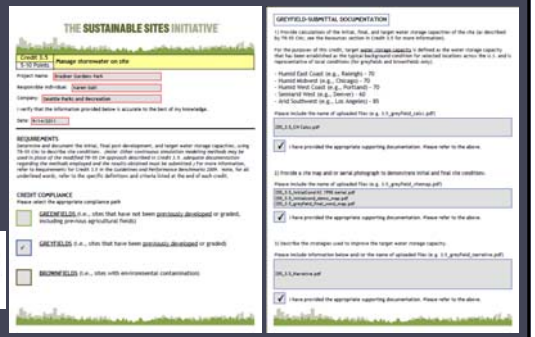
- ***Challenging*** because...
  - Program Impacts (Design)
    - Space trade-offs, experimentation
  - Institutional Practices
    - compost on site, recycle routes
  - Older Project / Site
    - Documentation difficult as time passes
  - Project Budgets
    - Cost of Achieving Credits
    - Cost of Documenting and/or Monitoring

Sample Credit 3.5 - Bradner

- 3.5 Manage stormwater on site
- Intent: replicate hydrologic condition based on historic, natural and undeveloped ecosystems of the region
- How it's evaluated: compare pre- and post- water storage capacities as described by TR-55 CNs

Sample Credit 3.5 - Bradner

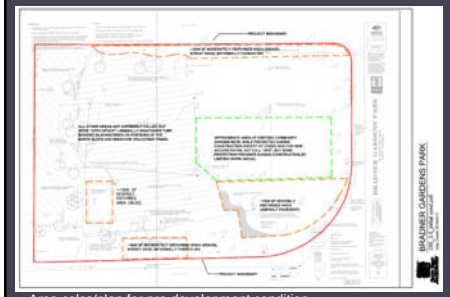
Submittal Forms



File structure
– make one!

Sample Credit 3.5 - Bradner

Plans/Maps



Area calcs/plan for pre-development condition

Pre-development documentation

Sample Credit 3.5 - Bradner

Post-development area take-offs

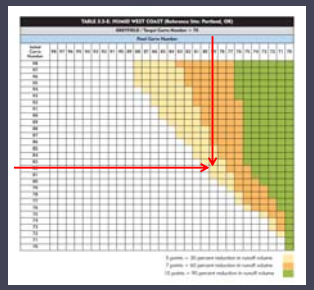
Calcs

Comparing the #s

Sample Credit 3.5 - Bradner

Credit narrative

Expected credit = 5 points



Sample Credit 3.5 - Bradner

Reflections

- For SITES submittal
  - Be organized, try to be concise, flexible w/resources
  - Project area: include building or not?
- SITES credit as a tool during design
  - Would be a nice way to evaluate impact of extent of paved area, for example
  - Relation to City of Seattle GSI (Green Stormwater Infrastructure)

Sample Credit 5.4 – Kirke Park

- 5.4 Reuse salvaged materials and plants
- Intent: reuse salvaged materials and appropriate plants to conserve resources and avoid sending useful materials to the landfill
- How it's evaluated: compare *replacement value* of salvaged materials to total material costs

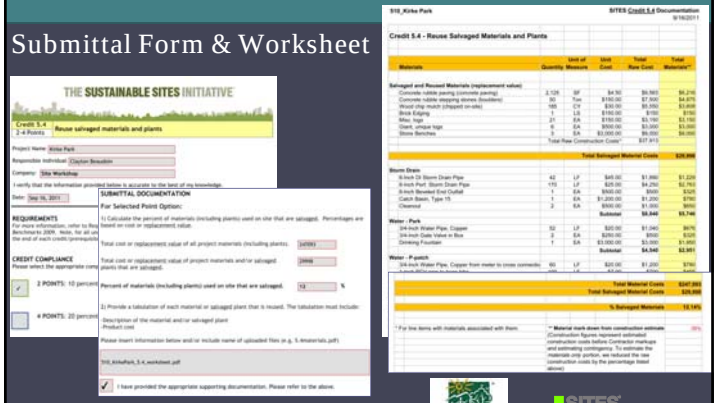
Sample Credit 5.4 – Kirke Park

Log and stump cast-offs | Donated "seconds" | On-site materials (brick, concrete)

Mulch from demo'd veg | Creative reuse

Sample Credit 5.4 – Kirke Park

Submittal Form & Worksheet



Sample Credit 5.4 – Kirke Park

Reflections

- A Good Reward: 10% requirement is achievable w/o doing backflips
- Cost Valuation: evaluating the cost of materials is not how SiteWorkshop typically estimates. Many other credits require it, could change the way we estimate construction projects.
- Materials Exchanges: not ready for prime time
  - http://www.greenguide.com/exchange/
  - http://your.kingcounty.gov/solidwaste/exchange/building.asp

Take Aways / Learned Lessons

- Project Definition: Site selection, boundaries, phasing, bid-alternates, etc define the SITES credit potential
- Credit "buckets:" impossible, easy and challenging
- System-wide Implications: sustainability choices affect hundreds of parks and staff people

Discuss