Green Globes NC Criteria and Point Allocation

Rating Earned: **96%**

PROJECT MANAGEMENT POLICIES AND PRACTICES

Applicable	Scored
50	48

Question	Answer	Applicable	Scored
Integrated design process		20	20
Was an integrated design process used for the design development?	◉ Yes ○ Partially ○ No	10	10
Was a team approach used during the design process?	◉ Yes ○ No	5	5
Was the green design facilitation process used to support green design integration?	◉ Yes ○ No	5	5
Environmental purchasing		10	8
Have aspects of green product specifications been incorporated?	◉ Yes ○ No	1	1
Give examples of specified products reflecting green specifications:		2	0
Was environmental purchasing integrated, including the procurement of energy-saving, high-efficiency equipment?	◉ Yes ○ No	7	7
Commissioning plan - documentation		15	15
Have the following best-practice, commissioning procedures been implemented?			
• A Commissioning Authority has been engaged.	◉ Yes ○ No	3	3
• “Design Intent” and “Basis of Design” documentation has been reviewed.	◉ Yes ○ No	3	3
• Commissioning requirements are included in the Construction Documentation.	◉ Yes ○ No	3	3
• A Commissioning Plan has been developed.	◉ Yes ○ No	6	6
Emergency response plan		5	5
Does Division 1 include the project's environmental goals and procedures with regard to emergency response?	◉ Yes ○ No	5	5

Rating Earned: **100%**

SITE

Applicable	Scored
115	115

Question	Answer	Applicable	Scored
Development area		30	30
Does the site plan indicate that the building is constructed on: • an existing serviced site? • a remediated, previously contaminated site? • land with an existing minimum development density of 60,000 ft²/acre (i.e. two storey inner city development)? • a new greenfield site?	Select appropriate ☑ ☑ ☑ ☐	20	20
Does the site plan show that the building is constructed on land that is neither a floodplain, nor a wetland, nor a wildlife corridor?	◉ Yes ○ No	5	5
Does the design accommodate the building's functions, while minimizing disturbance to the site's topography, soils and vegetation?	◉ Yes ○ No	5	5
Minimization of ecological impact		30	30
Are erosion control measures in place in accordance with best management practices (including during construction)?	◉ Yes ○ No	9	9
Will at least 35% of impervious surfaces be shaded - preferably with trees, shrubs or vines?	◉ Yes ○ No	7	7
Do the construction documents specify measures to reduce heat build-up on the roof, either by using high-albedo roofing materials (reflectance of at least 0.65 and emissivity of at least 0.9) for a minimum of 75% of the roof surface, or by constructing a green roof, or by a combination of both high-albedo materials and green roof?	○ Yes - using high albedo materials ○ Yes - by means of a green roof ◉ Yes - by a combination of high albedo materials and green roof ○ No	7	7
Will the obtrusive aspects of exterior lighting such as glare; light trespass and sky glow be minimized and will the building design reduce collisions of birds with building?	◉ Yes ○ No ○ N/A	7	7

Question	Answer	Applicable	Scored
Enhancement of watershed features		15	15
Will storm water run-off be controlled to prevent damage to project elements and vegetation, and to minimize run-off into waterways such that: Select applicable for site conditions: • There is no storm water management. • Storm water is directed to pervious areas.	☐ ☑	15	15

• In the case of a site which was previously 100% pervious (green site), there will be no increase in run-off.	☑		
• In the case of a site whose pre-development impervious area is greater than 50% (site previously built on), a storm water control plan will achieve a 25% decrease in storm water run-off.	☐		
Select applicable for roof conditions:			
• There are no specific measures to reduce, control or direct run-off from the roof.	☐		
• Run-off from the roof will be controlled and directed to a pervious area.	☐		
• There will be a green roof.	☑		
State the pre-development ratio of pervious to impervious area:	50 %		
State the post-development ratio of pervious to impervious area:	75 %		
Enhancement of site ecology		40	40
Is the development occurring on a brownfield site that is being remediated?	◉ Yes ○ No	20	20
Does the landscape plan create/preserve natural core and corridors and/or specify a naturalized landscape using native trees, shrubs and ground cover, with minimal lawn?	◉ Yes ○ No ○ N/A	20	20

ENERGY

Rating Earned: **74%**

Applicable	Scored
380	283

Question	Answer	Applicable	Scored
Building energy performance		100	60
Have the energy performance targets been achieved?</SPAN< a>	◉ Yes ○ No		
Input the value of the projected annual energy use in kBtu.	55000	100	60
Input the value of the projected energy savings as a percentage compared to the reference base building.	30 %		
Input the value of carbon dioxide (CO_2) emissions savings.	kg.		

Question	Answer	Applicable	Scored
Energy demand minimization		114	57
Space Optimization			
Has the floor area been optimized to efficiently fulfill the building's functional and spatial requirements, including circulation and services, while minimizing the amount of space that will need	◉ Yes	2	2

to be heated or cooled?	○ No ○ N/A		
Describe how the space is being optimized:		6	0
Will the construction process be phased?	◉ Yes ○ No ○ N/A	2	2
Response to microclimate and topography			
Is the building sited and oriented to optimize the effect of microclimatic conditions for heating or cooling?	◉ Yes ○ No	2	2
Describe how the building is sited and oriented to optimize effects of microclimatic conditions:		6	0
Are site topography and design measures - including location and orientation - optimized to provide shelter from wind and snow deposition?	◉ Yes ○ No	8	8
Does the building design maximize opportunities for natural or hybrid ventilation?	◉ Yes ○ No	2	2
Describe how the building design maximizes opportunities for natural or hybrid ventilation:		6	0
Integration of daylighting			
Is daylighting maximized through building orientation, window-to-wall size ratios?	◉ Yes ○ No	5	5
Briefly describe the fenestration strategy:		10	0
Is window glazing which optimizes daylight (high visible transmittance (VT)) specified?	◉ Yes ○ No	2	2
Indicate the VT value:		8	0
Is electrical lighting integrated with daylighting, taking into account daily and seasonal variations?	◉ Yes ○ No	10	10
Building envelope			
Does the thermal resistance of the exterior enclosure meet Federal or State Energy Building Codes?	◉ Yes ○ No	2	2
Indicate the R value for walls:		4	0
Indicate the R value for the roof:		4	0
Do the construction documents indicate window glazing with a low U factor and window treatments that enhance interior thermal comfort?	◉ Yes ○ No	2	2
Indicate the window U value:		8	0
Do the construction documents specify measures to prevent groundwater and/or rain penetration into the building?	◉ Yes ○ No	5	5
Is the integrity of the building envelope optimized, using the following best air/vapor barrier practices?			
• air barrier materials meet the requirements of local and national building codes	◉ Yes ○ No	2	2
• drawings provide air barrier detailing between components of the building envelope and around penetrations	◉ Yes ○ No	1	1

• mock-ups and mock-up testing is required for air and vapor barrier systems	◉ Yes ○ No	1	1
• field review and testing is required for air and vapor barrier systems	◉ Yes ○ No	1	1
Will the building design and construction prevent the “stack effect”?	◉ Yes ○ No ○ N/A	5	5

Energy metering

Will major energy uses be sub-metered?	◉ Yes ○ No ○ N/A	5	5
List the major energy uses that will be sub-metered:		5	0

Question	Answer	Applicable	Scored
Energy-efficient systems		66	66
Is the building's energy efficiency increased through the use of the following energy-efficient equipment?			
• Energy-efficient lighting fixtures, lamps and ballasts	◉ Yes ○ No	6	6
• Lighting controls	◉ Yes ○ No	6	6
• Energy-efficient HVAC equipment	◉ Yes ○ No	6	6
• High efficiency (modulating or condensing) boilers	◉ Yes ○ No	8	8
• High efficiency chillers	◉ Yes ○ No	6	6
• Energy-efficient hot water service systems	◉ Yes ○ No	6	6
• Building automation systems	◉ Yes ○ No	6	6
• Variable speed drives	◉ Yes ○ No	6	6
• Energy-efficient motors	◉ Yes ○ No	6	6
• Energy-efficient elevators	◉ Yes ○ No	4	4
• Others	◉ Yes ○ No	6	6
Describe:		0	0
Renewable sources of energy		20	20
Do the construction documents indicate the integration of renewable energy sources?	◉ Renewable energy will supply more than 10% of the total load ○ Renewable energy will supply more than 5% and less than 10% of the total load ○ No renewable energy	20	20
Energy-efficient transportation		80	80

Public transport

Will public transport be easily accessible within 500 yards of the building, and with service at least every 15 minutes during rush hour?	◉ Yes ○ No	50	50

Will there be designated preferred parking for car/van pooling and shelter from weather for persons waiting for a lift?	(•) Yes ( ) No	6	6
Will there be alternative-fuel re-fueling facilities on-site or in the general vicinity?	(•) Yes ( ) No ( ) N/A	4	4
Cycling facilities			
Will there be safe, covered storage areas with fixed mountings to secure bicycles against theft?	(•) Yes ( ) No	10	10
Will there be changing facilities for building tenants and staff?	(•) Yes ( ) No ( ) N/A	10	10

WATER

Rating Earned: **79%**

Applicable	Scored
85	67

Question	Answer	Applicable	Scored
Water performance		30	18
Do water consumption estimations meet an established target of:			
Offices	Select One		
Less than 35 gallons/ft²/year	(•)		
Less than 20 gallons/ft²/year	( )		
Less than 10 gallons/ft²/year	( )		
MURBs			
Less than 66,000 gallons/apartment/year	( )		
Less than 33,000 gallons/apartment/year	( )	30	18
Less than 11,000 gallons/apartment/year	( )		
Schools, Universities:			
Less than 1150 gallons/student/year	( )		
Less than 900 gallons/student/year	( )		
Less than 720 gallons/student/year	( )		
No target has been set	( )		
Water-conserving features		45	41
Minimal consumption of potable water			
Is there water sub-metering for high water-usage operations or occupancies?	(•) Yes ( ) No ( ) N/A	2	2
Which operations will be sub-metered?		2	0
Does the design include the following water-efficient equipment?			
• Low-flush toilets (less than 1.6 gallons/flush)	(•) Yes	4	4

	○ No		
• Water-saving fixtures on faucets (2.0 gallons/min) and showerheads (2.4 gallons/min.)	◉ Yes ○ No	4	4
• Water-saving devices or proximity detectors on urinals	◉ Yes ○ No ○ N/A	4	4
• Other water-saving appliances (For example low-flow kitchen faucets, low water consumption domestic and commercial dishwashers (8 gallons) and water efficient (H-axis)washing machines).	◉ Yes ○ No ○ N/A	4	4

Briefly describe other water-saving measures:

Minimal use of water for cooling towers

Where wet cooling towers are used, do they have features to minimize the consumption of make-up water?	◉ Yes ○ No ○ N/A	10	10

Minimal use of water for irrigation

Is a water-efficient irrigation system specified?	◉ Yes ○ No ○ N/A	5	5
Will the landscaping use plants that are able to withstand extreme local weather conditions and that require minimal irrigation?	◉ Yes ○ No ○ N/A	5	5
Will non-potable water (i.e. captured rainwater or recycled site water) be used for irrigation?	○ Yes, 100% of the irrigation will consist of non-potable water ◉ Yes, irrigation consist of non-potable water, supplemented with potable water as needed ○ No ○ N/A	5	3
Minimization of off-site treatment of water		10	8
Is a graywater collection, storage and distribution system specified?	◉ Yes ○ No ○ N/A	5	5
Is an on-site wastewater treatment system specified? ◉ Yes	○ No ○ N/A	3	3
Briefly describe the on-site wastewater treatment:		2	0

Rating Earned: **76%**

RESOURCES, BUILDING MATERIALS AND SOLID WASTE

Applicable	Scored
100	76

Question	Answer	Applicable	Scored
Systems and materials with low environmental impact		35	35

Did the selection and specification process for the following assemblies and materials include a life cycle assessment of their environmental burden and embodied energy?			
• Foundation and floor assembly materials	◉ Yes ○ No	10	10
• Structural systems (column and beam or post and beam combinations) and walls	◉ Yes ○ No	10	10
• Roof assemblies	◉ Yes ○ No	10	10
• Other envelope assembly materials (cladding, windows etc.)	◉ Yes ○ No	5	5
Specify:		0	0
Materials that minimize consumption of resources		**16**	**10**
Will used building materials and components be integrated in construction?	◉ Yes ○ No	2	2
Describe the types and quantities of used materials that will be integrated:		2	0
Will building materials with recycled content be used in construction?	◉ Yes ○ No	2	2
Describe the types and quantities of recycled materials that will be integrated:		2	0
Are materials from renewable sources and/or locally manufactured materials specified and have these undergone a life-cycle assessment?	◉ Yes ○ No	2	2
Describe the materials that will come from renewable or locally manufactured sources:		2	0
Do the construction documents specify that tropical hardwoods will not be used and that solid lumber and timber panel products will originate from certified and sustainable sources (i.e. Sustainable Forestry Initiative, CSA, Forestry Stewardship Council, American Tree Farm System)?	◉ Yes ○ No	4	4
Reuse of existing buildings		**20**	**15**
Do the construction documents indicate that the design includes existing façades in fully renovated buildings?	○ Less than 50% ○ At least 50% ◉ At least 75% ○ 100% of existing façades in fully renovated buildings ○ N/A	13	8
Are 50% of the existing major structures (other than the shell) being reused?	◉ Yes ○ No ○ N/A	7	7
Building durability, adaptability and disassembly		**14**	**6**
Are durable and low maintenance building materials and assemblies specified?	◉ Yes ○ No	2	2
Describe the materials and assemblies that have been specified for their durability and low maintenance:		2	0
Do the construction documents indicate that the design promotes building adaptability?	◉ Yes ○ No	2	2
Describe the main features that promote building adaptability:		3	0
Does the design indicate that materials and fastening systems will allow for easy disassembly?	◉ Yes ○ No	2	2
Describe the features that allow disassembly:		3	0
Reuse and recycling of construction/demolition waste		**5**	**5**

Is there a construction, demolition and renovation waste management plan?	(•) Yes ( ) No	5	5
Facilities for recycling and composting		10	5
Do the construction documents indicate that adequate waste handling and storage facilities for recycling and composting are provided?	(•) Yes ( ) No	5	5
Indicate how much storage area will be provided for storing recyclable waste: ____ ft²		5	0

Rating Earned: **90%**

EMISSIONS, EFFLUENTS AND OTHER IMPACTS

Applicable	Scored
70	63

Question	Answer	Applicable	Scored
Minimization of air emissions		15	10
Are low-NOx boilers and furnaces specified?	(•) Yes ( ) No ( ) N/A	10	10
Heat Input: ____ BTU/hour		3	0
Emissions: ____	(•) lb/MBtu ( ) ppm	2	0
Minimization of ozone depletion		25	25
Are refrigeration systems specified that avoid the use of ozone-depleting substances (ODS) and potent industrial greenhouse gases (PIGGs) in the cooling systems?	(•) Yes ( ) No ( ) There are no refrigerants ( ) Retro-fit	20	20
Indicate which refrigerant is specified: ____			
In the case of a new building or a retro-fit, where CFC (chlorofluorocarbon), HFC (hydrocfluorocarbon) or HCFC (hydrochlorofluorocarbon) refrigerants are specified, what will be their ozone-depleting potential (ODP)?	( ) Higher than 0.05 ( ) Less than 0.05 (•) Equal to 0		
Do the construction documents indicate that the building's air-conditioning system complies with the requirements of ASHRAE 15 -1994?	(•) Yes ( ) No ( ) N/A	5	5
Avoiding contamination of sewers or waterways		5	3
Are there measures to intercept and/or treat contaminated water to prevent contaminants from entering sewers or waterways?	(•) Yes ( ) No	3	3

	○ N/A		
Briefly describe measures:		2	0
Pollution minimization		25	25
Compliant storage tanks			
Do the construction documents indicate that soil and surface water contamination will be prevented, in compliance with the federal and state regulations?	◉ Yes ○ No ○ N/A	2	2
Control other pollutants (PCBs, asbestos, radon)			
In the case of a retro-fit, do all PCBs present in the building meet applicable regulatory requirements?	◉ Yes ○ No ○ N/A	1	1
In the case of a retrofit, do the construction documents require that the removal or abatement of asbestos and asbestos-containing materials meet all applicable state and local regulations?	◉ Yes ○ No ○ N/A	1	1
Do the design and construction documents include measures appropriate to the region to prevent the accumulation of harmful chemicals and gases such as radon and methane in spaces below the substructure, and their penetration into the building?	◉ Yes ○ No ○ N/A	1	1
Integrated pest management			
Do the construction documents specify components, materials and the protection of structural openings to avoid infestation by pests?	◉ Yes ○ No	10	10
Storage and control of hazardous materials			
Do the construction documents include secure, appropriately-ventilated storage areas for hazardous and flammable materials?	◉ Yes ○ No	10	10

Rating Earned: **80%**

INDOOR ENVIRONMENT

Applicable	Scored
200	159

Question	Answer	Applicable	Scored
Ventilation		55	41
Will the ventilation system be designed with the following features to avoid entraining pollutants into the ventilation air path?			
• To avoid re-entrainment, air intakes and outlets will be positioned at least 30 ft apart, and inlets will not be downwind of outlets.	◉ Yes ○ No	3	3
• Air intakes will be located more than 60 ft from major sources of pollution and at least the minimum recommended distances from lesser sources of pollution.	◉ Yes ○ No	3	3
• Air intake openings will be suitably protected.	◉ Yes ○ No	2	2
• Ventilation lining that will avoid the release of pollution and fibers into the ventilation air path.	◉ Yes ○ No	2	2

Will sufficient ventilation be provided to obtain acceptable IAQ, in accordance with ANSI/ASHRAE 62.1-2004?	(•) Yes, using the *Ventilation Rate Procedure* ( ) Yes, using the *Indoor Air Quality Procedure* ( ) No	6	6
Indicate ventilation rate: [ ] (•) cfm/person ( ) cfm/ft²		4	0
Is there evidence that the mechanical systems will provide effective air exchange?	(•) Yes ( ) No	5	5
Describe how ventilation effectiveness will be achieved:		5	0
Will there be indoor air quality monitoring?	(•) Yes, using CO_2 monitoring ( ) Yes, using digital electronic airflow monitoring ( ) No ( ) N/A	5	5
Will the mechanical ventilation system have the capability of flushing-out the building with 100% outside air at ambient temperatures above 32°F?	(•) Yes ( ) No	5	5
Will enclosed parking areas be mechanically ventilated?	(•) Yes ( ) No ( ) N/A	5	5
Do the construction documents specify personal controls over the ventilation rates, or, in naturally ventilated buildings, operable windows or trickle vents on windows?	( ) Yes (•) No	3	0
Describe personal controls:		2	0
Do the construction documents specify a Minimum Efficiency Reporting Value (MERV) of at least 13 (80-90% Dust Spot Efficiency) for air distributed to occupied spaces?	(•) Yes ( ) No	5	5

Question	Answer	Applicable	Scored
Source control of indoor pollutants		50	35
Are measures specified to prevent the growth of fungus, mold, and bacteria on building surfaces and in concealed spaces?	(•) Yes ( ) No	5	5
Describe measures to prevent mold:		5	0
Are measures specified to ensure easy access to the air-handling units (AHUs), facilitating their drainage and preventing the accumulation of debris?	(•) Yes ( ) No ( ) N/A	5	5
Do the construction documents specify the use of humidifiers that are designed to avoid the growth of microorganisms?	(•) Yes ( ) No ( ) N/A	3	3
Describe humidification system:		2	0
Do the construction documents specify CO monitoring in parking garages?	(•) Yes ( ) No	5	5

	○ N/A		
Do the construction documents indicate measures to mitigate indoor pollution at-source?	◉ Yes ○ No	2	2
Describe measures to mitigate indoor pollution at source:		3	0
Do the construction documents indicate that wet cooling towers are designed and located in such as way as to avoid the risk of *Legionella*?	◉ Yes ○ No ○ N/A	5	5
Do the construction documents demonstrate that the domestic hot water system is designed to prevent the occurence of *Legionella*?	◉ Yes ○ No	5	5
Do the construction documents specify interior materials that are low-VOC emitting, non-toxic, and chemically inert?	◉ Yes ○ No	5	5
Describe some of the specified materials with these qualities:		5	0

Question	Answer	Applicable	Scored
Lighting		45	42
Daylighting			
Do the construction documents show that the building provides ambient daylight to 80% of the primary spaces?	◉ Yes ○ No	5	5
Will the building achieve a minimum daylight factor of 0.2 for a partially lit work place or living/dining area, or 0.5 for a well day-lit work area?	◉ Yes ○ No	2	2
Indicate daylight factor:		3	0
Are there views to the building exterior, or to atria from all primary interior spaces?	◉ Yes ○ No	5	5
Do the construction documents specify solar shading devices to enable occupants to control brightness from direct daylighting?	◉ Yes ○ No	5	5
Lighting Design			
Do the construction documents show that the building provides light levels no less than those recommended in *IESNA Lighting Handbook, 2000*, for the types of tasks that are anticipated in the various building spaces (regardless of the amount of natural light)?	◉ Yes ○ No	10	10
Do the construction documents show that there are measures to avoid excessive direct or reflected glare, as per *IESNA RP-5, 1999, Recommended Practice of Daylighting*?	◉ Yes ○ No	5	5
Are local lighting controls specified that relate to room occupancy, circulation space, daylighting and the number of workstations in office areas?	◉ Yes ○ No	10	10

	○ N/A		
Thermal comfort		20	20
Does the building design conform to the *ASHRAE 55-2004* for thermal comfort?	◉ Yes ○ No	20	20
Acoustic comfort		30	21
Is the building sited, and are spaces within the building zoned so as to provide optimum protection from undesirable outside noise, and fall within acceptable noise criteria (NC) ranges?	◉ Yes ○ No	5	5
Do the construction documents specify the sound level transmission through the building envelope?	◉ Yes ○ No	2	2
Indicate the sound transmission class (STC) rating of the walls:		3	0
Do the construction documents include noise attenuation of the structural systems, and measures to insulate primary spaces from impact noise?	◉ Yes ○ No	2	2
Indicate the Field Input Insulation Class (FIIC) value:		3	0
Does the design provide acoustic controls to meet the acoustic privacy requirements?	◉ Yes ○ No	2	2
Describe how is acoustic control provided:		3	0
Does the interior design meet speech intelligibility requirements for the various spaces and activities?	◉ Yes ○ No ○ N/A	5	5
Does the design include measures to mitigate acoustic problems associated with mechanical equipment and plumbing systems?	◉ Yes ○ No	5	5