Version 2.2

January 2007

Convener:

Founding Sponsors:

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Version 2.2 is a major revision of the *Green Guide v2.1 Construction* Section and a maintenance release of the *Operations* section. Published in January 2007.

"The Green Guide for Health Care is a superb resource. It helps the leaders and managers of health care institutions "walk the talk," promoting the health of patients, visitors, employees, community members, and the global community, while operating economically and efficiently. I hope that every medical center, hospital, and clinic in the nation gets a copy of the Green Guide, takes its lessons to heart, and joins the growing movement toward healthier, more environmentally friendly environments in the health care sector."

Howard Frumkin, M.D., Dr.P.H.
Director, National Center for Environmental Health/Agency for
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January 2007

Objectives

Welcome to ***Green Guide for Health Care™***, the health care sector's first quantifiable sustainable design toolkit integrating enhanced environmental and health principles and practices into the planning, design, construction, operations and maintenance of their facilities. This *Guide* provides the health care sector with a voluntary, self-certifying metric toolkit of best practices that designers, owners, and operators can use to guide and evaluate their progress towards high performance healing environments.

Health care facilities present both a challenge and opportunity in the development and implementation of sustainable design, construction and operations practices. Issues such as 24/7 operations, energy and water use intensity, chemical use, infection control requirements and formidable regulatory requirements can pose significant obstacles to the implementation of currently accepted sustainability protocols. Furthermore, it is appropriate that guidelines customized for the health care sector reflect the collective fundamental mission to protect and enhance individual and community health, and that those guidelines acknowledge the intrinsic relationship between the built environment and ecological health. As health care institutions evolve a design language for high performance healing environments, they have the opportunity to highlight the associated health-based benefits. This in turn can inspire the broader adoption of health-based design principles in other building sectors.

This document is neither intended to establish regulatory requirements, nor to be viewed as a minimum standard for design, construction or operations. Rather it is designed to serve as a voluntary educational guide for early adopters of sustainable design, construction, and operations practices, to encourage continuous improvement in the health care sector, and to provide market signals to catalyze a richer palette of strategies for those who follow the early adopters. As the general level of green building practice rises, it is anticipated that the *Guide* will be updated to encourage continued leadership and higher levels of rigor associated with creating high performance healing environments.

Updates and Information

This document is available for download at **www.gghc.org**.

This is an evolving document that has been updated in response to new information and guidance gleaned from the Pilot program and from other evolving green building best practices. If you did not download this document from the *Green Guide* website, ***it is important that you register*** at **www.gghc.org** to ensure that you will be notified of updates as this document progresses.

Please contact **info@gghc.org** for further information about document use and opportunities to support it.

Using this Guide

Applicable Building Types

While an array of building types are represented in the health care sector, the *Green Guide for Health Care* is specifically customized for buildings that are predominately institutional occupancies as defined by the local building code, such as acute care hospitals, where regulatory requirements have created particular needs. Medical office buildings, clinics and other buildings where health care concerns are dominant can also use the *Green Guide*. Recognizing the full-range of construction, operations and maintenance activities associated with the health care sector, the *Green Guide* applies to new freestanding facilities, additions to existing facilities coupled with renovation, extensive rehabilitation/adaptive reuse projects, and existing facilities for which the *Operations* section can be used as a stand-alone best practices guide.

Points & Achievement Levels

The *Green Guide for Health Care* is a self-certifying, best practices toolkit; as such, it does not provide achievement level threshold rankings. The point system provides design and construction teams a way to baseline and benchmark their achievement and to support continuous improvement.

Existing facilities are encouraged to track their ongoing performance using the *Operations* section, while making a commitment to utilize the *Construction* section on future projects.

Construction projects are encouraged to identify the *Operations*-related credits that they intend to achieve and establish commitments to these O&M goals through policy setting. Note that construction projects are unable to attain all of the points in the *Operations* section, as some credits require a year's worth of data to achieve credit goals.

Integrating Operations

Operations and maintenance protocols are critical to enhancing the health and environmental profile of health care facilities. As a result, using better, more health-promoting practices will benefit existing facilities and should also be considered during the design of new projects. Acknowledging this relationship, the *Green Guide for Health Care* has developed specific credits related to operations and maintenance. These represent a critical component of a sustainable design, continuous improvement program. Given the critical relationship between operations, building program and design, design teams are strongly encouraged to collaborate with facility staff early in the design process to establish commitments to sustainable operations policies included in the *Operations* section, and evaluate the impact of these protocols, during programming and design to ensure their integration.

Relationship to LEED® Products

The *Green Guide for Health Care* is informed by a number of important guidance documents that have preceded it. See the Reference Documents section below for access to these key documents.

The *Green Guide's* organizational structure is borrowed by agreement from the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) Green Building Rating System. The *Green Guide* is not a LEED® Rating System nor a product of the U.S. Green Building Council. The LEED structure was adopted because it is a familiar and effective method used by a rapidly growing sector of the building design, construction, operations and maintenance industries.

For many credits, the *Green Guide* directly incorporates the language of a parallel LEED credit, referencing credits in the LEED systems for New Construction, Existing Buildings and Commercial Interiors. In some cases, existing LEED credits have been modified to respond to the unique needs and concerns of health care facilities. In others, new credits have been added to those in current LEED products. The *Green Guide's* Credit Summary identifies its relationship to LEED® credits.

Although the *Green Guide* is a voluntary, self-certifying best practices guide to support teams in incorporating sustainable elements into their projects, the *Green Guide* can be used to facilitate teams pursuing LEED certification:

(1) Consider pursuing all the "prerequisites" and as many "credits" as are aligned with the project's guiding principles and goals.

(2) Consider following the "Suggested Documentation" associated with each prerequisite and credit. For projects using the *Green Guide*, documentation is not required, but is helpful to baseline and benchmark project performance, and to support continuous improvement. Because the "Suggested Documentation" approximates documentation requirements for LEED certification, it is recommended for projects contemplating eventual certification under LEED for Healthcare, anticipated for release in late 2007.

Development History

The initiation of health care focused sustainable design tools began with the **Green Healthcare Construction Guidance Statement** published by the American Society for Healthcare Engineering (ASHE) in January 2002, representing the first sustainable design guidance document to emphasize a health-based approach.

The *Green Guide for Health Care* development initiative began in March 2003 with a professionally and geographically diverse group of green health care industry leaders convened as an independent Steering Committee to guide the document development (see the Steering Committee list). Working Groups for each section of the document drafted credit language that was reviewed and approved by the Steering Committee as a whole.

In December, 2003, Version 1.0 of the *Green Guidelines for Healthcare Construction* was released in draft form for public comment. More than 900 registrants downloaded the document during the public comment period from organizations representing a broad range of architectural, engineering, construction, health care, and manufacturing firms and industry associations. Between December 2003 and the close of the comment period on February 29, 2004, almost 1,200 public comments were received. A partial listing of those who submitted comments is included further in this Introduction. The Steering Committee reviewed all public comments prior to the drafting of Version 2.0.

In November 2004, Version 2.0 of the *Green Guide for Health Care* was released for general use in the Pilot phase. Version 2.1, released in September 2005, included a substantial update to the *Operations* section of the document and minor revisions to the *Construction* section, covering copy and editorial changes.

Green Guide for Health Care Pilot Program

The *Green Guide* Pilot program, launched in November 2004 with the release of Version 2.0, provided the opportunity for the *Green Guide* to collaborate with a cross-section of leading health care institutions in an active development process. The Pilot's internal list-serve, online project management tools, and personal contact with the Pilot Coordinator generated sustained communications between the Pilot projects and the *Green Guide*, resulting in several revised credits in the *Construction* section of *Green Guide for Health Care* Version 2.1, released in September 2005.

Over the course of two years, the *Green Guide* Pilot program generated a wide-ranging set of comments and suggestions to improve and enhance Version 2.2. Overall, the program encompassed 114 pilot projects representing 30 million square feet of construction in the U.S. and abroad – an increase of 45% over 2005. Pilot projects range in size, building type, building phase, and region, demonstrating the *Green Guide's* versatility as an effective tool for many building types and project phases.

The release of the *Green Guide* Version 2.2 marks a transition from the Pilot program into a full-fledged registration and self-certification program. In this context, the *Green Guide* will continue to work closely with project teams to gather case studies and to promote research into innovative design strategies and technologies.

Decision Making Process

The *Green Guide for Health Care* committee process is structured to include representation from a wide range of stakeholders and interests to ensure consistency and rigor in the document's development. Steering Committee membership, however, precludes organizations with direct financial interests in the products or certification services addressed by the document. Furthermore, this document is intended to be a best practices guide, not a basis for industry code or regulatory standard. For these reasons, the document is not intended to meet the legal definition of an industry "consensus based" standard.

Levels of Support

The *Green Guide for Health Care* welcomes support of its continued efforts through several options: *Sponsors*, *Partners* and *Endorsers*. Sponsors, Partners and Endorsers affirm the intent and principles of the document (see the ASHE Green Healthcare Construction Guidance Statement - Statement of Principles) while not expressly endorsing every strategy or credit.

Sponsors provide a $10,000 minimum donation for a one-year sponsorship. Sponsors' logos are displayed on the *Green Guide* website home page, on the title page of the *Green Guide*, and in the Supporters section of the document and the *Green Guide* website. The Supporters' section listing includes a brief one sentence description of the Sponsor.

Partners provide a $5,000 minimum donation or equivalent in-kind contribution for a one-year partnership. In-kind contributions include organizational support for an active Steering Committee member or other significant contributor to the *Guide*. Partners are listed in the Supporters section of the document and the website and may, at their option, have their logo displayed on the Partners page of the *Green Guide* website.

Sponsor and Partner status is open to the following organization types, subject to Steering Committee approval:

- Non-Profit Organizations
- Professional Associations
- Private Foundations
- Government Agencies
- Health Care Organizations/ Hospital Systems
- Design and Construction Firms
- All other organizations except manufacturers and their trade associations and product certifiers

and is subject to approval by the co-coordinators of the *Green Guide*.

To avoid potential conflicts of interest, the *Green Guide* Steering Committee has determined that manufacturers, their trade associations and product certifiers are ineligible for Sponsor or Partner status. All organizations and companies are welcome to support the *Green Guide* as Endorsers.

Endorsers agree to support the principles of the *Green Guide* and indicate their intent to use and promote the *Guide*. No direct financial or in-kind commitment is required to sign on as an Endorser. Endorsers are listed in the Supporters section of the document and on the *Green Guide* website, which will be periodically updated.

Donations to support the work of the *Green Guide* are tax deductible to the fullest extent of the law.

Contact **info@gghc.org** for further information about opportunities to support the *Green Guide for Health Care*.

Product Endorsement

The *Green Guide for Health Care* does not endorse products nor does it recommend for or against the purchase of specific products. In some instances, the *Green Guide* references product types that may be useful to address credit goals, considering price competitiveness, regulatory requirements, performance standards, and environmental/health impacts.

Green Guide for Health Care Supporters

Convener

The *Green Guide for Health Care* is convened by the **Center for Maximum Potential Building Systems**, a non-profit design firm established in 1975, engaged in life cycle design to foster ecological balance. The Center actively pursues interdisciplinary collaborations with a common vision of healthful environments, economic prosperity, and social equity.

Founding Sponsors

Hospitals for a Healthy Environment (**H2E)** - the joint pollution prevention project of the **American Hospital Association**, the **U.S. Environmental Protection Agency**, **Health Care Without Harm**, and the **American Nurses Association**.

Merck Family Fund - A private foundation that seeks to restore and protect the natural environment and ensure a healthy planet for generations to come while strengthening the social fabric and the physical landscape of the urban community.

New York State Energy Research & Development Authority (NYSERDA) – A public benefit corporation formed to use innovation and technology to solve some of New York's most difficult energy and environmental problems in ways that improve the State's economy.

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Pacific Gas and Electric Company (PG&E) – delivers electric service to approximately 5 million customers and natural gas service to nearly 4.1 million customers in Northern and Central California.

Southern California Edison -- an Edison International (NYSE:EIX) company, is one of the nation's largest electric utilities, with 4.7 million customer accounts in a 50,000-square-mile service area within central, coastal and Southern California.

Founding Partners

The following organizations have provided critical direct or in-kind support to the development of the *Green Guide*:

American Society for Healthcare Engineering (ASHE)

American Society for Healthcare Environmental Services (ASHES)

American Society of Landscape Architects (ASLA)

Andropogon Associates Ltd.

Center for Maximum Potential Building Systems

Chong Partners Architecture

CJL Engineering

Consorta

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Guttmann & Blaevoet

HDR Architecture

Health Care Without Harm

Healthy Building Network

HOK Planning Group

Institute for a Sustainable Future

Kaiser Permanente

Karlsberger Companies

Kirksey

Massachusetts Technology Collaborative

Mazzetti & Associates

Stantec Architecture

TLC Engineering

Tufts - New England Medical Center

Perkins + Will

Progressive AE

Turner Construction Company

U.S. Environmental Protection Agency's ENERGY STAR® program

WHR Architects

Endorsers

The following organizations support the *Green Guide's* principles and indicate their intent to use and promote it:

Affiliated Engineers, Inc.

Ambient Air Technologies, LLC

Amtico International

Anshen + Allen, Architects

Art Plumbing Company

BBH Design

Balzhiser & Hubbard Engineers

Boulder Associates

Carnegie

CDi Engineers

Center for Environmental Health

Coastwide Laboratories

Construction Specialties

EnviroGLAS Products Inc.

Environmental Dynamics

Eppstein Uhen Architects

GREENGUARD® Environmental Institute

The Green House® Replication Initiative

Houston Advanced Research Center

InPro Corporation

Integrated Architecture

Just Manufacturing Company

Legrand Companies: Ortronics/Legrand, Pass & Seymour/Legrand, Watt Stopper/Legrand, Wiremold/Legrand

Lees Carpets

LHB, Inc.

Lionakis Beaumont Design Group

MechoShade

Melink Corporation

Milliken Carpets

Nalco Company

National Pharmaceutical Returns, Inc.

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Oregon Center for Environmental Health

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Public Comment Period

During the Pubic Comment period from December 1, 2003 to February 29, 2004, over 900 people downloaded the *Green Guide.* More than 70 people submitted comments totaling almost 1200 entries. The comments received were broad reaching and constructive, ranging from probing critiques to enthusiastic endorsement. The Steering Committee worked diligently to address the comments yielding a markedly improved Version 2.0 document.

The following is a partial list of commenters who granted permission to publish their names. We list these individuals to acknowledge their contribution of ideas and efforts to the process. Listing here does not imply any endorsement by these individuals or their employers of the *Green Guide for Health Care.*

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Reference Documents

The documents listed below have informed the overall development and content of the *Green Guide for Health Care*, though are not specifically referenced in the **Resources** sections associated with individual credits:

- **Green Healthcare Construction Guidance Statement**

  American Society for Healthcare Engineering
  http://www.ashe.org/ashe/products/pdfs/ashe_guidance_sustainconst_rev2_0410.pdf

- **LEED® (Leadership in Energy and Environmental Design) for New Construction**

  Green Building Rating System for New Construction
  Version 2.1 and 2.2 by the U.S. Green Building Council (USGBC)
  http://www.usgbc.org/leed

- **LEED® for Existing Buildings**

  Version 2 by the U.S. Green Building Council
  http://www.usgbc.org/leed

- **LEED® for Commercial Interiors**

  Version 2.0 by the U.S. Green Building Council
  http://www.usgbc.org/leed

- **Labs 21 Environmental Performance Criteria (EPC)**

  Laboratories for the 21st Century, U.S. Environmental Protection Agency
  http://www.labs21century.gov/

- **Green Star Green Building Rating System**

  Green Building Council of Australia
  http://www.gbcaus.org/greenstar

- **High Performance Building Guidelines**

  New York City Department of Design and Construction, Office of Sustainable Design
  http://www.ci.nyc.ny.us/html/ddc/html/ddcgreen/

- **2003 Savings By Design Healthcare Modeling Procedures**

  Pacific Gas and Electric Company
  http://www.gghc.org/Documents/PGEModProc.pdf

- **Greener Hospitals: Improving Environmental Performance**

  Edited by: Environment Science Center, with support of Bristol-Myers Squibb
  http://www.bms.com/static/ehs/sideba/data/greenh.pdf

Green Healthcare Construction Guidance Statement (2001)

Statement of Principles

The construction and use of buildings in the U.S. consumes 3 billion tons of raw materials annually (40% of raw stone, gravel, sand, and steel, 25% of virgin wood, 40% of energy resources, 75% of PVC, 17% of freshwater flows) and generates significant waste (25-40% of municipal solid waste from construction and demolition alone), 50% of CFCs, 30% of CO2 production, and substantial toxic emissions.

Given this, the opportunities are significant to improve environmental quality through green planning, design, construction and operations and maintenance practices. Improving the environment through green construction practices is consistent with the American Hospital Association's recent voluntary agreement with the United States Environmental Protection Agency to reduce waste volume and toxicity.

Building design and construction practice can be shaped to protect health at three scales:

1) Protecting the immediate health of building occupants

The health of patients, staff, and visitors can be profoundly affected by the quality of the indoor air which in turn is dependent upon physical and mechanical design (such as ventilation and location of wastes and toxics), the choice of building materials, the management of construction emissions, and building operations and maintenance. Additionally, access to daylighting has been found to favorably affect staff productivity and patient outcomes.

2) Protecting the health of the surrounding community

Local air and water quality is also significantly affected by building design choices. Off-gassing building materials and finishes, construction equipment and HVAC systems directly emit VOCs, particulates and other materials that can result in the formation of ground level ozone (smog), and cause allergic attacks, respiratory problems and other illnesses. Land use and transportation planning, landscape and water management on the grounds and water conservation efforts within the building will influence the amount of toxic emissions released to the water and air throughout the life of the building.

3) Protecting the health of the global community and natural resources

The health impact of a building stretches far beyond its immediate community. The production of building materials can result in the release of persistent bioaccumulative toxic compounds, carcinogens, endocrine disruptors and other toxic substances. These compounds threaten communities where the materials are manufactured, and, because of the long life of some of these compounds, can risk the health of communities and ecosystems far from their release.

Climate change resulting from burning fossil fuels is expected to increase the spread of disease vectors far from their current regions and destabilize ecosystems, threatening worldwide nutrition. Loss of rainforests from unsustainable forestry can result in the loss of medicines and important genetic information that could help fight disease. Moreover, release of CFCs and HCFCs damages the stratospheric ozone layer, allowing increased levels of ultraviolet rays on Earth resulting in heightened potential for skin cancer.

The Importance of Prevention

Prevention is a fundamental principle of health care and public health. Indeed, to prevent disease is preferable to treating disease after it has occurred. In the face of uncertainty, precautionary action is appropriate to prevent harm. This public health approach makes sense both in the clinical setting and in responses to environmental and public health hazards. Similarly, a precautionary and preventive approach is an appropriate basis for decisions regarding material selection, design features, mechanical systems, infrastructure, and operations and maintenance practices.

Construction

Y - (yes) you are moderately confident that you can attain the credit.
? - (maybe) it will be challenging for this project andyou are uncertain of your ability to attain it but you wil try.
N - (no) while technically possible, you currently don't expect to try to achieve this credit in this project due to cost or other tradeoffs with project goals.
NA - (not applicable) it is inherently physically unattainable for this particular project regardless of effort due to physical conditions or project scope.

Note: an Excel spreadsheet of this checklist is available for download at www.gghc.org

Integrated Design

Y				Prereq 1	Integrated Design Process	Required
Y				Prereq 2	Health Mission Statement & Program	Required

Sustainable Sites — 21 Points

Y				Prereq 1	Construction Activity Pollution Prevention	Required
Y	?	N	NA	Credit 1	Site Selection	1
Y	?	N	NA	Credit 2	Development Density & Community Connectivity	1
Y	?	N	NA	Credit 3.1	Brownfield Redevelopment: Basic Remediation Level	1
Y	?	N	NA	Credit 3.2	Brownfield Redevelopment: Residential Remediation Level	1
Y	?	N	NA	Credit 3.3	Brownfield Redevelopment: Minimizing Future Hazards	1
Y	?	N	NA	Credit 4.1	Alternative Transportation: Public Transportation Access	1
Y	?	N	NA	Credit 4.2	Alternative Transportation: Bicycle Storage & Changing Rooms	1
Y	?	N	NA	Credit 4.3	Alternative Transportation: Low-Emitting & Fuel Efficient Vehicles	1
Y	?	N	NA	Credit 4.4	Alternative Transportation: Parking Capacity	1
Y	?	N	NA	Credit 5.1	Site Development: Protect or Restore Open Space or Habitat	1
Y	?	N	NA	Credit 5.2	Site Development: Reduce Development Footprint	1
Y	?	N	NA	Credit 5.3	Site Development: Structured Parking	1
Y	?	N	NA	Credit 6.1	Stormwater Design: Quantity Control	1
Y	?	N	NA	Credit 6.2	Stormwater Design: Quality Control	1
Y	?	N	NA	Credit 7.1	Heat Island Effect: Non-Roof	1
Y	?	N	NA	Credit 7.2	Heat Island Effect: Roof	1
Y	?	N	NA	Credit 8	Light Pollution Reduction	1
Y	?	N	NA	Credit 9.1	Connection to the Natural World: Outdoor Places of Respite	1
Y	?	N	NA	Credit 9.2	Connection to the Natural World: Exterior Access for Patients	1
Y	?	N	NA	Credit 10.1	Community Contaminant Prevention: Airborne Releases	1
Y	?	N	NA	Credit 10.2	Community Contaminant Prevention: Leaks & Spills	1

Water Efficiency — 6 Points

Y				Prereq 1	Potable Water Use for Medical Equipment Cooling	Required
Y	?	N	NA	Credit 1	Water Efficient Landscaping: No Potable Water Use or No Irrigation	1
Y	?	N	NA	Credit 2.1	Potable Water Use Reduction: Measurement & Verification	1
Y	?	N	NA	Credit 2.2	Potable Water Use Reduction: Domestic Water	1
Y	?	N	NA	Credit 2.3	Potable Water Use Reduction: Domestic Water	1
Y	?	N	NA	Credit 2.4	Potable Water Use Reduction: Process Water & Building System Equipment	1
Y	?	N	NA	Credit 2.5	Potable Water Use Reduction: Process Water & Building System Equipment	1

Energy & Atmosphere — 21 Points

Y				Prereq 1	Fundamental Commissioning of the Building Energy Systems	Required
Y				Prereq 2	Minimum Energy Performance	Required
Y				Prereq 3	Fundamental Refrigerant Management	Required
Y	?	N	NA	Credit 1.1	Optimize Energy Performance: 3.5%/10.5%	1
Y	?	N	NA	Credit 1.2	Optimize Energy Performance: 7%/14%	1
Y	?	N	NA	Credit 1.3	Optimize Energy Performance: 10.5%/17.5%	1
Y	?	N	NA	Credit 1.4	Optimize Energy Performance: 14%/21%	1
Y	?	N	NA	Credit 1.5	Optimize Energy Performance: 17.5%/24.5%	1
Y	?	N	NA	Credit 1.6	Optimize Energy Performance: 21%/28%	1
Y	?	N	NA	Credit 1.7	Optimize Energy Performance: 24.5%/31.5%	1
Y	?	N	NA	Credit 1.8	Optimize Energy Performance: 28%/35%	1
Y	?	N	NA	Credit 1.9	Optimize Energy Performance: 31.5%/38.5%	1
Y	?	N	NA	Credit 1.10	Optimize Energy Performance: 35%/42%	1
Y	?	N	NA	Credit 2.1	On-Site Renewable Energy: 0.05 watts of renewable generating capacity / sf of building area	1
Y	?	N	NA	Credit 2.2	On-Site Renewable Energy: 0.10 watts of renewable generating capacity / sf of building area	1
Y	?	N	NA	Credit 2.3	On-Site Renewable Energy: 0.15 watts of renewable generating capacity / sf of building area	1
Y	?	N	NA	Credit 3	Enhanced Commissioning	1
Y	?	N	NA	Credit 4	Enhanced Refrigerant Management	1
Y	?	N	NA	Credit 5	Measurement & Verification	1
Y	?	N	NA	Credit 6.1	Green Power: 20%	1
Y	?	N	NA	Credit 6.2	Green Power: 50%	1
Y	?	N	NA	Credit 6.3	Green Power: 80%	1
Y	?	N	NA	Credit 6.4	Green Power: 100%	1
Y	?	N	NA	Credit 7	Equipment Efficiency	1

Materials & Resources — 21 Points

Y				Prereq 1	Storage & Collection of Recyclables	Required
Y				Prereq 2	Mercury Elimination	Required
Y	?	N	NA	Credit 1.1	Building Reuse: Maintain 40% of Existing Walls, Floors & Roof	1
Y	?	N	NA	Credit 1.2	Building Reuse: Maintain 80% of Existing Walls, Floors & Roof	1
Y	?	N	NA	Credit 1.3	Building Reuse: Maintain 50% of Interior Non-Structural Elements	1
Y	?	N	NA	Credit 2.1	Construction Waste Management: Divert 50% from Disposal	1
Y	?	N	NA	Credit 2.2	Construction Waste Management: Divert 75% from Disposal	1
Y	?	N	NA	Credit 2.3	Construction Practices: Site & Materials Management	1
Y	?	N	NA	Credit 2.4	Construction Practices: Utility & Emissions Control	1
Y	?	N	NA	Credit 3.1	Sustainably Sourced Materials: 10%	1
Y	?	N	NA	Credit 3.2	Sustainably Sourced Materials: 20%	1
Y	?	N	NA	Credit 3.3	Sustainably Sourced Materials: 30%	1
Y	?	N	NA	Credit 3.4	Sustainably Sourced Materials: 40%	1
Y	?	N	NA	Credit 3.5	Sustainably Sourced Materials: 50%	1
Y	?	N	NA	Credit 4.1	PBT Elimination: Dioxins	1
Y	?	N	NA	Credit 4.2	PBT Elimination: Mercury	1
Y	?	N	NA	Credit 4.3	PBT Elimination: Lead & Cadmium	1
Y	?	N	NA	Credit 5.1	Furniture & Medical Furnishings: Resource Reuse	1
Y	?	N	NA	Credit 5.2	Furniture & Medical Furnishings: Materials	1
Y	?	N	NA	Credit 5.3	Furniture & Medical Furnishings: Manufacturing, Transportation & Recycling	1
Y	?	N	NA	Credit 6	Copper Reduction	1
Y	?	N	NA	Credit 7.1	Resource Use: Design for Flexibility	1
Y	?	N	NA	Credit 7.2	Resource Use: Design for Durability	1

Environmental Quality 24 Points

Y				Prereq 1	Minimum IAQ Performance	Required
Y				Prereq 2	Environmental Tobacco Smoke Control (ETS)	Required
Y				Prereq 3	Hazardous Material Removal or Encapsulation	Required
Y	?	N	NA	Credit 1	Outdoor Air Delivery Monitoring	1
Y	?	N	NA	Credit 2	Natural Ventilation	1
Y	?	N	NA	Credit 3.1	Construction EQ Management Plan: During Construction	1
Y	?	N	NA	Credit 3.2	Construction EQ Management Plan: Before Occupancy	1
Y	?	N	NA	Credit 4.1	Low-Emitting Materials: Interior Adhesives & Sealants	1
Y	?	N	NA	Credit 4.2	Low-Emitting Materials: Wall & Ceiling Finishes	1
Y	?	N	NA	Credit 4.3	Low-Emitting Materials: Flooring Systems	1
Y	?	N	NA	Credit 4.4	Low-Emitting Materials: Composite Wood & Insulation	1
Y	?	N	NA	Credit 4.5	Low-Emitting Materials: Furniture & Medical Furnishings	1
Y	?	N	NA	Credit 4.6	Low-Emitting Materials: Exterior Applied Products	1
Y	?	N	NA	Credit 5.1	Chemical & Pollutant Source Control: Outdoor	1
Y	?	N	NA	Credit 5.2	Chemical & Pollutant Source Control: Indoor	1
Y	?	N	NA	Credit 6.1	Controllability of Systems: Lighting	1
Y	?	N	NA	Credit 6.2	Controllability of Systems: Thermal Comfort	1
Y	?	N	NA	Credit 7	Thermal Comfort	1
Y	?	N	NA	Credit 8.1a	Daylight & Views: Daylight for Occupied Spaces: 6% above ‘square-root base’ daylit area	1
Y	?	N	NA	Credit 8.1b	Daylight & Views: Daylight for Occupied Spaces: 12% above ‘square-root base’ daylit area	1
Y	?	N	NA	Credit 8.1c	Daylight & Views: Daylight for Occupied Spaces: 18% above ‘square-root base’ daylit area	1
Y	?	N	NA	Credit 8.1d	Daylight & Views: Daylight for Occupied Spaces: 75% of regularly occupied spaces	1
Y	?	N	NA	Credit 8.1e	Daylight & Views: Daylight for Occupied Spaces: 90% of regularly occupied spaces	1
Y	?	N	NA	Credit 8.2	Daylight & Views: Connection to the Natural World: Indoor Places of Respite	1
Y	?	N	NA	Credit 8.3	Daylight & Views: Lighting & Circadian Rhythm	1
Y	?	N	NA	Credit 9.1	Acoustic Environment: Exterior Noise, Acoustical Finishes, & Room Noise Levels	1
Y	?	N	NA	Credit 9.2	Acoustic Environment: Sound Isolation, Paging & Call System, & Building Vibration	1

Innovation & Design Process 4 Points

Y	?	N	Credit 1.1	Innovation in Design:	1
Y	?	N	Credit 1.2	Innovation in Design	1
Y	?	N	Credit 1.3	Innovation in Design	1
Y	?	N	Credit 2	Documenting Health, Quality of Care & Productivity Performance Impacts: Research Initiatives	1

Construction Project Total 97 Points

Operations

Integrated Operations — 5 Points

Y				Prereq 1	Ongoing Self-Certification	Required
Y				Prereq 2	Integrated Operations & Maintenance Process	Required
Y				Prereq 3	Environmental Tobacco Smoke Control	Required
Y				Prereq 4	Outside Air Introduction & Exhaust Systems	Required
Y	?	N	NA	Credit 1.1	Building Operations & Maintenance: Staff Education	1
Y	?	N	NA	Credit 1.2	Building Operations & Maintenance: Building Systems Maintenance	1
Y	?	N	NA	Credit 1.3	Building Operations & Maintenance: Building Systems Monitoring	1
Y	?	N	NA	Credit 2.1	IAQ Management: Maintaining Indoor Air Quality	1
Y	?	N	NA	Credit 2.2	IAQ Management: Reduce Particulates in Air Distribution	1

Transportation Operations — 3 Points

Y	?	N	NA	Credit 1.1	Alternative Transportation: Public Transportation Access	1
Y	?	N	NA	Credit 1.2	Alternative Transportation: Low Emitting & Fuel Efficient Vehicles	1
Y	?	N	NA	Credit 1.3	Alternative Transportation: Carpool Programs	1

Energy Efficiency — 18 Points

Y				Prereq 1	Existing Building Commissioning	Required
Y				Prereq 2	Minimum Building Energy Performance	Required
Y				Prereq 3	Ozone Protection	Required
Y	?	N	NA	Credit 1.1	Optimize Energy Performance: Energy Star score of 63	1
Y	?	N	NA	Credit 1.2	Optimize Energy Performance: Energy Star score of 67	1
Y	?	N	NA	Credit 1.3	Optimize Energy Performance: Energy Star score of 71	1
Y	?	N	NA	Credit 1.4	Optimize Energy Performance: Energy Star score of 75	1
Y	?	N	NA	Credit 1.5	Optimize Energy Performance: Energy Star score of 79	1
Y	?	N	NA	Credit 1.6	Optimize Energy Performance: Energy Star score of 83	1
Y	?	N	NA	Credit 1.7	Optimize Energy Performance: Energy Star score of 87	1
Y	?	N	NA	Credit 1.8	Optimize Energy Performance: Energy Star score of 91	1
Y	?	N	NA	Credit 1.9	Optimize Energy Performance: Energy Star score of 95	1
Y	?	N	NA	Credit 1.10	Optimize Energy Performance: Energy Star score of 99	1
Y	?	N	NA	Credit 2.1	On-Site & Off-Site Renewable Energy: 1% on or 5% off	1
Y	?	N	NA	Credit 2.2	On-Site & Off-Site Renewable Energy: 2% on or 10% off	1
Y	?	N	NA	Credit 2.3	On-Site & Off-Site Renewable Energy: 5% on or 25% off	1
Y	?	N	NA	Credit 2.4	On-Site & Off-Site Renewable Energy: 10% on or 50% off	1
Y	?	N	NA	Credit 3	Energy Efficient Equipment	1
Y	?	N	NA	Credit 4	Refrigerant Selection	1
Y	?	N	NA	Credit 5.1	Performance Measurement: Enhanced Metering	1
Y	?	N	NA	Credit 5.2	Performance Measurement: Emission Reduction Reporting	1

Water Conservation — 8 Points

Y				Prereq 1	Minimum Water Efficiency	Required
Y	?	N	NA	Credit 1.1	Water Efficient Landscaping: Reduce potable water use by 50%	1
Y	?	N	NA	Credit 1.2	Water Efficient Landscaping: Eliminate potable water use	1
Y	?	N	NA	Credit 2.1	Building Water Use Reduction: Reduce 10%	1
Y	?	N	NA	Credit 2.2	Building Water Use Reduction: Reduce 20%	1
Y	?	N	NA	Credit 2.3	Building Water Use Reduction: Reduce 30%	1
Y	?	N	NA	Credit 2.4	Building Water Use Reduction: Reduce 40%	1
Y	?	N	NA	Credit 2.5	Building Water Use Reduction: Reduce 50%	1
Y	?	N	NA	Credit 3	Performance Measurement: Enhanced Metering	1

Chemical Management 5 Points

Y				Prereq 1	Polychlorinated Biphenyl (PCB) Removal	Required
Y	?	N	NA	Credit 1.1	Community Contaminant Prevention: Airborne Releases	1
Y	?	N	NA	Credit 1.2	Community Contaminant Prevention: Leaks & Spills	1
Y	?	N	NA	Credit 2.1	Indoor Pollutant Source Control & Other Occupational Exposures: Chemical Management & Minimization	1
Y	?	N	NA	Credit 2.2	Indoor Pollutant Source Control & Other Occupational Exposures: High Hazard Chemicals	1
Y	?	N	NA	Credit 3	Chemical Discharge: Pharmaceutical Management & Disposal	1

Waste Management 6 Points

Y				Prereq 1	Waste Stream Audit	Required
Y	?	N	NA	Credit 1.1	Total Waste Reduction: 15%	1
Y	?	N	NA	Credit 1.2	Total Waste Reduction: 25%	1
Y	?	N	NA	Credit 1.3	Total Waste Reduction: 35%	1
Y	?	N	NA	Credit 2.1	Regulated Medical Waste Reduction: <10%	1
Y	?	N	NA	Credit 2.2	Regulated Medical Waste Reduction: Minimize incineration	1
Y	?	N	NA	Credit 3	Food Waste Reduction	1

Environmental Services 9 Points

Y	?	N	NA	Credit 1.1	Outdoor Grounds & Building Exterior Management : Implement 4 strategies	1
Y	?	N	NA	Credit 1.2	Outdoor Grounds & Building Exterior Management : Implement 8 strategies	1
Y	?	N	NA	Credit 2	Indoor Integrated Pest Management	2
Y	?	N	NA	Credit 3	Environmentally Preferable Cleaning Policy	1
Y	?	N	NA	Credit 4.1	Sustainable Cleaning Products & Materials: 30% of annual purchases	1
Y	?	N	NA	Credit 4.2	Sustainable Cleaning Products & Materials: 60% of annual purchases	1
Y	?	N	NA	Credit 4.3	Sustainable Cleaning Products & Materials: 90% of annual purchases	1
Y	?	N	NA	Credit 5	Environmentally Preferable Janitorial Equipment	1

Environmentally Preferable Purchasing 11 Points

Y	?	N	NA	Credit 1.1	Food: Organic or Sustainable	1
Y	?	N	NA	Credit 1.2	Food: Antibiotics	1
Y	?	N	NA	Credit 1.3	Food: Local Production / Food Security	1
Y	?	N	NA	Credit 2	Janitorial Paper & Other Disposable Products	1
Y	?	N	NA	Credit 3	Electronics Purchasing & End of Life Management	1
Y	?	N	NA	Credit 4.1	Toxic Reduction: Mercury	1
Y	?	N	NA	Credit 4.2	Toxic Reduction: DEHP	1
Y	?	N	NA	Credit 4.3	Toxic Reduction: Natural Rubber Latex	1
Y	?	N	NA	Credit 5	Furniture & Medical Furnishings	1
Y	?	N	NA	Credit 6.1	IAQ Compliant Products: 45% of annual purchases	1
Y	?	N	NA	Credit 6.2	IAQ Compliant Products: 90% of annual purchases	1

Innovation in Operation — 7 Points

Y	?	N	Credit 1.1	Innovation in Operations	1
Y	?	N	Credit 1.2	Innovation in Operations	1
Y	?	N	Credit 1.3	Innovation in Operations	1
Y	?	N	Credit 1.4	Innovation in Operations	1
Y	?	N	Credit 2	Documenting Sustainable Operations: Business Case Impacts	1
Y	?	N	Credit 3.1	Documenting Productivity Impacts: Absenteeism & Health Care Cost Impacts	1
Y	?	N	Credit 3.2	Documenting Productivity Impacts: Research Initiatives	1

Operations Project Total — 72 Points

Key
Y - (yes) you are moderately confident that you can attain the credit.
? - (maybe) it will be challenging for this project andyou are uncertain of your ability to attain it but you wil try.
N - (no) while technically possible, you currently don't expect to try to achieve this credit in this project due to cost or other tradeoffs with project goals.
NA - (not applicable) it is inherently physically unattainable for this particular project regardless of effort due to physical conditions or project scope.

Examples would include: Sustainable Sites Credits 3.1-3.3 (Brownfield Redevelopment) for a project not on a brownfield site, Materials & Resources Credits 1.1-1.3 (Building Reuse) if no portions of an existing building are part of the project, Environmental Quality Credit 8.1d-8.1e (Daylight & Views, Inpatient) if there are no facilities for inpatients, and Sustainable Sites Credit 7.1-7.2 (Heat Island Effect) if the scope of the project is only interior renovation.

Credit Summary

This section summarizes the intent and goals of credits in the *Construction* and *Operations* sections.

The Source column indicates the relationship of the base credit language to the LEED® system:

LEED = credit language is as per LEED for New Construction® Version 2.2 or LEED for Existing Buildings®
Mod = credit language is modified from LEED by the GGHC Steering Committee**
New = credit is new to the *Green Guide for Health Care*, not in LEED

Both the *Green Guide Construction* and *Operations* sections combine some strategies found in LEED products with new credits. Many of the borrowed credits have been modified by the *Green Guide* Steering Committee, and fulfillment of the modified credits may or may not meet the requirements of LEED. The user must review the appropriate LEED documents to determine potential LEED status of a project.

The *Construction* section borrows heavily from LEED for New Construction Version 2.2 and maintains the same organizing structure and numbering.

The *Operations* section borrows a number of strategies found in LEED products – both LEED for Existing Buildings and LEED for New Construction - as well as in ISO 14001 Certification standards and some strategies that are new to the *Green Guide*. Because the *Green Guide Operations* section structure does not follow the LEED category structure, the user is advised to carefully review each document for corresponding credit language.

Construction

Integrated Design

Title	*Intent*	*Credit Goals*	*Source*
ID Prereq 1 Integrated Design Process	Establish and implement a multi-stakeholder collaborative goal setting and design process.	Use cross discipline design and decisionmaking starting in the programming and pre-design phase of the project and continuing throughout construction to optimize achievement of sustainable design objectives.	New
ID Prereq 2 Health Mission Statement & Program	Establish human health as a fundamental evaluative criterion for building design, construction, and operational strategies.	Incorporate a health mission statement in the project's design intent document that includes goals to safeguard the health of building occupants, the local community, and the global environment while creating a high performance healing environment for the building's patients, caregivers, and staff. Include consideration of "triple bottom line" values - economic, environmental, and social.	New

Sustainable Sites

Title	*Intent*	*Credit Goals*	*Source*
SS Prereq 1 Construction Activity Pollution Prevention	Reduce pollution from construction activities by controlling soil erosion, waterway sedimentation and airborne dust generation.	Create and implement an Erosion and Sedimentation Control (ESC) Plan for all construction activities associated with the project that conforms to the erosion and sedimentation requirements of the 2003 EPA Construction General Permit OR local erosion and sedimentation control standards and codes, whichever is more stringent. Prepare a Site Access and Utilization Plan to minimize site disruption associated with the project's construction phase.	Mod
SS 1 Site Selection	Avoid development of inappropriate sites and reduce the environmental impact from the location of a building on a site.	Do not develop buildings, hardscape, roads or parking areas on portions of sites that meet any one of the following criteria: prime farmland; land whose elevation is lower than 5 feet above the elevation of the 100-year flood, land that is specifically identified as habitat for any species on the Federal or State threatened or endangered lists; land within 100 feet of any wetlands as defined by United States Code of Federal Regulations 40 CFR, Parts 230-233 and Part 22 and isolated wetlands or areas of special concern identified by state or local rule; previously undeveloped land that is within 50 feet of a water body; or, land which prior to acquisition for the project was public parkland, unless land of equal or greater value as parkland is accepted in trade by the public landowner.	LEED
SS 2 Development Density & Community Connectivity	Channel development to urban areas with existing infrastructures, protect greenfields and preserve habitat and natural resources. In rural areas, increase development density on existing or previously developed sites rather than undeveloped rural land.	Construct or renovate building on a previously developed site AND in a community with a minimum density of 60,000 square feet per acre net. OR Construct or renovate building on a previously developed site AND within ½ mile of a residential zone or neighborhood with an average density of 10 units per acre net AND within ½ mile of at least 10 Basic Services AND with pedestrian access between the building and the services. OR For previously developed rural sites, increase density of the existing site to a minimum development density of 30,000 square feet per acre.	Mod
SS 3.1 Brownfield Redevelopment: Basic Remediation Level	Rehabilitate damaged sites and buildings where development is complicated by real or perceived environmental contamination, reducing pressure on undeveloped land and protecting the health of the populations occupying a health care facility.	Develop on a site or in a building documented as contaminated OR on a site defined as a brownfield by a local, state or federal government agency. Effectively remediate site contamination.	LEED
SS 3.2 Brownfield Redevelopment: Residential Remediation Level		Achieve GGHC SS Credit 3.1 AND remediate the site to the residential level as defined by the EPA Region 9 Preliminary Remediation Guidelines.	New
SS 3.3 Brownfield Redevelopment: Minimizing Future Hazards		Achieve GGHC SS credit 3.1 or 3.2. AND Verify that the site is more than 2,000 feet from another site classified as a brownfield by a local, state, or federal government agency. OR Establish and implement preventative measures that protect the project site from re-contamination from other proximate sites.	New
SS 4.1 Alternative Transportation: Public Transportation Access	Reduce pollution and land development impacts from automobile use.	Locate project within 1/2 mile of an existing, or planned and funded, commuter rail, light rail or subway station or within 1/4 mile of one or more stops for two or more public or campus bus lines usable by building occupants.	LEED
SS 4.2 Alternative Transportation: Bicycle Storage & Changing Rooms		For institutional buildings, provide secure bicycle racks and/or storage for 3% or more of peak building day shift staff. AND Provide shower and changing facilities in the building, or within 200 yards of a building entrance, for 0.5% of peak building day shift staff. OR For residential buildings, provide covered storage facilities for securing bicycles for 15% or more of building occupants in lieu of changing/shower facilities.	Mod

Title	*Intent*	*Credit Goals*	*Source*
SS 4.3 Alternative Transportation: Low-Emitting and Fuel Efficient Vehicles		Provide low-emitting and fuel-efficient vehicles for 3% of peak building day-shift FTE (Full-time Equivalent) occupants and provide preferred parking for these vehicles. OR Provide preferred parking for low-emitting and fuel-efficient vehicles for 5% of the total vehicle parking capacity of the site. OR Install alternative-fuel refueling stations for 3% of the total vehicle parking capacity of the site.	LEED
SS 4.4 Alternative Transportation: Parking Capacity		Size parking capacity to meet, but not exceed, minimum local zoning requirements or health department regulatory authority, and provide preferred parking for carpools or vanpools for 5% of the total provided parking spaces. OR For projects that provide parking for less than 5% of FTE building occupants, provide preferred parking for carpools or vanpools for 5% of total provided parking spaces. OR For residential projects, size parking capacity to not exceed minimum local zoning requirements, and provide infrastructure and support programs to facilitate shared vehicle usage. OR Provide no new parking. OR For renovation projects, provide preferred parking and programs for carpools/vanpools capable of serving 5% of the total building staff and do not exceed the minimum local zoning requirements for parking.	Mod
SS 5.1 Site Development: Protect or Restore Open Space or Habitat	Conserve, preserve, and enhance existing natural areas and restore damaged areas to provide habitat for native flora and fauna and to promote biodiversity. Reduce the development footprint to reserve site area for future development.	On both greenfield and previously developed sites, limit all site disturbance including earthwork and clearing of vegetation to 40 feet beyond the building perimeter, 10 feet beyond surface walkways, patios, surface parking and utilities greater than 12 inches in diameter; and, 15 feet beyond primary roadway curbs and main utility branch trenches. Implement measures to avoid reducing the permeability of the sub-surface below a future permeable lot. AND Protect or restore natural habitat area in accordance with the calculation outlined in the Credit Goals.	Mod
SS 5.2 Site Development: Reduce Development Footprint		Achieve GGHC SS credit 5.1 AND on both greenfield and previously developed sites, limit the building footprint in accordance with the calculation outlined in the Credit Goals.	Mod
SS 5.3 Site Development: Structured Parking		Achieve GGHC SS credit 5.1 AND provide structured parking for 50% or more of total parking spaces. A minimum of 100 spaces must be provided in structured parking to achieve this credit.	New
SS 6.1 Stormwater Design: Quantity Control	Limit disruption of natural water hydrology by reducing impervious cover, increasing on-site infiltration, reducing or eliminating pollution from stormwater runoff, and eliminating contaminants.	If existing imperviousness is ≤ 50%, implement a stormwater management plan that prevents the post-development peak discharge rate and quantity from exceeding the pre-development peak discharge rate and quantity for the one- and two- year 24-hour design storms. OR Implement a stormwater management plan that protects receiving stream channels from excessive erosion by implementing a stream channel protection strategy and quantity control strategies. OR If existing imperviousness is > 50%, establish a stormwater management plan that results in a 25% decrease in the volume of stormwater runoff from the 2-year 24-hour design storm.	LEED
SS 6.2 Stormwater Design: Quality Control	Limit disruption and pollution of natural water flows by managing stormwater run-off.	Implement a stormwater management plan that reduces impervious cover, promotes infiltration, and captures and treats the stormwater runoff from 90% of the average rainfall using acceptable best management practices (BMPs) capable of removing 80% of the average annual post development total suspended solids (TSS) load based on existing monitoring reports.	LEED

Title	*Intent*	*Credit Goals*	*Source*
SS 7.1 Heat Island Effect: Non-Roof	Reduce heat islands to minimize impact on microclimate and human and wildlife habitat.	Provide any combination of the following strategies for 50% of the site hardscape (including roads, sidewalks, courtyards, and parking lots): shade (within 5 years of occupancy), paving materials with a Solar Reflectance Index (SRI) of at least 29, open grid pavement system. OR Place a minimum of 50% of parking spaces under cover (defined as under ground, under deck, under roof, or under a building). Ensure that roofing used to shade or cover parking has a minimum SRI of 29.	LEED
SS 7.2 Heat Island Effect: Roof		Use roofing materials having a Solar Reflectance Index (SRI) equal to or greater than the values listed in the Credit Goals for a minimum of 75% of the roof surface. OR Install a vegetated roof for at least 50% of the roof area. OR Install high albedo and vegetated roof surfaces.	LEED
SS 8 Light Pollution Reduction	Minimize light trespass from the building and site, reduce sky-glow to increase night sky access, improve nighttime visibility through glare reduction, and reduce development impact on nocturnal environments.	For interior lighting, design lighting fixtures such that the angle of maximum candela intersects opaque building interior surfaces and does not exit out through the windows. OR Automatically control all non-emergency interior lighting to turn off during non-business hours. For exterior lighting, zone and control lights to allow for limiting night-time lighting to the Emergency Department, a small employee parking area, a small visitor parking area, pedestrian walkways, and circulation routes. Only light areas as required for safety and comfort. Do not exceed 80% of the lighting power densities for exterior areas and 50% for building facades and landscape features as defined in ASHRAE/IESNA Standard 90.1-2004, Exterior Lighting Section. Classify the project under a light zone as defined in IESNA RP-33.	Mod
SS 9.1 Connection to the Natural World: Outdoor Places of Respite	Provide outdoor places of respite on the health care campus to connect health care patients, staff, and visitors to the health benefits of the natural environment.	Provide patient, staff, and visitor accessible outdoor places of respite at 5% of the net usable program area. Qualifying spaces should be universally accessible and provide a variety of seating areas for both ambulatory and wheelchair users. AND Provide additional dedicated outdoor place(s) of respite for staff at 2% of the net usable program area.	New
SS 9.2 Connection to the Natural World: Exterior Access for Patients	Provide inpatients and outpatients with a greater than 4-hour length of stay (LOS) with direct access from their unit/department to secure, supervised, and sun-oriented outdoor space.	Provide direct access to an exterior courtyard, terrace or balcony with a minimum area of 5 square feet/patient served for 75% of all inpatients and 75% of qualifying outpatients with clinical length of stay (LOS) greater than 4 hours. Design balcony edges to ensure patient safety.	New
SS 10.1 Community Contaminant Prevention: Airborne Releases	Prevent contaminant releases to air, land and water.	Meet California South Coast Air Quality Management District standards for all products of combustion.	New (EPC)
SS 10.2 Community Contaminant Prevention: Leaks & Spills	Prevent contaminant releases to air, land and water.	Establish oil interceptors at all drains from parking areas and central plant areas. For underground fuel-oil storage tanks, comply with U.S. EPA Title 40, Code of Federal Regulations, Part 112, or local regulations, whichever is more stringent.	New (EPC)

Water Efficiency

Title	*Intent*	*Credit Goals*	*Source*
WE Prereq 1 Potable Water Use for Medical Equipment Cooling	Eliminate potable water use for medical equipment cooling.	Do not use potable water for once through cooling for any medical equipment that rejects heat. As an exception to the above, controlled once-through cooling is allowed where local requirements mandate limiting the discharge temperature of fluids into the drainage system.	New
WE 1 Water Efficient Landscaping: No Potable Water Use or No Irrigation	Eliminate the use of potable water, or other natural surface or subsurface water resources available on or near the project site, for landscape irrigation.	Use only captured rainwater, recycled wastewater, recycled greywater, or water treated and conveyed by a public agency specifically for non-potable uses for irrigation. OR Install landscaping that does not require permanent irrigation systems.	LEED
WE 2.1 Potable Water Use Reduction: Measurement & Verification	Provide for the ongoing accountability and optimization of building water consumption performance over time.	Develop and implement a Measurement & Verification (M&V) Plan consistent with Option D: Whole Building Calibrated Simulation, Savings Estimation Method 2 as specified in the International Performance Measurement and Verification Protocol (IPMVP), Volume III, April 2003, OR Option B: Retrofit Isolation as specified in the International Performance Measurement and Verification Protocol (IPMVP) Volume I, Concepts for Determining Energy and Water Savings, March 2002, to provide for long term continuous measurement of potable cold water uses within the facility.	New
WE 2.2 & 2.3 Potable Water Use Reduction: Domestic Water	Maximize potable water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems.	**Credit 2.2 -** Equip all urinals (but not toilets or bed pan washers) with sensor operators. Equip all handwash sinks (but not compounding sinks, housekeeping sinks, or sinks in toilet rooms for inpatient bed rooms) with sensor operators.	Mod
		Credit 2.3 - Use low-flow fixtures or control fixture flows to achieve the following maximum water flows: lavatories - 1.5 gpm; showers - 1.8 gpm; urinals - 1 gallon/flush; and use 1.6 gpm/1.1 gpm flushometers for all toilets.	Mod
WE 2.4 & 2.5 Potable Water Use Reduction: Process Water & Building System Equipment	Reduce or eliminate the use of potable water for non-potable process use in building system equipment.	**Credit 2.4 -** Reduce cooling tower blowdown rate (in GPM) by at least 20%. Use no potable water for vacuum pumps, air compressors, or mechanical seals on pumps. Eliminate the discharge of potable water to drain for equipment cooling using methods such as closed loop cooling condensate discharge for sterilizers.	New
		Credit 2.5 - Provide a system to capture air handling system condensate for use in non-potable applications such as cooling tower makeup or irrigation. Reuse cooling tower and boiler blowdown water for other purposes as suitable based on chemical properties of the blowdown water (generally make-up or irrigation). OR Use municipally-provided non-potable water for all non-potable process water applications.	New

Energy & Atmosphere

Title	*Intent*	*Credit Goals*	*Source*
EA Prereq 1 Fundamental Commissioning of the Building Energy Systems	Verify that the building's energy related systems are installed, calibrated, and perform according to the owner's project requirements, basis of design, and construction documents.	Designate an individual as the Commissioning Authority (CxA) to lead, review and oversee the completion of the commissioning process activities. The Owner shall document the Owner's Project Requirements (OPR). The design team shall develop the Basis of Design (BOD). The CxA shall review these documents for clarity and completeness. The Owner and design team shall be responsible for updates to their respective documents. Develop and incorporate commissioning requirements into the construction documents. Develop and implement a commissioning plan. Verify the installation and performance of the systems to be commissioned. Verify that training and operation and maintenance documentation have been provided to the owner's operations staff. Complete a commissioning report.	Mod
EA Prereq 2 Minimum Energy Performance	Establish the minimum level of energy efficiency for the proposed building and systems.	Model anticipated energy performance using DOE2.1E or Energy Plus. Design to meet or exceed ASHRAE/IESNA 90.1-2004 or local energy code, whichever is stricter unless regulatory requirements exempt facility from portions of the code in which case meet or exceed the baseline defined in the credit. AND Create an estimate of whole building energy consumption as defined in the credit and establish an Energy Star Rating goal of 75 or higher for the facility design using U.S. EPA's Target Finder rating tool.	Mod
EA Prereq 3 Fundamental Refrigerant Management	Reduce ozone depletion.	Zero use of CFC-based refrigerants in new base building HVAC&R systems. When reusing existing base building HVAC equipment, complete a comprehensive CFC phase-out conversion prior to project completion. Small HVAC units and other cooling equipment that contains less than 0.5 lbs of refrigerant are exempted.	LEED
EA 1 Optimize Energy Performance	Achieve increasing levels of energy performance above the baseline in the prerequisite standard to reduce environmental and economic impacts associated with excessive energy use.	Model anticipated building energy performance using DOE2.1E or Energy Plus and compare to baseline as defined in EA Prerequisite 2.	Mod
		Credit 1.1 – Reduce design energy consumption by 3.5% in exempt buildings & renovations/ 10.5% in all other buildings	
		Credit 1.2 – Reduce design energy consumption by 7% in exempt buildings & renovations/ 14% all other buildings	
		Credit 1.3 – Reduce design energy consumption by 10.5% in exempt buildings & renovations/ 17.5% in all other buildings	
		Credit 1.4 – Reduce design energy consumption by 14% in exempt buildings & renovations/ 21% in all other buildings	
		Credit 1.5 – Reduce design energy consumption by 17.5% in exempt buildings & renovations/ 24.5% in all other buildings	
		Credit 1.6 – Reduce design energy consumption by 21% in exempt buildings & renovations/ 28% all other buildings	
		Credit 1.7 – Reduce design energy consumption by 24.5% in exempt buildings & renovations/ 31.5% in all other buildings	
		Credit 1.8 – Reduce design energy consumption by 28% in exempt buildings & renovations/ 35% in all other buildings	
		Credit 1.9 – Reduce design energy consumption by 31.5% in exempt buildings & renovations/ 38.5% in all other buildings	
		Credit 1.10 – Reduce design energy consumption by 35% in exempt buildings & renovations/ 42% all other buildings	
EA 2 On-Site Renewable Energy	Encourage and recognize increasing levels of on-site renewable energy self-supply in order to reduce environmental and economic impacts associated with fossil fuel energy use.	Supply a net fraction of the building's total energy use with on-site renewable energy sources.	Mod
		Credit 2.1 - 0.05 watts of renewable generating capacity/sf of building area	
		Credit 2.2 - 0.10 watts of renewable generating capacity/sf of building area	
		Credit 2.3 - 0.15 watts of renewable generating capacity/sf of building area	

Title	*Intent*	*Credit Goals*	*Source*
EA 3 Enhanced Commissioning	Begin the commissioning process early during the design process and execute additional activities after systems performance verification is completed.	In addition to GGHC EA Prerequisite 1: Prior to the start of the construction documents phase, designate an independent Commissioning Authority (CxA) to lead, review, and oversee the completion of all commissioning process activities. The CxA shall conduct, at a minimum, one commissioning design review of the Owner's Project Requirements (OPR), Basis of Design (BOD), and design documents prior to mid-construction documents phase and back-check the review comments in the subsequent design submission. The CxA shall review contractor submittals applicable to systems being commissioned for compliance with the OPR and BOD concurrent with A/E reviews. Develop a systems manual that provides future operating staff the information needed to understand and optimally operate the commissioned systems and verify that the requirements for training operating personnel and building occupants are completed. Assure the involvement by the CxA in reviewing building operation within 10 months after substantial completion with O&M staff and occupants. Include a plan for resolution of outstanding issues.	LEED
EA 4 Enhanced Refrigerant Management	Reduce ozone depletion and support early compliance with the Montreal Protocol while minimizing direct contributions to global warming.	Do not use refrigerants. OR Select refrigerants and HVAC&R equipment that minimize or eliminate the emission of compounds that contribute to ozone depletion and global warming. Small HVAC units and any other cooling equipment that contains less than 0.5 lbs of refrigerant are not subject to the requirements of this credit. AND Do not install fire suppression systems that contain ozone-depleting substances (CFCs, HCFCs or Halons).	LEED (as per TSAC)
EA 5 Measurement & Verification	Provide for the ongoing accountability of building energy consumption over time.	Provide for long-term continuous measurement of substantive energy and water uses within the facility. At a minimum, provide metering for the following electrical and mechanical systems (as applicable to the scope of the project): Lighting system power and controls, Motor loads, Chillers, Data Centers, Critical Equipment Electrical Distribution Systems, Air distribution systems.	LEED
EA 6 Green Power	Encourage the development and use of grid-source, renewable energy technologies on a net zero pollution basis.	Provide a portion of the building's electricity from renewable sources by engaging in at least a two-year renewable energy contract. The annual electricity usage of the facility should be modeled to determine the expected energy demand. Renewable sources are defined by the Center for Resource Solutions (CRS) Green-e products certification requirements.	Mod
		Credit 6.1 - 20% of total annual electrical energy use provided by green power	
		Credit 6.2 - 50% of total annual electrical energy use provided by green power	
		Credit 6.3 - 80% of total annual electrical energy use provided by green power	
		Credit 6.4 - 100% of total annual electrical energy use provided by green power	
EA 7 Equipment Efficiency	Reduce energy consumption by using efficient medical and other equipment.	Calculate 75% of the equipment purchased for the project (based on number of units) according to either Energy Star® qualified or sit in the top 25th percentile of lowest energy consumption for that class of equipment.	New

Materials & Resources

Title	Intent	Credit Goals	Source
MR Prereq 1 Storage & Collection of Recyclables	Facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills and incinerators through reduction, reuse, recycling and composting.	Provide an easily accessible area that serves the entire building and is dedicated to the collection and storage of materials for recycling in accordance with Section 6.5.3.1 (and Appendix) of the 2006 AIA Guidelines for Design and Construction of Health Care Facilities. Establish a collection system and controlled areas serving the portion of the building affected by the project dedicated to the separation, storage, and collection of materials for recycling including (at a minimum) paper, corrugated cardboard, glass, plastics, metals, fluorescent lamps (tube, compact fluorescent and HID) and batteries.	Mod
MR Prereq 2 Mercury Elimination	Eliminate mercury-containing building products and reduce mercury discharge through product substitution and capture.	Highlight in the project's Waste Management Plan the types of mercury containing devices that are handled by the recycling program and disposal methods. In facilities delivering dental care, install amalgam separation devices that meet or exceed the standard ISO-11143. Comply with the 2006 *AIA Guidelines for Design and Construction of Hospital and Health Care Facilities* requirement regarding mercury elimination (Section 1.3, 4.2 Mercury Elimination). Do not specify or install mercury vapor High Intensity Discharge (HID) lamps in the project. Specify and install all illuminated exit signs to meet the following criteria: LED lamps, Energy Star qualified and UL certified. Specify and install low mercury fluorescent lamps according to the table outlined in the Credit Goals.	New
MR 1 Building Reuse	Extend the life cycle of existing building stock, conserve resources, retain cultural resources, reduce waste and environmental impacts of new buildings as they relate to materials manufacturing and transport.	**Credit 1.1** - Maintain at least 40% (based on surface area) of existing building structure and envelope. Exclude hazardous materials that are remediated as a part of the project scope shall from the calculation of the percentage maintained.	Mod
		Credit 1.2 - Maintain an additional 40% (80% total, based on surface area) of existing building structure and envelope. Exclude hazardous materials that are remediated as a part of the project scope shall be from the calculation of the percentage maintained.	Mod
		Credit 1.3 - Use existing non-shell elements in at least 50% of the renovated area. Remove and properly dispose of abandoned wiring.	Mod
MR 2.1 & 2.2 Construction Waste Management: Divert from Disposal	Divert construction, demolition and land-clearing debris from disposal in landfills and incinerators. Redirect recyclable recovered resources back to the manufacturing process. Redirect reusable materials to appropriate sites. Redirect hazardous waste in compliance with federal and state regulations.	Develop and implement a construction waste management plan that, at a minimum, identifies the materials to be diverted from disposal in landfill or incineration. Identify whether the materials will be sorted on-site or co-mingled. Comply with all applicable state and federal regulations for hazardous waste disposal. Hazardous waste does not contribute to the credit calculation.	LEED
		Credit 2.1 - Recycle and/or salvage at least 50% of non-hazardous construction and demolition debris.	
		Credit 2.2 - Recycle and/or salvage an additional 25% (75% total) of non-hazardous construction and demolition debris.	
MR 2.3 Construction Practices: Site & Materials Management	Implement site and materials management practices during construction to minimize adverse impacts.	Develop and implement a Construction Practices Environmental Management System (EMS) for the construction and pre-occupancy phases of the building. The below listed "best practices" are strategies the contractor could employ as part of the EMS depending on the size, scope and circumstances of the project. Achieve five of the six categories listed in the Credit Goals: Temporary Facilities; Delivery, Storage and Handling; Construction Site Housekeeping and Particulates Control; Moisture Control.	New
MR 2.4 Construction Practices: Utility & Emissions Control	Minimize air & noise pollution from fossil fueled vehicle and construction equipment during the construction process. Implement conservation and efficiency practices for temporary utilities.	Develop and implement a plan to reduce utility, vehicle and other emissions during the construction phase. Achieve nine of the fourteen goals listed in the Credit Goals including at least one goal from each of the following three categories: Temporary Utilities; Engine Use; Noise and Vibration.	New

Title	Intent	Credit Goals	Source
MR 3 Sustainably Sourced Materials	Reduce the environmental impacts of the materials acquired for use in the construction of buildings and in the upgrading of building services.	One point (up to a maximum of five) will be awarded for each 10% of the total value of all building materials used in the project (on a dollar basis) that achieve at least one of the following sustainability criteria: Contains at least 70% salvaged material. Contains at least 50% rapidly renewable materials. Contains 100% wood certified in accordance with the Forest Stewardship Council's (FSC) Principles and Criteria. Contains at least 50% materials harvested and processed or extracted and processed within 500 miles of the project. Contains recycled content.	New
MR 4.1 PBT Elimination: Dioxins	Reduce the release of persistent bioaccumulative toxic chemicals (PBTs) associated with the life cycle of building materials.	Accomplish a minimum of three of the following five strategies: Specify no use of cement from kilns fired with hazardous waste. Specify no use of materials containing virgin or recycled chlorinated compounds in exterior and structural components. Specify no use of materials containing virgin or recycled chlorinated compounds in interior finishes. Due to the critical nature of indoor air emissions to healthcare, all interior materials must meet any applicable credit goals of GGHC EQ Credit 4 to attain points under this credit. Specify no use of materials containing virgin or recycled chlorinated compounds in piping, conduit and electrical boxes. Specify no use of materials containing virgin or recycled chlorinated compounds in electrical cable and wire jacketing.	New
MR 4.2 PBT Elimination: Mercury		In addition to the Credit Goals outlined in GGHC MR Prerequisite 2: Mercury Elimination, specify and install low mercury fluorescent lamps with longer lamp life. Do not specify or install circular fluorescent lamps on the project. Do not specify or install standard (e.g. non-pulse start) metal halide lamps on the project.	New
MR 4.3 PBT Elimination: Lead & Cadmium		Specify substitutes for materials manufactured with lead and cadmium: Lead free solder, roofing and wiring. No use of paints containing cadmium or lead.	New
MR 5.1 Furniture & Medical Furnishings: Resource Reuse	Reduce the environmental impacts from the manufacture, use and disposal of furniture and medical furnishings products.	Specify salvaged, refurbished, or used furniture and medical furnishings for a minimum of 20% of the total furniture and medical furnishings budget.	New
MR 5.2 Furniture & Medical Furnishings: Materials		Specify 40% by cost of furniture and medical furnishings that comply with at least 2 of the following: No PBTs in manufacture. Comply with the European Union RoHS Directive regarding hexavalent chrome for plated finishes. All wood components from FSC Certified Wood.	
MR 5.3 Furniture & Medical Furnishings: Manufacturing, Transportation & Recycling		Specify 40% (by cost) of furniture and medical furnishings that comply with a minimum of two (2) of the following goals: locally and/or regionally sourced; transported with minimum packaging; "end of life" destination.	
MR 6 Copper Reduction	Prevent copper-contaminated stormwater run-off from entering aquatic systems.	Eliminate the use of copper metal roofing, copper granule-containing asphalt shingles, copper gutters & copper cladding. AND If using copper pipe requiring the use of solder and flux during installation, specify all solder joints to be compliant with ASTM B8828. Specify and use ASTM B813 flux to reduce copper pipe corrosion.	New
MR 7.1 Resource Use: Design for Flexibility	Conserve resources associated with the construction and management of buildings by designing for durability, flexibility and ease of future adaptation, and maximizing life of constituent components and assemblies.	Increase building flexibility and ease of adaptive reuse over the life of the structure by employing three (3) or more of the design and/or space planning strategies listed in the Credit Goals.	New
MR 7.2 Resource Use: Design for Durability		Design and construct to achieve the minimum "*design service life"* of the building or renovation in accordance with the Canadian Standards Association Guideline on Durability in Buildings (CSA S478-95 (R2001).	New

Environmental Quality

Title	*Intent*	*Credit Goals*	*Source*
EQ Prereq 1 Minimum IAQ Performance	Establish minimum IAQ performance to enhance indoor air quality in buildings, thus contributing to the comfort and wellbeing of the occupants.	Meet the minimum requirements of the relevant local licensing requirement for ventilation or Section 4 through 7 of voluntary consensus standard ASHRAE 62-2004, Ventilation for Acceptable Indoor Air Quality, whichever is more stringent. Mechanical ventilation systems shall be designed using the Ventilation Rate Procedure or the applicable local code, whichever is more stringent. Naturally ventilated buildings shall comply with ASHRAE 62.1-2004, paragraph 5.1 or the relevant local licensing requirement, whichever is more stringent.	LEED
EQ Prereq 2 Environmental Tobacco Smoke (ETS) Control	Prevent exposure of building occupants and systems to Environmental Tobacco Smoke (ETS).	Prohibit smoking in the building (except as noted below). Locate any exterior designated smoking areas at least 50 feet away from entries, operable windows, air intakes, bus stops, disabled parking, and other locations where occupants could inadvertently come in contact with ETS when occupying, entering or leaving the building. Only for residential facilities where the functional program requires accommodation for smokers may there be an exception to establish negative pressure smoking rooms that meet the standards laid out in the Credit Goals.	Mod
EQ Prereq 3 Hazardous Material Removal or Encapsulation	Reduce the building occupant's potential exposure to asbestos, mercury, lead, and mold; and, prevent associated harmful effects of these hazardous materials in existing buildings.	Establish a program for the discovery, testing and mitigation of asbestos, mercury, lead and mold. Identify applicable regulatory requirements. Obtain survey records that identify known contamination in the building and on the site. Survey locations where hazardous materials may be present in previously uninvestigated areas of the building and site. Include a plan for capture of historical mercury sources during demolition, including but not limited to piping infrastructure. Designate collected mercury devices for recycling that precludes overseas donation/disposal. Remove and properly dispose of disconnected wiring that contains lead stabilizers. Provide contract requirements for reporting and investigating suspect mold encountered in demolition. Remediate contaminated surfaces: remove and dispose of contaminated materials in accord with recognized procedures that protect workers, building occupants and the public.	New
EQ 1 Outdoor Air Delivery Monitoring	Provide capacity for ventilation system monitoring to help sustain occupant comfort and wellbeing.	Install permanent monitoring systems that provide feedback on ventilation system performance to ensure that ventilation systems maintain design minimum ventilation requirements. Configure all monitoring equipment to generate an alarm when the conditions vary by 10% or more from setpoint, via either a building automation system alarm to the building operator or via a visual or audible alert to the building occupants. Monitor carbon dioxide concentrations in both mechanically and naturally ventilated spaces in accordance with the Credit Goals.	Mod
EQ 2 Natural Ventilation	Provide natural ventilation for improved occupant comfort, wellbeing, and productivity.	Design natural ventilation systems for occupied spaces in the building where allowed by relevant building code requirements AND where air distribution design is not mandated and/or restricted by process requirements to meet the recommendations set forth in the Carbon Trust "Good Practice Guide 237." Determine that natural ventilation is an effective strategy for the project by following the flow diagram process shown in Figure 1.18 of the Chartered Institution of Building Services Engineers (CIBSE) Applications Manual 10:2005, Natural Ventilation in Non-Domestic Buildings.	Mod

Title	*Intent*	*Credit Goals*	*Source*
EQ 3.1 Construction EQ Management Plan: During Construction	Reduce indoor air quality problems resulting from the construction or renovation process in order to help sustain the comfort and wellbeing of construction workers and building occupants.	Develop and implement an Environmental Quality (EQ) Management Plan for the construction and pre-occupancy phases of the building. Establish an integrated Infection Control Team comprised of the Owner, Designer, and Contractor to evaluate infection control risk and document the required precautions in a project-specific plan. Utilize the Infection Control Risk Assessment (ICRA) standard as defined by the Joint Commission on Accreditation of Health Care Organizations (JCAHO) Environment of Care Standard (EC.3.2.1) as a guideline for construction activities. Address mold & mildew, construction filtration media, and VOC absorption concerns as outlined in the Credit Goals.	Mod
EQ 3.2 Construction EQ Management Plan: Before Occupancy		Develop and implement an Indoor Air Quality (IAQ) Management Plan for the pre-occupancy phase of the building, performing either a building flush out or air testing in compliance with the criteria listed under Credit Goals.	Mod
EQ 4.1 Low-Emitting Materials: Interior Adhesives & Sealants	Minimize indoor air contaminants that are odorous, potentially irritating and/or harmful to the comfort and well-being of installers and occupants.	Use only adhesives and sealants with volatile organic compound (VOC) content that does not exceed South Coast Air Quality Management District (SCAQMD) Rule #1168 limits scheduled for 2007. Aerosol adhesives not covered by Rule 1168 must meet Green Seal Standard GC-36 requirements. Use only adhesives and sealants with no California Prop 65 or California Air Resources Board list of Toxic Air Contaminants carcinogen or reproductive toxicant components present at more than 1% of total mass.	Mod
EQ 4.2 Low-Emitting Materials: Wall & Ceiling Finishes		Use only paints and coatings on the interior of the building that do not exceed of the VOC limits of South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings, rules in effect for 7/1/2008. Specify ceiling tiles and wall coverings that meet or exceed the indoor air quality requirements of California 01350 AND do not contain either of the following ingredients Polybrominated diphenyl ethers (PBDE) or Phthalates.	Mod
EQ 4.3 Low-Emitting Materials: Flooring Systems		Specify carpet and resilient flooring systems that meet or exceed the indoor air quality requirements of California 01350. AND Specify carpet and resilient flooring systems that do not contain any of the following ingredients: Polybrominated diphenyl ethers (PBDE), Phthalates, Natural rubber latex.	Mod
EQ 4.4 Low-Emitting Materials: Composite Wood & Insulation		Specify composite wood and agrifiber products and fiberglass materials used on the interior of the building with no added urea-formaldehyde resins. Specify laminating adhesives used to fabricate on-site and shop-applied composite wood and agrifiber assemblies with no added urea-formaldehyde resins. Composite wood and agrifiber products are defined as: particleboard, medium density fiberboard (MDF), plywood, wheatboard, strawboard, panel substrates and door cores.	Mod
EQ 4.5 Low-Emitting Materials: Furniture & Medical Furnishings	Minimize the use of furniture including medical furnishings that may release indoor air contaminants that are odorous or potentially irritating and may be deleterious to installer and occupant health, comfort and wellbeing.	Select a minimum of 40% (by cost) of all furniture and medical furnishings (including mattresses, foams, panel fabrics and other textiles) that contain no more than one of the four listed materials: Polybrominated diphenyl ethers (PBDE), perfluorooctanoic acid (PFOA), urea formaldehyde, phthalate plasticizers. OR That contain no more than two of the four listed materials AND meet or exceed the indoor air quality requirements of California 01350.	New
EQ 4.6 Low-Emitting Materials: Exterior Applied Products	Protect installers and building occupants and safeguard air quality resulting from exposure to hazardous and/or odorous substances used during construction.	Specify coatings, roofing and waterproofing materials with VOC content limits of South Coast Air Quality Management District (SCAQMD) Rules 1113 and 1168 scheduled for 2007 as indicated in the table below and in the table in GGHC EQ Credit 4.2. Specify no roofing installations using hot asphalt. Specify no use of coal tar sealants for parking lots and other paved surfaces. For any waterproofing, asphalt roofing needing repair or other high VOC emissions outdoor construction process, create a plan in compliance with procedures established by NIOSH Publication No. 2003-112.	New

Title	*Intent*	*Credit Goals*	*Source*
EQ 5.1 Chemical & Pollutant Source Control: Outdoor	Prevent the entry of contaminants into buildings from the exterior, including ensuring adequate supply of air that meets the National Ambient Air Quality Standard to the building at all times.	Design to minimize pollutant contamination of regularly occupied areas due to exterior factors. Employ permanent entryway systems at least six feet long in the primary direction of travel to capture dirt and particulates from entering the building at all entryways that are directly connected to the outdoors. Minimize the entry of contaminants into the building from vehicles, pesticides, herbicides, helipads, diesel generators, designated smoking areas, sources of exhaust air, and other sources of potential contaminants in accordance with the strategies outlined in the Credit Goals.	Mod
EQ 5.2 Chemical & Pollutant Source Control: Indoor		Design to minimize cross-contamination of regularly occupied spaces. Where hazardous gases or chemicals may be present or used, exhaust each space sufficiently to create negative pressure with respect to adjacent spaces with the doors to the room closed. For each of these spaces, provide self-closing doors and deck-to-deck partitions or a hard lid ceiling. Develop an action plan to eliminate, minimize, substitute, recycle, and dispose of harmful chemicals safely. The plan should improve distribution, and limit quantities, storage and waste.	New
EQ 6.1 Controllability of Systems: Lighting	Provide a high level of temperature and ventilation or lighting system control by individual occupants, or by specific groups in multi-occupant spaces, to promote the productivity, comfort, wellbeing, and satisfaction of building occupants.	Provide individual lighting controls for a minimum of 90% of the building occupants, including staff, to enable adjustments to suit individual needs and preferences. Install lighting controls in patient rooms that are readily accessible from the patient bed. Provide individual lighting controls for each bed in multi-occupant spaces, such as recovery rooms, emergency departments, infusion areas, and similar open areas. Provide occupant controls over window shades, blinds, and/or curtains that are readily accessible from the patient bed.	Mod
EQ 6.2 Controllability of Systems: Thermal & Ventilation		Provide individual temperature and ventilation controls for 50% of the building occupants, exempting patient rooms, to enable adjustments to suit individual task needs and preferences. Provide individual thermal comfort controls in all patient rooms. AND Provide comfort system controls for all shared multi-occupant spaces to enable adjustments to suit group needs and preferences.	Mod
EQ 7 Thermal Comfort	Provide for the assessment of building thermal comfort over time.	Agree to implement a thermal comfort survey of building occupants (patients and staff) within a period of six to 18 months after occupancy. Agree to develop a plan for corrective action if the survey results indicate that more than 20% of the respondents in each group are dissatisfied with thermal comfort in the building.	Mod
EQ 8.1 (5 points) Daylight & Views: Daylight for Occupied Spaces	Provide building occupants with a connection between indoor spaces and the outdoors by introducing daylight and views into the building's regularly occupied areas.	Diagnostic and Treatment Areas: Configure the building floorplate to provide an increased percentage of daylit area above the 'square-root base' percentage daylit area of a hypothetical square floorplate of equal area to the building floorplate to achieve 1, 2 or 3 credits: 6% (1 point), 12% (2 points), 18% (3 points). Inpatient Units **8.1d (1 point)** - In multi-bed inpatient rooms, ensure that both patients have visual connection to the outdoors, AND provide a window direct to the outdoors from 75% of regularly occupied staff work spaces and non-inpatient-room spaces. **8.1e (1 point)** - Achieve 8.1d AND provide a window direct to the outdoors from 90% of regularly occupied staff work spaces and non-inpatient-room spaces.	Mod
EQ 8.2 Daylight & Views: Connection to the Natural World: Indoor Places of Respite	Connect patients, visitors, and staff to the natural environment through views of nature from indoor places of respite.	Provide patient, visitor, and staff accessible indoor places of respite with 90% of the aggregate net program area of those spaces having direct views of nature. To qualify, these spaces must have direct connection to the natural environment and must be spaces where no medical intervention or direct medical care is delivered and where no facility administration or maintenance is being conducted. Audio-visual technology that simulates nature may be used to fulfill up to 20% of the credit goal in spaces that are not accessible to nature.	New

Title	*Intent*	*Credit Goals*	*Source*
EQ 8.3 Daylight & Views: Lighting and Circadian Rhythm	Reinforce natural circadian rhythms (sleep/wake patterns) in patients and daytime staff, and promote alertness in both day-shift and night-shift staff.	In patient sleeping or holding areas, establish lighting and lighting control design solutions that allow for variation in day and night lighting characteristics as outlined in the Credit Goals. In staff areas, establish lighting to support work performance and alertness through both daytime and nighttime lighting cycles as outlined in Credit Goals.	New
EQ 9.1 Acoustic Environment: Exterior Noise, Acoustical Finishes, & Room Noise Levels	Provide building occupants with a healing environment free of disruptive levels of sound.	Design the facility's acoustic environment in accordance with the following section of the 2006 AIA/AHA Draft Interim Sound and Vibration Design Guidelines for Hospital and Healthcare Facilities: Exterior Noise, Acoustical Finishes, and Room Noise Levels.	New
EQ 9.2 Acoustic Environment: Sound Isolation, Paging & Call Systems, & Building Vibration		In addition to the Credit Goals outlined in GGHC EQ Credit 9.1: Acoustic Environment, meet two out of the three following sections of the 2006 AIA/AHA Draft Interim Sound and Vibration Design Guidelines for Hospital and Healthcare Facilities: Sound Isolation, Paging & Call Systems, and Building Vibration.	New

Innovation & Design Process

Title	*Intent*	*Credit Goals*	*Source*
IN 1 Innovation in Design	To provide design teams and projects the opportunity to achieve points for exceptional performance above credit goals set by the *Green Guide for Health Care* and/or for innovation for green building goals and strategies not specifically addressed by the *Green Guide for Health Care*.	Identify the intent of the proposed innovation credit, the proposed credit goals, proposed documentation to demonstrate achievement, and the design approach used to meet the goals.	LEED
IN 2 Documenting Health, Quality of Care & Productivity Performance Impacts: Research Initiatives	Document absenteeism, health care cost, employee retention and other health, quality of care and productivity measures of enhanced building performance.	Engage in peer-reviewed research initiatives that track the relationship between sustainable building performance improvements and building occupant health, quality of care, productivity, and/or resource conservation. Identify measures that improve health, quality of care and/or efficiencies within specific processes.	New

Operations

Integrated Operations

Title	*Intent*	*Credit Goals*	*Source*
IO Prereq 1 Ongoing Self-Certification	For projects that have successfully self-certified using the Construction section, maintain the ongoing functional application of all design decisions & processes associated with the initial design certification.	Specify processes to monitor and document actual performance of each measure achieved in the initial design.	New
IO Prereq 2 Integrated Operations & Maintenance Process	Demonstrate a cross discipline approach in Operations and Maintenance decision-making and implementation to ensure safe, healthful, environmentally sensitive methods and materials.	Establish and maintain a functional cross discipline process for decision-making regarding safe, healthful and environmentally sensitive operations and maintenance and encourage continuous improvement.	New
IO Prereq 3 Environmental Tobacco Smoke Control	Prevent exposure of building occupants and systems to Environmental Tobacco Smoke (ETS).	Prohibit smoking in the building (except as noted below). Locate any exterior designated smoking areas at least 50 feet away from entries, operable windows, air intakes, bus stops, disabled parking, and other locations where occupants could inadvertently come in contact with ETS when occupying, entering or leaving the building. Only for residential facilities where the functional program requires accommodation for smokers may there be an exception to establish negative pressure smoking rooms that meet the standards laid out in the Credit Goals.	Mod
IO Prereq 4 Outside Air Introduction & Exhaust Systems	Establish minimum indoor air quality (IAQ) performance to enhance indoor air quality in buildings, thus contributing to the health and well-being of the occupants.	Modify or maintain existing building outside-air (OA) ventilation distribution system to supply at least the outdoor air ventilation rate required by ASHRAE 62.1-2004 or the minimum requirements of the relevant local licensing requirement for ventilation, whichever is more stringent. Meet the EPA IAQ guidelines OR SMACNA IAQ guidelines for HVAC System Maintenance to ensure the proper operations and maintenance of HVAC components as they relate to IAQ. Test and maintain the operation of all building exhaust systems, including bathroom, utility areas, laboratories, kitchen and parking exhaust system.	Mod
IO 1.1 Building Operations & Maintenance: Staff Education	Support appropriate training, monitoring, operations and maintenance for buildings, staff and building systems to ensure they deliver target building performance goals over the life of the building.	Establish and maintain a building operations and maintenance staff education program that provides each staff person with primary building maintenance responsibilities with a minimum 24 hours of education each year on building and building systems operations, maintenance, and achieving sustainable building performance. Training must be of high quality and relevant to building operations and maintenance.	Mod
IO 1.2 Building Operations & Maintenance: Building Systems Maintenance		Establish and maintain a comprehensive best practices equipment preventive maintenance program that provides in-house resources and/or contractual services to deliver maintenance.	Mod

Title	*Intent*	*Credit Goals*	*Source*
IO 1.3 Building Operations & Maintenance: Building Systems Monitoring		Establish and maintain a system for continuous tracking and optimization of systems that regulate indoor comfort and the conditions (temperature, humidity, and CO2) delivered in occupied spaces.	Mod
IO 2.1 IAQ Management: Maintaining Indoor Air Quality	Enhance Indoor Air Quality (IAQ) performance by optimizing practices to prevent the development of indoor air quality problems in buildings.	Establish and implement on an ongoing basis an IAQ Compliance Program, as outlined in "A Guide to Managing Indoor Air Quality in Health Care Organizations", Joint Commission on Accreditation of Healthcare Organizations, 1997. OR Develop and implement on an ongoing basis an IAQ management program for your building based on the US EPA document "Building Air Quality: A Guide for Building Owners and Facility Managers".	Mod
IO 2.2 IAQ Management: Reduce Particulates in Air Distribution	Enhance Indoor Air Quality (IAQ) performance by optimizing practices that prevent the development of indoor air quality problems in buildings.	Install and maintain filters with particle removal effectiveness MERV 13 or greater in place over the performance period for all outside air intakes and for the returns for the re-circulation of inside air. Establish and follow a regular schedule for maintenance and replacement of these filters. Establish and follow a regular schedule for inspection of the duct system for dust accumulation.	Mod

Transportation Operations

Title	*Intent*	*Credit Goals*	*Source*
TO 1.1 Alternative Transportation: Public Transportation Access	Reduce pollution and land development impacts by minimizing vehicle transportation.	Provide and maintain a building occupant conveyance program (shuttle-link) for buildings that are more than 1/2 mile from commuter rail or subway and 1/4 mile from established bus routes.	Mod
TO 1.2 Alternative Transportation: Low Emitting & Fuel Efficient Vehicles		Own or lease an alternative fuel vehicle fleet, defined as vehicles that are either classified as Zero Emission Vehicles (ZEV) by the California Air Resources Board or have achieved a minimum green score of 40 on the American Council for an Energy Efficient Economy (ACEEE) annual vehicle rating guide, and comprising a minimum of 50% of total fleet mileage driven annually. Provide fueling stations for 100% of alternative fuel fleet, as applicable. Provide preferred parking for low-emitting and fuel-efficient vehicles for 5% of the total vehicle parking capacity of the site.	New
TO 1.3 Alternative Transportation: Carpool Programs	.	Provide and maintain a building occupant carpooling program that serves a minimum of 5% of the full time equivalent (FTE) peak period staff and add no new parking. Provide preferred parking for carpool participants.	New

Energy Efficiency

Title	*Intent*	*Credit Goals*	*Source*
EE Prereq 1 Existing Building Commissioning	Verify that fundamental building systems and assemblies are performing as intended to meet current needs and sustainability requirements.	Verify and ensure that fundamental building elements and systems are installed, calibrated, and operating as intended so they can deliver functional and efficient performance. Carry out a comprehensive existing building commissioning including the following procedures: - Develop a comprehensive building operation plan that meets the requirements of current building usage, and addresses: the heating, cooling and humidity control system, lighting system, safety systems and the building automation controls. - Prepare a commissioning plan for carrying out the testing of all building systems to verify that they are working according to the specifications of the building operation plan. - Implement and document the commissioning plan. - Repair or upgrade all systems components that are found to not be working according to the specifications of the building operation plan. - Re-test all building components that required repairs or upgrades to verify that they are working according to the specifications of the building operation plan. OR Submit a 1-5 year plan for continuous improvement of the aspects of the above commissioning requirements.	LEED-EB
EE Prereq 2 Minimum Building Energy Performance	Establish the minimum level of energy performance for the building and systems.	Demonstrate that the building has achieved an EPA Energy Star® score of at least 60 utilizing the Energy Star Benchmarking Tool.	LEED-EB
EE Prereq 3 Ozone Protection	Reduce ozone depletion.	Zero use of CFC-based refrigerants in HVAC&R base building systems unless a third party audit shows that system replacement or conversion is not economically feasible.	LEED-EB
EE 1 Optimize Energy Performance	Achieve increasing levels of energy performance to reduce environmental and health burdens associated with excessive energy use.	Demonstrate ongoing continuous improvement in energy performance above the Energy Star score of 60, as required in Prerequisite 1, for the institution, campus or building as follows:	LEED-EB
		Credit 1.1 Energy Star score of 63	
		Credit 1.2 Energy Star score of 67	
		Credit 1.3 Energy Star score of 71	
		Credit 1.4 Energy Star score of 75	
		Credit 1.5 Energy Star score of 79	
		Credit 1.6 Energy Star score of 83	
		Credit 1.7 Energy Star score of 87	
		Credit 1.8 Energy Star score of 91	
		Credit 1.9 Energy Star score of 95	
		Credit 1.10 Energy Star score of 99	
EE 2 On-Site & Off-Site Renewable Energy	Encourage & recognize increasing levels of on-site and off-site renewable energy in order to reduce environmental and health burdens associated with fossil fuel energy use.	Fulfill some or all of the building's total energy use through the use of on-site or off-site renewable energy systems. Points are earned according to the following table. The percentages shown are the percentage of building energy use met by renewable energy resources over a minimum one year period.	LEED-EB
		1% on site generation or 5% off site Renewable Energy Certificates	
		2% on site generation or 10% off site Renewable Energy Certificates	
		5% on site generation or 25% off site Renewable Energy Certificates	
		10% on site generation or 50% off site Renewable Energy Certificates	

Title	*Intent*	*Credit Goals*	*Source*
EE 3 Energy Efficient Equipment	Reduce energy consumption by using energy-efficient medical and other equipment.	Demonstrate continuous improvement through purchase of medical and office equipment that is either Energy Star® qualified, or in the top 25th percentile for energy consumption for that class of equipment. For office equipment, appliances and unit refrigerators, initiate and maintain purchasing standards that require 90% Energy Star® labeled equipment. For major medical equipment, demonstrate that 75% of new equipment (including all support equipment) by consumption is in the top 25% of its category for energy performance or is Energy Star® labeled. For major medical equipment, demonstrate that replacement equipment reduces energy demand by more than 10%, is in the top 25% of its category for energy performance, or is Energy Star® labeled.	New
EE 4 Refrigerant Selection	Reduce ozone depletion and support early compliance with the Montreal Protocol.	Do not operate base building HVAC, refrigeration or fire suppression systems that contain HCFCs or Halons. OR Reduce emissions of refrigerants from base cooling equipment to less than 3% of charge per year over the performance period using EPA Clean Air Act, Title VI, Rule 608 procedures governing refrigerant management and reporting and reduce the leakage over the remainder of unit life to below 25%.	LEED-EB
EE 5.1 Performance Measurement: Enhanced Metering	Demonstrate ongoing accountability and optimization of building energy and water consumption performance over time and add incentives for additional energy reduction and reduced local and global emissions.	Establish and maintain continuous metering for the following items: (Up to 2 points can be earned - one point is earned for each 4 actions implemented/maintained). For each item metered, prepare, implement and maintain a program for using the data gathered to improve building performance over time. - Lighting systems and controls. - Separate building electric meters that allow aggregation of all process electric loads. - Separate building natural gas meters that allow aggregation of all process natural gas loads. - Chilled water system efficiency at variable loads (kW/ton) or cooling loads (for non-chilled water systems). - Cooling load. - Air and water economizer and heat recovery cycle operation. - Boiler efficiencies. - Building specific process energy systems and equipment efficiency. - Constant and variable motor loads. - Variable frequency drive (VFD) operation. - Air distribution, static pressure and ventilation air volumes.	Mod
EE 5.2 Performance Measurement: Emission Reduction Reporting	Demonstrate ongoing accountability and optimization of building energy and water consumption performance over time and add incentives for additional energy reduction and reduced local and global emissions.	Identify and implement building performance parameters that reduce energy use and reduce emissions. - Track and record the significant emission reductions including those delivered by energy efficiency, renewable energy and other building emission reduction actions including: carbon dioxide (CO2), sulfur dioxide (SO2), nitrogen oxides (NOx), mercury (Hg), small particulates (PM2.5), large particulates (PM10), and volatile organic compounds (VOCs). - Report the reductions in emissions resulting from these energy efficiency and renewable operations using a third party voluntary certification program. - Retire at least 10% of the emission reductions, delivered by the energy efficiency actions, through a third party voluntary certification program. - Ask the suppliers of goods and services for the building to do the same by implementing actions above.	LEED-EB

Water Conservation

Title	*Intent*	*Credit Goals*	*Source*
WC Prereq 1 Minimum Water Efficiency	Maximize fixture water efficiency within buildings to reduce the burden on potable water supply and wastewater systems.	Maximize fixture potable water efficiency to achieve and maintain a level equal to or below water use baseline, calculated as 120 percent of the water usage that would result if 100% of the total building fixture count were outfitted with plumbing fixtures that meet the Energy Policy Act of 1992 fixture performance requirements. If the building does not have separate metering for each water use (fixture use, process use, irrigation and other uses) the water use reduction achievements can be demonstrated with calculations. At least one meter for the overall building water use is required and metering for cooling towers and other process water uses are encouraged but not required.	LEED-EB
WC 1 Water Efficient Landscaping	Limit or eliminate the use of potable water for landscaping irrigation.	Use high-efficiency irrigation technology OR use captured rain or recycled site water to reduce potable water consumption for irrigation in comparison to conventional means of irrigation. Achieve reductions in potable water use for irrigation over conventional means of irrigation.	Mod
		Credit 1.1 Reduce potable water use by 50%.	
		Credit 1.2 Reduce potable water use by 100%.	
WC 2 Building Water Use Reduction	Maximize water efficiency within buildings to reduce the burden on potable water supply and wastewater systems.	Establish and maintain strategies and systems that in aggregate produce a reduction of total building potable water use from a measured baseline. At least one meter for the overall building water use is required. See WC Credit 3: Performance Measurement: Enhanced Metering for more information about sub-metering potable water use.	New
		Credit 2.1 Reduce total building potable water use by 10%.	
		Credit 2.2 Reduce total building potable water use by 20%.	
		Credit 2.3 Reduce total building potable water use by 30%.	
		Credit 2.4 Reduce total building potable water use by 40%.	
		Credit 2.5 Reduce total building potable water use by 50%.	
WC 3 Performance Measurement: Enhanced Metering	Provide for the ongoing optimization and conservation of building potable water consumption over time and in areas of the facility not otherwise impacted by construction.	Provide for long-term continuous measurement of potable cold water uses within the facility. Provide individual meters for the following cold water uses, as applicable to the facility: -Water use in laboratory -Water use in dietary department -Water use in central sterile and processing department -Water use in laundry -Water use in radiology and imaging department -Water use in surgical suite -Purified water system (reverse osmosis and/or de-ionized) and filter backwash water -Outdoor irrigation systems -Cooling tower make-up and filter backwash water -Steam boiler system make-up water -Closed loop hydronic system make-up water - Water use in mechanical equipment, including pumps - Water-cooled equipment and cooling towers	Mod

Chemical Management

Title	*Intent*	*Credit Goals*	*Source*
CM Prereq 1 Polychlorinated BiPhenyl (PCB) Removal	Reduce the potential exposure of building occupants to PCBs and PCB combustion by-products in case of fire in the building.	Establish a PCB management program. Identify the applicable regulatory requirements. Maintain a current survey of the facility to identify where PCBs are located in the building and on the site so that the PCBs present can be addressed appropriately in the PCB management program.	LEED-EB
CM 1.1 Community Contaminant Prevention: Airborne Releases	Minimize building airborne effluents, hazardous leaks and spills, and environmental, health and safety burdens to site and neighbors.	Meet all standards of US EPA Clean Air Act for air emissions resulting from refrigeration and air conditioning, boilers, on-site medical waste treatment facilities (if on site), asbestos, ethylene oxide sterilization (ETO) units, emergency generators, anesthesia, lab/pharmaceutical chemicals, and lab/pharmaceutical fume hoods. Meet all standards of California South Coast Air Quality Management District for all products of combustion. Obtain low sulfur diesel or bio-diesel fuels for generators and other diesel equipment.	New (EPC)
CM 1.2 Community Contaminant Prevention: Leaks & Spills		Develop and implement a policy US EPA Spill Prevention Control Countermeasures Regulations (SPCC) containment and engineering controls to manage outdoor storage of fuels and chemicals in order to minimize risk from leakage and spills. Develop and implement an emergency response plan to contain leaks and spills.	New (EPC)
CM 2.1 Indoor Pollutant Source Control & Other Occupational Exposures: Chemical Management & Minimization	To prevent occupational exposure from hazardous chemicals to patients, staff and community and to eliminate potential environmental and community health harm from pollutants carried by building discharge water and/or air emissions.	Develop a comprehensive chemical management policy that includes all processes for receiving, handling, storing and disposing of high hazard substances. Specifically: - A purchasing policy that includes standards for evaluating hazardous chemicals prior to purchase with preference for less hazardous materials when available. - Proper labeling, according to OSHA's Hazard Communications Standards. - Hazardous Waste Determination processes and, accordingly, appropriate disposal practice guidelines. To protect municipal sewage treatment works from pollutant discharge from building operations, the chemical management policy (and/or chemical hygiene plan) must also include: - A listing of chemical products and systems for the evaluation and implementation of least toxic alternatives. - Priority areas include: Dialysis, Environmental Services, Facilities Management/Engineering, Laboratory/Pathology/Histology, Nutrition Services, Pharmacy, Radiology, Sterile Processing, Laundry and Surgical Services. - A description of chemical storage areas and description and implementation of secondary containment.	New
CM 2.2 Indoor Pollutant Source Control & Other Occupational Exposures: High Hazard Chemicals		Implement comprehensive chemical management and use a policy that includes staff training and education, labeling, proper use, air monitoring, employee health monitoring, as appropriate, with special consideration for chemicals that have been identified for increased risk of occupational exposure. Minimize the use of hazardous chemicals in specific applications: - Substitute glutaraldehyde (GA) and Ethylene Oxide (EtO) sterilants when safer alternatives that maintain infection control standards are available. - Where glutaraldehyde must be used, ensure that enclosed reprocessing units limit the Threshold Limit Value (TLV – 15 min STEL) to 0.05 ppm or less. - Install controls for all high level chemical disinfectants and sterilants consistent with a presumption of high hazard.	New

Title	*Intent*	*Credit Goals*	*Source*
CM 3 Chemical Discharge: Pharmaceutical Management & Disposal	Reduce pharmaceutical wastes in sanitary sewer discharge.	Develop an integrated pharmaceutical waste management system in which all waste bulk chemotherapy items are segregated and managed as hazardous waste, all other waste pharmaceuticals are segregated into hazardous or non-hazardous waste, and no antibiotics, hormones or other pharmaceutical waste is drain disposed to the sanitary sewer system. Develop a pharmaceutical waste minimization plan that includes: - Non-hazardous pharmaceutical waste: Segregate into dedicated containers for disposal at a regulated landfill permitted to accept non-hazardous pharmaceutical waste; - Non-chemotherapy pharmaceutical waste that meets the definition of a hazardous waste: Identify, segregate, label, store, and manage as hazardous waste as defined in the Resource Conservation and Recovery Act (RCRA); - Bulk chemotherapy waste: Segregate from trace chemotherapy waste, label, store, and manage bulk chemotherapy waste as hazardous waste as defined in the RCRA.	New

Waste Management

Title	*Intent*	*Credit Goals*	*Source*
WM Prereq 1 Waste Stream Audit	Establish minimum source reduction and recycling program elements and quantify current waste stream production volume.	Conduct a waste stream audit of the ongoing waste stream to establish a current baseline identifying the types and amounts of waste stream constituents. At a minimum, the audit should determine the amounts for regulated medical waste, hazardous waste and solid waste, and recyclables in the waste stream. Operate a procurement/management policy to reduce waste stream through purchasing strategies, collection station equipment and occupant education.	LEED-EB
WM 1 Total Waste Reduction	Reduce solid waste disposal in landfills and incinerators generated by health care facilities through reduction, reuse, recycling and composting.	Establish and maintain a Waste Management Plan and implementation strategies to prioritize reduction, reuse, recycling, and composting to divert wastes from disposal in landfills and incinerators. Incorporate steps into the facility's Waste Management Plan to eliminate, minimize, substitute and safely dispose of wastes generated by the facility using reduction of disposables and single use devices. Incorporate steps into the facility's Waste Management Plan to implement maximum achievable control technology (MACT) alternatives to incineration. AND For existing health care facilities, reduce total waste by weight from baseline defined in WM Prerequisite 1 by amounts indicated in the following table:	Mod
		Credit 1.1 Reduce total waste stream by a minimum of 15%.	
		Credit 1.2 Reduce total waste stream by a minimum of 25%.	
		Credit 1.3 Reduce total waste stream by a minimum of 35%.	
WM 2 Regulated Medical Waste Reduction	Reduce disposal of regulated medical waste generated by health care facilities in landfills, incinerators and alternative treatment plants through improved segregation and change of work practices.	Credit 2.1 Demonstrate that total regulated medical waste weight is less than 10% of the solid waste stream from the facility.	New
		Credit 2.2 Demonstrate that incineration is used only to dispose of the fraction of the regulated medical waste stream required by regulations to be incinerated, where achievable. (Pyrolysis and plasma-arc are not considered an acceptable alternative to incineration.) Incorporate steps into the facility's Waste Management Plan to implement maximum achievable control technology (MACT) alternatives to incineration.	
WM 3 Food Waste Reduction	Reduce solid waste disposal in landfills and incinerators generated by health care facilities through reduction, reuse, recycling and composting.	Audit the weight of food waste produced in the facility to establish a baseline. Divert food waste from the solid waste stream by reducing food service organic waste by 50% below baseline by weight. Reductions may be achieved by any combination of food service delivery program changes, compost, or donation. Develop and implement a food waste diversion and collection plan, consistent with health and solid waste regulations, for all food use areas including but not limited to: catering, patient rooms, cafeteria and food preparation areas. Implement food service programs to reduce weight of unconsumed prepared food. Reduce food waste by 50% below baseline by weight through a combination of strategies. Provide controlled areas to facilitate easy removal of food waste, consistent with facility Integrated Pest Management (IPM) plan.	New

Environmental Services

Title	*Intent*	*Credit Goals*	*Source*
ES 1 Outdoor Grounds & Building Exterior Management	Encourage grounds/site/building exterior management practices that have the lowest environmental impact possible and preserve ecological integrity, enhance diversity and protect wildlife while supporting building performance and integration into surrounding landscapes.	Establish and maintain a low-impact site and green building exterior management plan that addresses the topics listed below. One point is earned for each four items addressed: - Maintenance equipment - Plantings - Animal and vegetation pest control - Landscape waste - Irrigation management - Fertilizer use - Snow removal (where applicable) - Cleaning of building exterior - Paints and sealants used on building exterior - Other maintenance of the building exterior	LEED-EB
ES 2 Indoor Integrated Pest Management	Reduce human exposure to physical and chemical hazards and odors associated with pest management products and practices by employing custodial operations that use safe methods and low-toxicity or non-toxic pest management products.	Develop and implement an Integrated Pest Management Program for managing pest control in the building interior, including, at a minimum: - Methods of identifying pests and monitoring levels of infestation. - Stated action thresholds. - Listing of preventive or corrective actions to be employed (such as sanitation, structural repairs, and ongoing maintenance), traps, and the judicious use of least toxic chemical pesticides.	Mod
ES 3 Environmentally Preferable Cleaning Policy	Develop an operational policy to limit exposure of building occupants and maintenance personnel to potentially hazardous chemical, biological and particulate contaminants.	Develop and maintain an environmentally preferable cleaning policy for all surfaces, including floors, walls, furniture and medical equipment addressing: -Sustainable floor care systems. - Levels of required disinfection for all surfaces. - Sustainable cleaning systems. - Use of sustainable cleaning products. - Use of chemical concentrates and appropriate dilution systems. - Regular training of maintenance personnel in the hazards, use, maintenance and disposal of cleaning chemicals, dispensing equipment and packaging. - Use of hand soaps that do not contain antimicrobial agents (other than as a preservative system), except where required by health codes and other regulations (i.e., food service and health care requirements). - Use of cleaning equipment that does not negatively impact IAQ. - Use of low moisture carpet extractors.	Mod
ES 4 Sustainable Cleaning Products & Materials	Limit exposure of building occupants and maintenance personnel to potentially hazardous chemical, biological and particulate contaminants through implementation of an environmentally preferable cleaning policy.	Adopt and implement a sustainable purchasing policy for cleaning products and materials. Cleaning product and material purchases include building purchases for use by in-house staff or used by outsourced service providers. Cleaning products that meet the Green Seal GS-37 standard, OR, if GS-37 is not applicable, use products that comply with the California Code of Regulations' maximum allowable VOC levels. Minimize fragrances. Calculate the percentage of the total sustainable material and product purchases on a cost basis that meet the above sustainability criteria. Credit 4.1 Purchase sustainable for 30% of annual purchases. Credit 4.1 Purchase sustainable for 60% of annual purchases. Credit 4.1 Purchase sustainable for 90% of annual purchases.	Mod
ES 5 Environmentally Preferable Janitorial Equipment		Develop, implement and maintain a policy for the use of janitorial equipment that maximizes effective reduction of building contaminants while minimizing environmental and health burdens.	LEED-EB

Environmentally Preferable Purchasing

Title	*Intent*	*Credit Goals*	*Source*
EP 1.1 Food: Organic or Sustainable	Support sustainable food production and improved environmental health through purchase of organic, drug free foods and improve access to locally produced food products.	Obtain a minimum of 25% of combined food and beverage purchases from any combination of the following sources: - USDA certified organic - Food Alliance Certified - Rainforest Alliance Certified - Protected Harvest - Fair Trade Certified AND/OR - local farms within a 100 mile radius of the facility.	New
EP 1.2 Food: Antibiotics		Establish a meat procurement purchasing policy that includes the following requirements. - 50% of meat, poultry, dairy, and seafood products purchased annually must have been produced without non-therapeutic use of antibiotics, particularly those that belong to classes of compounds approved for use in human medicine. - 100% of chicken purchased annually must have been produced without the non-therapeutic use of antibiotics that belong to classes of compounds approved for use in human medicine; and without any use of fluoroquinolone antibiotics. - Poultry other than chicken will receive a purchase preference if it has been produced without the non-therapeutic use of antibiotics, particularly those that belong to classes of compounds approved for use in human medicine. Regularly inform food suppliers of the above food procurement policy.	
EP 1.3 Local Production / Food Security		Farmers Markets: Host and promote on-site farmers market during growing season(s), OR Farmers-Consumer Links: Provide access and support of direct farmer-to-consumer link, such as Community Supported Agriculture and/or food box program to patients, OR Farms and Gardens: Support on-site food producing garden and/or urban food producing garden programs that are accessible to the public.	
EP 2 Janitorial Paper & other Disposable Products	Reduce use of virgin paper resources in janitorial and other disposable product applications.	Develop and maintain an environmentally preferable janitorial paper and other disposable product policy, addressing the following: - Use disposable janitorial paper products and trash bags that meet the most current Comprehensive Procurement Guidelines (CPG) for recycled content, AND - Give preference to paper products that are manufactured Process Chlorine-Free, AND - Use large rolls wherever possible, and hands-free dispensers that limit paper portions, AND - Do not use C-fold or multi-fold paper towel systems.	New

Title	*Intent*	*Credit Goals*	*Source*
EP 3 Electronics Purchasing & End of Life Management	Require take back and management services for end-of-life electronic products to safely manage hazardous compounds.	Establish and maintain an IT/Telecom Assets Management Team with staff from IT, Environmental Services/ Recycling, Procurement, Administration and Risk Officers. Develop an IT-Environmental Management Plan that includes strategies around Procurement, Reduction, Responsible Reuse, and Responsible Recycling: - Each of these strategies should be in compliance with federal and state solid waste and hazardous waste disposal regulations, including Universal Waste Rules. - Manufacturers' written commitments of equipment take-back at end of product life. - Require manufacturers' or vendor's written commitments of equipment end of life management, either through take-back or recycling. - Contract with only those recyclers that have signed the Recycler's Pledge of Environmental Stewardship or have otherwise verified that they do not export hazardous waste. - Establish and maintain a HIPAA compliance plan for electronic products. - Comply with the IT/Telecom Environmental Management Plan for all new IT/Telecom purchases, and report end of life management achievement for existing or inherited equipment. - Demonstrate continuous improvement for end of life management over a minimum one year period.	New
EP 4.1 Toxic Reduction: Mercury	Ensure the health of building occupants and staff through the reduction, limited exposure and proper disposal of stand-alone mercury-containing equipment and medical devices; clinical products plasticized with DEHP; and, medical supplies, furnishings and devices containing natural rubber latex.	Equipment and Devices: Develop a mercury free purchasing policy. Conduct an audit of mercury-containing equipment, and implement a plan for safe handling and disposal of all such devices. The policy must include: - Identify alternatives to mercury containing clinical devices and other stand-alone medical and facilities equipment. - Obtain mercury-free MRI equipment, wheel chairs, automated beds and other medical and laboratory equipment where cost-effective alternatives are available. - Collection and disposal of all mercury-containing devices shall be captured and disposed of as Universal Waste and preclude overseas collection and disposal. For dental equipment, provide amalgam separators that capture a minimum 98% of mercury. - Identify and label mercury-containing laboratory chemicals and pharmaceuticals. Lamps: - Obtain low mercury fluorescent tubes and compact fluorescent lamps, and low mercury high intensity discharge lamps such that average mercury content in fluorescent tubes and compact fluorescent lamps does not exceed 5 mg of mercury, and that high-intensity discharge lamps have the lowest available mercury content, providing that all other performance specifications are met. - Implement a lamp recycling program in accordance with state Universal Waste regulations. Training: - Develop a mercury spill protocol, and hold recaptured mercury for safe disposal. - Until phase-out is complete, conduct and document employee training on segregation and safe handling of mercury.	Mod

Title	*Intent*	*Credit Goals*	*Source*
EP 4.2 Toxic Reduction: DEHP		DEHP is used extensively as a plasticizer in PVC containing products. Facilities shall develop a DEHP elimination plan. The plan shall include the following requirements: - Audit and identify use areas of flexible PVC (or vinyl) plasticized with DEHP. Tubing, IV bags and PVC gloves are the primary end uses for disposable PVC medical products. - Identify and institute timelines for phase-out of DEHP used in procedures identified by the FDA as high risk. - The Group Purchasing Organization shall request manufacturers to label DEHP--containing products. The facility's purchasing policy shall give preference to DEHP-free flooring, wall covering, wall protection, shower curtains, mattress covers and other products. - Directs the facility purchasing department and/or Group Purchasing Organization to require manufacturers to label DEHP containing products. The facility's purchasing policy shall give preference to DEHP-free flooring, wall covering, wall protection, shower curtains, mattress covers and other products.	New
EP 4.3 Toxic Reduction: Natural Rubber Latex		Establish and implement a policy that provides for alternatives to natural rubber latex surgical gloves, stethoscopes, blood pressure cuffs, intravenous tubing, syringes, tourniquets, endotracheal tubes, oral and nasal airways, balloons, wheelchair and furnishing cushions, pillows, mattress pads and other products and materials containing natural rubber latex as necessary. Establish and implement a policy prohibiting the procurement and use of natural rubber latex in permanent installations such as carpet backing.	New
EP 5 Furniture & Medical Furnishings	Reduce the environmental and health burdens associated with the manufacture, use and disposal of furniture and medical furnishings products.	Ensure that 40% of annual volume of furniture and medical furnishings, based on cost, comply with the Credit 9.1-9.3 Furniture and Medical Furnishings and EQ Credit 4.5 Low-Emitting Materials: Furniture and Medical Furnishings.	Mod
EP 6 IAQ Compliant Products	Enhance building indoor air quality (IAQ) through procurement and implementation of low-emitting products and processes.	Optimize use of air quality compliant materials inside the building to improve the building's emission profile. At a minimum, the facility's sustainable product purchasing policies must include the following product groups: paints and coatings, adhesives, sealants, carpet, composite panels, and other building materials used inside the building. The building materials covered by the policies include any building materials used for improvements inside the building, including upgrades, retrofits, renovations or modifications. Calculate the percentage of the total annual sustainable material and product purchases (on a cost basis) that meet the following IAQ compliance criteria: - Adhesives and sealants with a VOC content that complies with Construction: EQ Credit 4.1 Credit Goals. AND/OR - Paints and coatings with VOC emissions that comply with Construction: EQ Credit 4.2 Credit Goals. AND/OR - Carpet that meets the Credit Goals of Construction: EQ Credit 4.3. AND/OR - Composite panels, agrifiber products and insulation that comply with Credit Goals of Construction: EQ Credit 4.4. Credit 6.1 Purchase IAQ compliant for 45% of annual purchases. Credit 6.2 Purchase IAQ compliant for 90% of annual purchases.	LEED-EB

Innovation in Operations

Title	*Intent*	*Credit Goals*	*Source*
IN 1 Innovation in Operations	To provide project teams and projects the opportunity to achieve points for exceptional performance above requirements set by the *Green Guide for Health Care: Operations* and/or for innovation for green operations goals and strategies not specifically addressed by the *Green Guide for Health Care*.	Identify the intent of the proposed innovation credit, the proposed credit goals, proposed documentation to demonstrate achievement, and the operations approach used to meet the goals.	Mod
IN 2 Documenting Sustainable Operations: Business Case Impacts	Document sustainable building operations cost impacts.	Document overall building operating costs for the previous five years (or length of building occupancy, if shorter), and track changes in overall building operating costs over a minimum one year period. Compile building operating cost and financial impacts for a minimum of five implemented Green Guide credits on an ongoing basis. OR Conduct a triple bottom line sustainability report.	LEED-EB
IN 3.1 Documenting Productivity Impacts: Absenteeism & Health Care Cost Impacts	Document absenteeism, health care cost and other productivity impacts of sustainable building performance improvements.	Document the history of absenteeism and health care costs for building occupants for the previous five years (or length of building occupancy with a minimum of 12 months). Track changes in absenteeism and health care costs (claim costs and any reductions in premium costs should be provided if available) for building occupants relative to sustainable building performance improvements.	LEED-EB
IN 3.2 Documenting Productivity Impacts: Research Initiatives		Engage in third party research initiatives on other productivity impacts (beyond health impacts outlined in IN Credit 3.1) to help discover the impact that sustainable building performance improvements have on building occupants. Parameters for research may include: staff recruitment, satisfaction or retention or clinical performance measures (i.e., medical errors, staff satisfaction, or cure times).	Mod