

Attachment 2

LEED Prerequisite/ Credit	Requirement	Possible Points	Yes	Maybe	No	Responsibility	Comments
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Most Recent Comments Recorded on:

<i>LEED CERTIFIED: 26-32 Points; Silver: 33-38 Points; Gold: 39-51 Points; Platinum: 52+ Points</i>							
<b>Credit Totals</b>		<b>69</b>	<b>25</b>	<b>22</b>	<b>22</b>		
<b>SUSTAINABLE SITES</b>							
<b>SS Prerequisite 1:</b> Construction Activity Pollution Prevention	<p>Create and implement an Erosion and Sedimentation Control (ESC) Plan for all construction activities associated with the project. The ESC Plan shall conform 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. The Plan shall describe the measures implemented to accomplish the following objectives:</p> <ol style="list-style-type: none"> <li>1. Prevent loss of soil during construction by stormwater runoff and/or wind erosion, including protecting topsoil by stockpiling for reuse.</li> <li>2. Prevent sedimentation of storm sewer or receiving streams.</li> <li>3. Prevent polluting the air with dust and particulate matter.</li> </ol> <p>The Construction General Permit (CGP) outlines the provisions necessary to comply with Phase I and Phase II of the National Pollutant Discharge Elimination System (NPDES) program. While the CGP only applies to construction sites greater than 1 acre, the requirements are applied to all projects for the purposes of this prerequisite. Information on the EPA CGP is available at: <a href="http://cfpub.epa.gov/npdes/stormwater/cgp.cfm">http://cfpub.epa.gov/npdes/stormwater/cgp.cfm</a>.</p>	REQ'D.				Civil Engineer/GC	There has been an update the the standards from 1992 to 2003. <b>Review for changes and possible additions to reporting and documentation.</b>

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SSCredit 1: Site Selection	<p>Do not develop buildings, hardscape, roads or parking areas on portions of sites that meet any one of the following criteria:</p> <ol style="list-style-type: none"> <li>1.Prime farmland as defined by the United States Department of Agriculture in the United States Code of Federal Regulations, Title 7, Volume 6, Parts 400 to 699, Section 657.5 (citation 7CFR657.5)</li> <li>2.Previously undeveloped land whose elevation is lower than 5 feet above the elevation of the 100-year flood as defined by FEMA (Federal Emergency Management Agency)</li> <li>3.Land that is specifically identified as habitat for any species on Federal or State threatened or endangered lists</li> <li>4.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, OR within setback distances from wetlands prescribed in state or local regulations, as defined by local or state rule or law, whichever is more stringent</li> <li>5.Previously undeveloped land that is within 50 feet of a water body, defined as seas, lakes, rivers, streams and tributaries which support or could support fish, recreation or industrial use</li> <li>6.Land which prior to acquisition for the project was public parkland, unless land of equal or</li> </ol>	1	1			Civil Engineer, Owner, Architect	There have been small changes to the requirement but this should not impact this project given its location.
SS Credit 2: Development Density	<p><b>OPTION 1 — DEVELOPMENT DENSITY</b> 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 (Note: density calculation must include the area of the project being built and is based on a typical two-story downtown development).</p> <p><b>OR OPTION 2 — COMMUNITY CONNECTIVITY</b> Construct or renovate building on a previously developed site AND within 1/2 mile of a residential zone or neighborhood with an average density of 10 units per acre net AND within 1/2 mile of at least 10 Basic Services AND with pedestrian access between the building and the services. Basic Services include, but are not limited to: 1) Bank; 2) Place of Worship; 3) Convenience Grocery; 4) Day Care; 5) Cleaners; 6) Fire Station; 7) Beauty; 8) Hardware; 9) Laundry; 10) Library; 11) Medical/Dental; 12) Senior Care Facility; 13) Park; 14) Pharmacy; 15) Post Office; 16) Restaurant; 17) School; 18) Supermarket; 19) Theater; 20) Community Center; 21) Fitness Center; 22) Museum. Proximity is determined by drawing a 1/2 mile radius around the main building entrance on a site map and counting the services within that radius</p>	1			1		

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SS Credit 3: Brownfield Redevelopment	Develop on a site documented as contaminated (by means of an ASTM E1903-97 Phase II Environmental Site Assessment) <b>OR</b> on a site classified as a brownfield by a local, state or federal government agency. Effectively remediate site contamination.	1			1		
SS Credit 4.1: Alternative Transportation, Public Transportation Access	Locate project within 1/2 mile of a commuter rail, light rail or subway station <b>OR</b> 1/4 mile of two or more public or campus bus lines usable by building occupants.	1		1		Architect/ Owner	The USGBC credit interpretation ruling from 2.4.2003 allows for campus shuttle bus as long as it connects the building to the public transportation. Verify bus is available near the site.
SS Credit 4.2: Alternative Transportation, Bicycle Storage and Changing Rooms	For commercial or institutional buildings, provide secure bicycle racks and/or storage (within 200 yards of the building entrance) for 5% or more of all building users (measured at peak periods), AND, provide shower and changing facilities in the building, or within 200 yards of the building entrance, for 0.5% of Full-Time Equivalent (FTE) occupants. <b>OR</b> For residential buildings, provide covered storage facilities for securing bicycles for 15% <b>or</b> more of building occupants in lieu of changing/shower facilities.	1		1		Architect	Determine number of bicycle racks and showers based on full time equivalent occupants

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<b>SS Credit 4.3:</b> Alternative Transportation: Low Emitting & Fuel Efficient Vehicles	<p><b>OPTION 1</b> Provide low-emitting and fuel-efficient vehicles for 3% of Full-Time Equivalent (FTE) occupants AND provide preferred parking for these vehicles. <b>OR OPTION 2</b> Provide preferred parking for low-emitting and fuel-efficient vehicles for 5% of the total vehicle parking capacity of the site.</p> <p><b>OR OPTION 3</b> Install alternative-fuel refueling stations for 3% of the total vehicle parking capacity of the site (liquid or gaseous fueling facilities must be separately ventilated or located outdoors). <i>For the purposes of this credit, low-emitting and fuel-efficient vehicles are 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. "Preferred parking" refers to the parking spots that are closest to the main entrance of the project (exclusive of spaces designated for handicapped) or parking passes provided at a discounted price</i></p>	1		1		Architect/ Owner/ Civil Engineer	There has been a change in the requirement; option 2 is a possibility.
<b>SS Credit 4.4:</b> Alternative Transportation, Parking Capacity	<p><b>OPTION 1 — NON-RESIDENTIAL</b>                      Size parking capacity to meet, but not exceed, minimum local zoning requirements, AND, provide preferred parking for carpools or vanpools for 5% of the total provided parking spaces.</p> <p><b>OR</b></p> <p><b>OPTION 2 — NON-RESIDENTIAL</b>                      For projects that provide parking for less than 5% of FTE building occupants: Provide preferred parking for carpools or vanpools, marked as such, for 5% of total provided parking spaces.</p> <p><b>OR</b></p> <p><b>OPTION 3 — RESIDENTIAL</b>                      Size parking capacity to not exceed minimum local zoning requirements, AND, provide infrastructure and support programs to facilitate shared vehicle usage such as carpool drop-off areas, designated parking for vanpools, or car-share services, ride boards, and shuttle services to mass transit.</p> <p><b>OR</b></p> <p><b>OPTION 4 — ALL</b>                      Provide no new parking.</p> <p><i>"Preferred parking" refers to the parking spots that are closest to the main entrance of the project (exclusive of spaces designated for handicapped) or parking passes provided at a discounted price.</i></p>	1		1		Architect/ Owner/ Civil Engineer	Option 1 holds the same requirements from v.2.1 and is a possibility

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<p><b>SS Credit 5.1:</b> Reduced Site Disturbance, Protect or Restore Habitat</p>	<p><b>OPTION 1</b> On greenfield sites, limit all site disturbance to 40 feet beyond the building perimeter; 10 feet beyond surface walkways, patios, surface parking and utilities less than 12 inches in diameter; 15 feet beyond primary roadway curbs and main utility branch trenches; and 25 feet beyond constructed areas with permeable surfaces (such as pervious paving areas, stormwater detention facilities and playing fields) that require additional staging areas in order to limit compaction in the constructed area. <b>OR OPTION 2</b> On previously developed or graded sites, restore or protect a minimum of 50% of the site area (excluding the building footprint) with native or adapted vegetation. Native/adapted plants are plants indigenous to a locality or cultivars of native plants that are adapted to the local climate and are not considered invasive species or noxious weeds. Projects earning SS Credit 2 and using vegetated roof surfaces may apply the vegetated roof surface to this calculation if the plants meet the definition of native/adapted. <i>Greenfield sites are those that are not previously develo</i></p>	1	1			Architect/ Civil Engineer	
<p><b>SS Credit 5.2:</b>Site Development: Maximize Open Space</p>	<p><b>OPTION 1</b> Reduce the development footprint (defined as the total area of the building footprint, hardscape, access roads and parking) and/or provide vegetated open space within the project boundary to exceed the local zoning’s open space requirement for the site by 25%. <b>OR</b> <b>OPTION 2</b> For areas with no local zoning requirements (e.g., some university campuses, military bases), provide vegetated open space area adjacent to the building that is equal to the building footprint. <b>OR</b> <b>OPTION 3</b> Where a zoning ordinance exists, but there is no requirement for open space (zero), provide vegetated open space equal to 20% of the project’s site area. ALL OPTIONS: • For projects located in urban areas that earn SS Credit 2, vegetated roof areas can contribute to credit compliance. • For projects located in urban areas that earn SS Credit 2, pedestrian oriented hardscape areas can contribute to credit compliance. For such projects, a minimum of 25% of the open space counted must be vegetated. • Wetlands or naturally designed ponds may count as open space if the side slope gradients average 1:4 (vertical: horizontal) or less and are vegetated.</p>	1	1			Architect/ Owner/ Civil Engineer	This could be obtained by preserving an open green space within campus area to offset for lost vegetated areas during the project development.

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<b>SS Credit 6.1:</b> Stormwater Design: Quantity Control	<p>CASE 1 — EXISTING IMPERVIOUSNESS IS LESS THAN OR EQUAL TO 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.</p> <p><b>OR</b></p> <p>Implement a stormwater management plan that protects receiving stream channels from excessive erosion by implementing a stream channel protection strategy and quantity control strategies.</p> <p><b>OR</b></p> <p>CASE 2 — EXISTING IMPERVIOUSNESS IS GREATER THAN 50% Implement a stormwater management plan that results in a 25% decrease in the volume of stormwater runoff from the two-year 24-hour design storm.</p>	1		1		Civil Engineer/ Landscape Architect	Case 2 may be possible, Rain water collection, bioswells, pervious pavement
<b>SS Credit 6.2:</b> Stormwater Design: Quality Control	<p>Implement a stormwater management plan that reduces impervious cover, promotes infiltration, and captures and treats the stormwater runoff from 90% of the average annual rainfall using acceptable best management practices (BMPs). BMPs used to treat runoff must be capable of removing 80% of the average annual post development total suspended solids (TSS) load based on existing monitoring reports. BMPs are considered to meet these criteria if (1) they are designed in accordance with standards and specifications from a state or local program that has adopted these performance standards, or (2) there exists in-field performance monitoring data demonstrating compliance with the criteria. Data must conform to accepted protocol (e.g., Technology Acceptance Reciprocity Partnership [TARP], Washington State Department of Ecology) for BMP monitoring.</p>	1		1		Civil Engineer	Cost may be an issue Civil to verify. There are significant changes in this requirement a through review is necessary
<b>SS Credit 7.1:</b> Heat Island Effect, Non-roof	<p><b>OPTION 1</b> 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 <b>OR</b></p> <p><b>OPTION 2</b> Place a minimum of 50% of parking spaces under cover (defined as under ground, under deck, under roof, or under a building). Any roof used to shade or cover parking must have an SRI of at least 29</p>	1	1			Landscape Architect	Use combination strategy of shading, pervious pavement and light color pavement

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<b>SS Credit 7.2:</b> Heat Island Effect, Roof	<p><b>OPTION 1</b> Use roofing materials having a Solar Reflectance Index (SRI)<sup>3</sup> equal to or greater than the values in the table below for a minimum of 75% of the roof surface. <b>OR</b></p> <p><b>OPTION 2</b> Install a vegetated roof for at least 50% of the roof area. <b>OR</b> <b>OPTION 3</b> Install high albedo and vegetated roof surfaces that, in combination, meet the following criteria: (Area of SRI Roof / 0.75) + (Area of vegetated roof / 0.5) &gt;= Total Roof Area</p> <table border="0"> <tr> <td>Roof Type</td> <td>Slope</td> <td>SRI</td> </tr> <tr> <td>Low-Sloped Roof</td> <td>≤ 2:12</td> <td>78</td> </tr> <tr> <td>Steep-Sloped Roof</td> <td>&gt; 2:12</td> <td>29</td> </tr> </table>	Roof Type	Slope	SRI	Low-Sloped Roof	≤ 2:12	78	Steep-Sloped Roof	> 2:12	29	1	1			Architect/ GC	Energy Star roofing system will be provided
Roof Type	Slope	SRI														
Low-Sloped Roof	≤ 2:12	78														
Steep-Sloped Roof	> 2:12	29														
<b>SS Credit 8:</b> Light Pollution Reduction	<p><b>FOR INTERIOR LIGHTING</b> The angle of maximum candela from each interior luminaire as located in the building shall intersect opaque building interior surfaces and not exit out through the windows. <b>OR</b> All non-emergency interior lighting shall be automatically controlled to turn off during non-business hours. Provide manual override capability for after hours use.</p> <p><b>AND</b></p> <p><b>FOR EXTERIOR LIGHTING</b> 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, without amendments. All projects shall be classified under one of the following zones, as defined in IESNA RP-33, and shall follow all of the requirements for that specific zone:</p> <p><b>LZ1 — Dark (Park and Rural Settings)</b>                      Design exterior lighting so that all site and building mounted luminaires produce a maximum initial illuminance value no greater than 0.01 horizontal and vertical footcandles at the site boundary and beyond. Document that 0% of the total initial designed fixture lumens are emitted at an angle of 90 degrees or higher from nadir (straight down).</p> <p><b>LZ2 — Low (Residential areas)</b>                      Design exterior lighting so that all site and building mounted luminaires produce a maximum initial illuminance value no greater than 0.10 horizontal and vertical footcandles at the site boundary and no greater than 0.01 horizontal footcandles 10 feet beyond the site boundary. Document that no more than 2% of the total initial designed fixture lumens are emitted at an angle of 90 degrees or higher from nadir (straight down). For site boundaries that abut public rights-of-way, light trespass requirements may be met relative to the curb line instead of the site boundary.</p>	1		1		Electrical Engineer	A review will be required to determine credit probability									

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	<p>LZ3 — Medium (Commercial/Industrial, High-Density Residential)                      Design exterior lighting so that all site and building mounted luminaires produce a maximum initial illuminance value no greater than 0.20 horizontal and vertical footcandles at the site boundary and no greater than 0.01 horizontal footcandles 15 feet beyond the site. Document that no more than 5% of the total initial designed fixture lumens are emitted at an angle of 90 degrees or higher from nadir (straight down). For site boundaries that abut public rights-of-way, light trespass requirements may be met relative to the curb line instead of the site boundary.</p> <p>LZ4 — High (Major City Centers, Entertainment Districts)                      Design exterior lighting so that all site and building mounted luminaires produce a maximum initial illuminance value no greater than 0.60 horizontal and vertical footcandles at the site boundary and no greater than 0.01 horizontal footcandles 15 feet beyond the site. Document that no more than 10% of the total initial designed site lumens are emitted at an angle of 90 degrees or higher from nadir (straight down). For site boundaries that abut public rights-of-wa</p>						



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		14	5	7	2		
<b>WATER EFFICIENCY</b>							
<b>WE Credit 1.1:</b> Water Efficient Landscaping, Reduce by 50%	Reduce potable water consumption for irrigation by 50% from a calculated mid-summer baseline case. Reductions shall be attributed to any combination of the following items: • Plant species factor • Irrigation efficiency • Use of captured rainwater • Use of recycled wastewater • Use of water treated and conveyed by a public agency specifically for non-potable uses	1	1			Landscape Architect	No permanent irrigation will be installed.
<b>WE Credit 1.2:</b> Water Efficient Landscaping, No Potable Water Use or No Irrigation	Achieve WE Credit 1.1. <b>and:</b> Use only captured rainwater, recycled wastewater, recycled greywater, or water treated and conveyed by a public agency specifically for non-potable uses for irrigation. <b>OR</b> Install landscaping that does not require permanent irrigation systems. Temporary irrigation systems used for plant establishment are allowed only if removed within one year of installation.	1	1			Landscape Architect	No permanent irrigation will be installed.
<b>WE Credit 2:</b> Innovative Wastewater Technologies	<b>OPTION 1</b> Reduce potable water use for building sewage conveyance by 50% through the use of waterconserving fixtures (water closets, urinals) or non-potable water (captured rainwater, recycled greywater, and on-site or municipally treated wastewater). <b>OR OPTION 2</b> Treat 50% of wastewater on-site to tertiary standards. Treated water must be infiltrated or used on-site.	1		1		Plumbing Engineer/ GC	Possible if waterless urinal and/or graywater is used
<b>WE Credit 3.1:</b> Water Use Reduction, 20% Reduction	Employ strategies that in aggregate use 20% less water than the water use baseline calculated for the building (not including irrigation) after meeting the Energy Policy Act of 1992 fixture performance requirements. Calculations are based on estimated occupant usage and shall include only the following fixtures (as applicable to the building): water closets, urinals, lavatory faucets, showers and kitchen sinks.	1	1			Plumbing Engineer/ GC	Based on previous projects the design team believes a 20% reduction in potable water is possible
<b>WE Credit 3.2:</b> Water Use Reduction, 30% Reduction	Employ strategies that in aggregate use 30% less water than the water use baseline calculated for the building (not including irrigation) after meeting the Energy Policy Act of 1992 fixture performance requirements. Calculations are based on estimated occupant usage and shall include only the following fixtures (as applicable to the building): water closets, urinals, lavatory faucets, showers and kitchen sinks.	1		1		Plumbing Engineer/ GC	
		5	3	2	0		
<b>ENERGY and ATMOSPHERE</b>							

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<b>EA Prerequisite 1: Fundamental Commissioning of the Building Energy Systems</b>	<p>The following commissioning process activities shall be completed by the commissioning team, in accordance with the LEED-NC 2.2 Reference Guide.</p> <p>1) Designate an individual as the Commissioning Authority (CxA) to lead, review and oversee the completion of the commissioning process activities.</p> <p>a) The CxA shall have documented commissioning authority experience in at least two building projects.</p> <p>b) The individual serving as the CxA shall be independent of the project's design and construction management, though they may be employees of the firms providing those services. The CxA may be a qualified employee or consultant of the Owner.</p> <p>c) The CxA shall report results, findings and recommendations directly to the Owner.</p> <p>d) For projects smaller than 50,000 gross square feet, the CxA may include qualified persons on the design or construction teams who have the required experience.</p> <p>2) 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.</p> <p>3) Develop and incorporate commissioning requirements into the construction documents.</p> <p>4) Develop and implement a commissioning plan.</p> <p>Commissioning process activities shall be completed for the following energy-related systems, at a <b>minimum</b>:</p> <ul style="list-style-type: none"> <li>• Heating, ventilating, air conditioning, and refrigeration (HVAC&amp;R) systems (mechanical and passive) and associated controls</li> <li>• Lighting and daylighting controls</li> <li>• Domestic hot water systems</li> <li>• Renewable energy systems (wind, solar etc.)</li> </ul>	REQ'D.				Owner/ MEP	Verify commissioning agent will be hired.
<b>EA Prerequisite 2: Minimum Energy Performance</b>	<p>Design the building project to comply with both—</p> <ul style="list-style-type: none"> <li>• the mandatory provisions (Sections 5.4, 6.4, 7.4, 8.4, 9.4 and 10.4) of ASHRAE/IESNA Standard 90.1-2004 (without amendments); and</li> <li>• the prescriptive requirements (Sections 5.5, 6.5, 7.5 and 9.5) or performance requirements (Section 11) of ASHRAE/IESNA Standard 90.1-2004 (without amendments).</li> </ul>	REQ'D.				MEP	Project has to meet ASHRAE
<b>EA Prerequisite 3: Fundamental Refrigerant Management</b>	<p>Zero use of CFC-based refrigerants in new base building HVAC&amp;R systems. When reusing existing base building HVAC equipment, complete a comprehensive CFC phase-out conversion prior to project completion. Phase-out plans extending beyond the project completion date will be considered on their merits.</p>	REQ'D.				MEP	No CFC equipment will be used

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<b>EA Credit 1:</b> Optimize Energy Performance.	Select one of the three compliance path options described below. Project teams documenting achievement using any of the three options are assumed to be in compliance with EA Prerequisite 2. <b>OPTION 1 — WHOLE BUILDING ENERGY SIMULATION (1–10 Points)</b> Demonstrate a percentage improvement in the proposed building performance rating compared to the baseline building performance rating per ASHRAE/IESNA Standard 90.1-2004 (without amendments) by a whole building project simulation using the Building Performance Rating Method in Appendix G of the Standard. The minimum energy cost savings percentage for each point threshold is as follows: New Buildings Existing Building Renovations Points 10.5% 3.5% 1 14% 7% 2 17.5% 10.5% 3 21% 14% 4 24.5% 17.5% 5 28% 21% 6 31.5% 24.5% 7 35% 28% 8 38.5% 31.5% 9 42% 35% 10					MEP	
	Appendix G of Standard 90.1-2004 requires that the energy analysis done for the Building Performance Rating Method include ALL of the energy costs within and associated with the building project. To achieve points using this credit, the proposed design— <ul style="list-style-type: none"> <li>• must comply with the mandatory provisions (Sections 5.4, 6.4, 7.4, 8.4, 9.4 and 10.4) in Standard 90.1-2004 (without amendments);</li> <li>• must include all the energy costs within and associated with the building project; and</li> <li>• must be compared against a baseline building that complies with Appendix G to Standard 90.1-2004 (without amendments). The default process energy cost is 25% of the total energy cost for the baseline building. For buildings where the process energy cost is less than 25% of the baseline building energy cost, the LEED submittal must include supporting documentation substantiating that process energy inputs are appropriate. For the purpose of this analysis, process energy is considered to include, but is not limited to, office and general miscellaneous equipment, computers, elevators and escalators, kitchen cooking and refrigeration, laundry washing and drying, lighting exempt from the lighting power allowance</li> </ul> For EA Credit 1, process loads shall be identical for both the baseline building performance ra	10	1	1	8		This credit should be thoroughly reviewed

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<b>EA Credit 1:</b> Optimize Energy Performance: <b>OPTION 2</b>	<b>OR OPTION 2 — PRESCRIPTIVE COMPLIANCE PATH (4 Points)</b> Comply with the prescriptive measures of the ASHRAE Advanced Energy Design Guide for Small Office Buildings 2004. The following restrictions apply: <ul style="list-style-type: none"> <li>• Buildings must be under 20,000 square feet</li> <li>• Buildings must be office occupancy</li> <li>• Project teams must fully comply with all applicable criteria as established in the Advanced Energy Design Guide for the climate zone in which the building is located</li> </ul>														
<b>EA Credit 1:</b> Optimize Energy Performance: <b>OPTION 3</b>	<b>OR OPTION 3 — PRESCRIPTIVE COMPLIANCE PATH (1 Point)</b> Comply with the Basic Criteria and Prescriptive Measures of the Advanced Buildings Benchmark™ Version 1.1 with the exception of the following sections: 1.7 Monitoring and Trend-logging, 1.11 Indoor Air Quality, and 1.14 Networked Computer Monitor Control. The following restrictions apply: <ul style="list-style-type: none"> <li>• Project teams must fully comply with all applicable criteria as established in Advanced Buildings Benchmark for the climate zone in which the building is located.</li> </ul>														
<b>EA Credit 2: On-Site Renewable Energy</b>	Use on-site renewable energy systems to offset building energy cost. Calculate project performance by expressing the energy produced by the renewable systems as a percentage of the building annual energy cost and using the table below to determine the number of points achieved.  Use the building annual energy cost calculated in EA Credit 1 or use the Department of Energy (DOE) Commercial Buildings Energy Consumption Survey (CBECS) database to determine the estimated electricity use. (Table of use for different building types is provided in the Reference Guide.)  <table style="margin-left: 40px; border-collapse: collapse;"> <tr> <td style="padding-right: 20px;">% Renewable</td> <td>Energy Points</td> </tr> <tr> <td>2.5%</td> <td>1</td> </tr> <tr> <td>7.5%</td> <td>2</td> </tr> <tr> <td>12.5%</td> <td>3</td> </tr> </table>	% Renewable	Energy Points	2.5%	1	7.5%	2	12.5%	3	3			3		
% Renewable	Energy Points														
2.5%	1														
7.5%	2														
12.5%	3														

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EA Credit 3: Enhanced Commissioning	<p>Implement, or have a contract in place to implement, the following additional commissioning process activities in addition to the requirements of EA Prerequisite 1 and in accordance with the LEED-NC 2.2 Reference Guide:</p> <p>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, at a minimum, perform Tasks 2, 3 and 6. Other team members may perform Tasks 4 and 5.</p> <p>a. The CxA shall have documented commissioning authority experience in at least two building projects.</p> <p>b. The individual serving as the CxA shall be—</p> <p>i. independent of the work of design and construction;</p> <p>ii. not an employee of the design firm, though they may be contracted through them;</p> <p>iii. not an employee of, or contracted through, a contractor or construction manager holding construction contracts; and</p> <p>iv. (can be) a qualified employee or consultant of the Owner.</p> <p>c. The CxA shall report results, findings and recommendations directly to the Owner.</p> <p>d. This requirement has no deviation for project size.</p>	1	1			Owner/ Cx Agent	Verify independent cx agent will be hired. The cx agent needs to be on board and have a scope prior cd's to be eligible for this credit.
EA Credit 3: Enhanced Commissioning (con't)	<p>2. 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.</p> <p>3. The CxA shall review contractor submittals applicable to systems being commissioned for compliance with the OPR and BOD. This review shall be concurrent with A/E reviews and submitted to the design team and the Owner.</p> <p>4. Develop a systems manual that provides future operating staff the information needed to understand and optimally operate the commissioned systems.</p> <p>5. Verify that the requirements for training operating personnel and building occupants are completed.</p> <p>6. Assure the involvement by the CxA in reviewing building operation within 10 months after substantial completion with O&amp;M staff and occupants. Include a plan for resolution of outstanding commissioning-related issues.</p>						
EA Credit 4: Enhanced Refrigerant Management	<p><b>OPTION 1</b> Do not use refrigerants. <b>OR OPTION 2</b> Select refrigerants and HVAC&amp;R that minimize or eliminate the emission of compounds that contribute to ozone depletion and global warming. The base building HVAC&amp;R equipment shall comply with the following formula, which sets a maximum threshold for the combined contributions to ozone depletion and global warming potential:</p> <p><b>LCGWP + LCODP x 105 ≤ 100</b></p>					Mechanical Engineer	

Attachment 2

LEED Prerequisite/ Credit	Requirement	Possible Points	Yes	Maybe	No	Responsibility	Comments
<b>EA Credit 4:Enhanced Refrigerant Management (con't)</b>	Where: $LCODP = [ODPr \times (Lr \times Life + Mr) \times Rc] / Life$ $LCGWP = [GWPr \times (Lr \times Life + Mr) \times Rc] / Life$ LCODP: Lifecycle Ozone Depletion Potential (lbCFC11/Ton-Year) LCGWP: Lifecycle Direct Global Warming Potential (lbCO2/Ton-Year) GWPr: Global Warming Potential of Refrigerant (0 to 12,000 lbCO2/lbr) ODPr: Ozone Depletion Potential of Refrigerant (0 to 0.2 lbCFC11/lbr) Lr: Refrigerant Leakage Rate (0.5% to 2.0%; default of 2% unless otherwise demonstrated) Mr: End-of-life Refrigerant Loss (2% to 10%; default of 10% unless otherwise demonstrated) Rc: Refrigerant Charge (0.5 to 5.0 lbs of refrigerant per ton of cooling capacity) Life: Equipment Life (10 years; default based on equipment type, unless otherwise demonstrated) For multiple types of equipment, a weighted average of all base building level HVAC&R equipment shall be applied using the following formula: $[ \Sigma (LCGWP + LCODP \times 105) \times Qunit ] / Qtotal \leq 100$	1	1				this credit needs further review
<b>EA Credit 4:Enhanced Refrigerant Management (con't)</b>	Where: $Qunit = \text{Cooling capacity of an individual HVAC or refrigeration unit (Tons)}$ $Qtotal = \text{Total cooling capacity of all HVAC or refrigeration}$ Small HVAC units (defined as containing less than 0.5 lbs of refrigerant), and other equipment such as standard refrigerators, small water coolers, and any other cooling equipment that contains less than 0.5 lbs of refrigerant, are not considered part of the "base building" system and are not subject to the requirements of this credit. <b>AND</b> Do not install fire suppression systems that contain ozone-depleting substances (CFCs, HCFCs or Halons).						
<b>EA Credit 5: Measurement and Verification</b>	Develop and implement a Measurement & Verification (M&V) Plan consistent with Option D: Calibrated Simulation (Savings Estimation Method 2), or Option B: Energy Conservation Measure Isolation, as specified in the International Performance Measurement & Verification Protocol (IPMVP) Volume III: Concepts and Options for Determining Energy Savings in New Construction, April, 2003. The M&V period shall cover a period of no less than one year of post-construction occupancy.	1	1			Mechanical Engineer	

Attachment 2

LEED Prerequisite/ Credit	Requirement	Possible Points	Yes	Maybe	No	Responsibility	Comments
<b>EA Credit 6:</b> Green Power	Provide at least 35% of the building's electricity from renewable sources by engaging in at least a two-year renewable energy contract. Renewable sources are as defined by the Center for Resource Solutions (CRS) Green-e products certification requirements. <b>DETERMINE THE BASELINE ELECTRICITY USE</b> Use the annual electricity consumption from the results of EA Credit 1. <b>OR</b> Use the Department of Energy (DOE) Commercial Buildings Energy Consumption Survey (CBECS) database to determine the estimated electricity use.	1			1	Owner	Confirm with owner
		<b>17</b>	<b>4</b>	<b>1</b>	<b>12</b>		
<b>MATERIALS &amp; RESOURCES</b>							
<b>MR Prerequisite 1:</b> Storage & Collection of Recyclables	Provide an easily accessible area that serves the entire building and is dedicated to the separation, collection and storage of materials for recycling including (at a minimum) paper, corrugated cardboard, glass, plastics and metals.	REQ'D.				Owner/ Architect	verify owner's recycling policies
<b>MR Credit 1.1:</b> Building Reuse, Maintain 75% of Existing Walls, Floors & Roof	Maintain at least 75% (based on surface area) of existing building structure (including structural floor and roof decking) and envelope (exterior skin and framing, excluding window assemblies and non-structural roofing material). Hazardous materials that are remediated as a part of the project scope shall be excluded from the calculation of the percentage maintained. If the project includes an addition to an existing building, this credit is not applicable if the square footage of the addition is more than 2 times the square footage of the existing building.	1			1		
<b>MR Credit 1.2:</b> Building Reuse, Maintain 95% of Existing Walls, Floors & Roof	In addition to meeting the requirements to MR Credit 1.1. Maintain an additional 20% (95% total, based on surface area) of existing building structure (including structural floor and roof decking) and envelope (exterior skin and framing, excluding window assemblies and non-structural roofing material). Hazardous materials that are remediated as a part of the project scope shall be excluded from the calculation of the percentage maintained. If the project includes an addition to an existing building, this credit is not applicable if the square footage of the addition is more than 2 times the square footage of the existing building.	1			1		
<b>MR Credit 1.3:</b> Building Reuse, Maintain 50% of Interior Non-Structural	Use existing interior non-structural elements (interior walls, doors, floor coverings and ceiling systems) in at least 50% (by area) of the completed building (including additions). If the project includes an addition to an existing building, this credit is not applicable if the square footage of the addition is more than 2 times the square footage of the existing building.	1			1		doesn't apply - new construction

Attachment 2

LEED Prerequisite/ Credit	Requirement	Possible Points	Yes	Maybe	No	Responsibility	Comments
<b>MR Credit 2.1:</b> Construction Waste Management, Divert 50% from Disposal	Recycle and/or salvage at least 50% of non-hazardous construction and demolition debris. Develop and implement a construction waste management plan that, at a minimum, identifies the materials to be diverted from disposal and whether the materials will be sorted on-site or comingled. Excavated soil and land-clearing debris do not contribute to this credit. Calculations can be done by weight or volume, but must be consistent throughout.	1	1			Architect/ GC	GC is responsible for writing the final plan and local market research of reclamation and recycling opportunities.
<b>MR Credit 2.2:</b> Construction Waste Management, Divert 75%	In addition to meeting the requirements to MR Credit 2.1. Recycle and/or salvage an additional 25% beyond MR Credit 2.1 (75% total) of non-hazardous construction and demolition debris. Excavated soil and land-clearing debris do not contribute to this credit. Calculations can be done by weight or volume, but must be consistent throughout.	1		1		Architect/ GC	GC is responsible for writing the final plan and local market research of reclamation and recycling opportunities.
<b>MR Credit 3.1:</b> Materials Reuse, 5%	Use salvaged, refurbished or reused materials such that the sum of these materials constitutes at least 5%, based on cost, of the total value of materials on the project. Mechanical, electrical and plumbing components and specialty items such as elevators and equipment shall not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits 3–7.	1			1		Not cost effective
<b>MR Credit 3.2:</b> Materials Reuse, 10%	Use salvaged, refurbished or reused materials for an additional 5% beyond MR Credit 3.1 (10% total, based on cost). Mechanical, electrical and plumbing components and specialty items such as elevators and equipment shall not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits 3–7.	1			1		Not cost effective
<b>MR Credit 4.1:</b> Recycled Content:10% (post-consumer + 1/2 pre-consumer)	Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10% (based on cost) of the total value of the materials in the project. The recycled content value of a material assembly shall be determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value. Mechanical, electrical and plumbing components and specialty items such as elevators shall not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits 3–7. Recycled content shall be defined in accordance with the International Organization of Standards document, <i>ISO 14021—Environmental labels and declarations—Self-declared environmental claims (Type II environmental labeling)</i> .	1	1			Architect/ GC	Recycled content percentages have been doubled from LEED version 2.1 but the requirements on the inclusion of furniture and other materials have been changed.



Attachment 2

LEED Prerequisite/ Credit	Requirement	Possible Points	Yes	Maybe	No	Responsibility	Comments
MR Credit 4.1: (con't)	<p><u>Post-consumer material</u> is defined as waste material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose.</p> <p><u>Pre-consumer material</u> is defined as material diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.</p>						
MR Credit 4.2: Recycled Content:20% (post-consumer + 1/2 pre-consumer)	<p>Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes an additional 10% beyond MR Credit 4.1 (total of 20%, based on cost) of the total value of the materials in the project. The recycled content value of a material assembly shall be determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value. Mechanical, electrical and plumbing components and specialty items such as elevators shall not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits 3–7. Recycled content shall be defined in accordance with the International Organization of Standards document, <i>ISO 14021—Environmental labels and declarations—Self-declared environmental claims (Type II environmental labeling)</i>.</p>	1		1		Architect/ GC	
MR Credit 5.1: Regional Materials: 10% Extracted, Processed & Manufactured Regionally	<p>Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for a minimum of 10% (based on cost) of the total materials value. If only a fraction of a product or material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value. Mechanical, electrical and plumbing components and specialty items such as elevators and equipment shall not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits 3–7.</p>	1	1			Architect/ GC	<p>Consider locally manufactured materials during design development phase. Can't be determined at this time. Final numbers will be developed during construction. <b>Note the change from LEED vs 2.1 to how the credit is calculated and what can be included.</b></p>
MR Credit 5.2: Regional Materials: 20% Extracted, Processed & Manufactured Regionally	<p>Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for an additional 10% beyond MR Credit 5.1 (total of 20%, based on cost) of the total materials value. If only a fraction of the material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.</p>	1	1				<p>Consider locally manufactured materials during design development phase. Can't be determined at this time. Final numbers will be developed during construction. <b>Note the change to how the credit is calculated and what can be included. Review further</b></p>

Attachment 2

LEED Prerequisite/ Credit	Requirement	Possible Points	Yes	Maybe	No	Responsibility	Comments
<b>MR Credit 6:</b> Rapidly Renewable Materials	Use rapidly renewable building materials and products (made from plants that are typically harvested within a ten-year cycle or shorter) for 2.5% of the total value of all building materials and products used in the project, based on cost.	1			1	Architect/ GC	
<b>MR Credit 7:</b> Certified Wood	Use a minimum of 50% of wood-based materials and products, which are certified in accordance with the Forest Stewardship Council's (FSC) Principles and Criteria, for wood building components. These components include, but are not limited to, structural framing and general dimensional framing, flooring, sub-flooring, wood doors and finishes. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in MR Credits 3-7.	1	1			Architect/ GC	could have minor cost implications
		<b>13</b>	<b>5</b>	<b>2</b>	<b>6</b>		
<b>INDOOR ENVIRONMENTAL QUALITY</b>							
<b>EQ Prerequisite 1:</b> Minimum IAQ Performance	Meet the minimum requirements of Sections 4 through 7 of ASHRAE 62.1-2004, Ventilation for Acceptable Indoor Air Quality. 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.	REQ'D.				Mechanical Engineer	Project has to meet ASHRAE standards
<b>EQ Prerequisite 2:</b> Environmental Tobacco Smoke (ETS) Control	<b>OPTION 1</b> Prohibit smoking in the building; Locate any exterior designated smoking areas at least 25 feet away from entries, outdoor air intakes and operable windows. <b>OR OPTION 2</b> Prohibit smoking in the building except in designated smoking areas; Locate any exterior designated smoking areas at least 25 feet away from entries, outdoor air intakes and operable windows.					Owner	
<b>EQ Prerequisite 2:</b> (ETS) (con't)	<ul style="list-style-type: none"> <li>Locate designated smoking rooms to effectively contain, capture and remove ETS from the building. At a minimum, the smoking room must be directly exhausted to the outdoors with no re-circulation of ETS-containing air to the non-smoking area of the building, and enclosed with impermeable deck-to-deck partitions. With the doors to the smoking room closed, operate exhaust sufficient to create a negative pressure with respect to the adjacent spaces of at least an average of 5 Pa (0.02 inches of water gauge) and with a minimum of 1 Pa (0.004 inches of water gauge).</li> <li>Performance of the smoking room differential air pressures shall be verified by conducting 15 minutes of measurement, with a minimum of one measurement every 10 seconds, of the differential pressure in the smoking room with respect to each adjacent area and in each adjacent vertical chase with the doors to the smoking room closed. The testing will be conducted with each space configured for worst case conditions of transport of air from the smoking rooms to adjacent spaces with the smoking rooms' doors closed to the adjacent spaces.</li> </ul>	REQ'D.					

Attachment 2

LEED Prerequisite/ Credit	Requirement	Possible Points	Yes	Maybe	No	Responsibility	Comments
EQ Prerequisite 2: (ETS) (con't)	<p><b>OR OPTION 3 (For residential buildings only)</b></p> <ul style="list-style-type: none"> <li>• Prohibit smoking in all common areas of the building. And locate any exterior designated smoking areas at least 25 feet away from entries, outdoor air intakes and operable windows opening to common areas.</li> <li>• Minimize uncontrolled pathways for ETS transfer between individual residential units by sealing penetrations in walls, ceilings and floors in the residential units, and by sealing vertical chases adjacent to the units.</li> <li>• All doors in the residential units leading to common hallways shall be weather-stripped to minimize air leakage into the hallway.</li> <li>• If the common hallways are pressurized with respect to the residential units then doors in the residential units leading to the common hallways need not be weather-stripped provided that the positive differential pressure is demonstrated as in Option 2 above, considering the residential unit as the smoking room. Acceptable sealing of residential units shall be demonstrated by a blower door test conducted in accordance with ANSI/ASTM-E779-03, Standard Test Method for Determining Air Leakage Rate By Fan Pressurization, AND use the</li> </ul>						
EQ Credit 1: Outdoor Air Delivery Monitoring	<p>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.</p> <p><u>FOR MECHANICALLY VENTILATED SPACES</u></p> <p>Monitor carbon dioxide concentrations within all densely occupied spaces (those with a design occupant density greater than or equal to 25 people per 1000 sq.ft.). CO2 monitoring locations shall be between 3 feet and 6 feet above the floor. For each mechanical ventilation system serving non-densely occupied spaces, provide a direct outdoor airflow measurement device capable of measuring the minimum outdoor airflow rate with an accuracy of plus or minus 15% of the design minimum outdoor air rate, as defined by ASHRAE 62.1-2004.</p>	1		1			This could have cost implications, however there have been changes to this requirement <b>this should be reviewed thoroughly</b>
EQ Credit 1: (con't)	<p><u>FOR NATURALLY VENTILATED SPACES</u></p> <p>Monitor CO2 concentrations within all naturally ventilated spaces. CO2 monitoring shall be located within the room between 3 feet and 6 feet above the floor. One CO2 sensor may be used to represent multiple spaces if the natural ventilation design uses passive stack(s) or other means to induce airflow through those spaces equally and simultaneously without intervention by building occupants</p>						

Attachment 2

LEED Prerequisite/ Credit	Requirement	Possible Points	Yes	Maybe	No	Responsibility	Comments
EQ Credit 2: Increase Ventilation	<p><u>FOR MECHANICALLY VENTILATED SPACES</u></p> <ul style="list-style-type: none"> <li>• Increase breathing zone outdoor air ventilation rates to all occupied spaces by at least 30% above the minimum rates required by ASHRAE Standard 62.1-2004 as determined by EQ Prerequisite 1.</li> </ul>	1		1		Mechanical Engineer	This should be more thoroughly reviewed
EQ Credit 2: Increase Ventilation (con't)	<p><u>FOR NATURALLY VENTILATED SPACES</u></p> <p>Design natural ventilation systems for occupied spaces to meet the recommendations set forth in the Carbon Trust “Good Practice Guide 237” [1998]. 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. <b>AND</b> Use diagrams and calculations to show that the design of the natural ventilation systems meets the recommendations set forth in the CIBSE Applications Manual 10: 2005, Natural ventilation in non-domestic buildings <b>OR</b> Use a macroscopic, multi-zone, analytic model to predict that room-by-room airflows will effectively naturally ventilate, defined as providing the minimum ventilation rates required by ASHRAE 62.1-2004 Chapter 6, for at least 90% of occupied spaces.</p>						
EQ Credit 3.1: Construction IAQ Management Plan - During Construction	<p>Develop and implement an Indoor Air Quality (IAQ) Management Plan for the construction and pre-occupancy phases of the building as follows:</p> <ul style="list-style-type: none"> <li>• During construction meet or exceed the recommended Control Measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, 1995, Chapter 3.</li> <li>• Protect stored on-site or installed absorptive materials from moisture damage.</li> <li>• If permanently installed air handlers are used during construction, filtration media with a Minimum Efficiency Reporting Value (MERV) of 8 shall be used at each return air grille, as determined by ASHRAE 52.2-1999. Replace all filtration media immediately prior to occupancy.</li> </ul>	1	1			Mechanical Engineer/ GC	the contractor should be required to provide IAQ Management Plan. Documentation requirements should be noted in the construction schedule to prove its compliance

Attachment 2

LEED Prerequisite/ Credit	Requirement	Possible Points	Yes	Maybe	No	Responsibility	Comments												
EQ Credit 3.2: Construction IAQ Management Plan - Before Occupancy	<p>Develop and implement an Indoor Air Quality (IAQ) Management Plan for the pre-occupancy phase as follows:</p> <p><b>OPTION 1</b> — Flush-Out: After construction ends, prior to occupancy and with all interior finishes installed, perform a building flush-out by supplying a total air volume of 14,000 cu.ft. of outdoor air per sq.ft. of floor area while maintaining an internal temperature of at least 60 degrees F and relative humidity no higher than 60% <b>OR</b> If occupancy is desired prior to completion of the flush-out, the space may be occupied following delivery of a minimum of 3,500 cu.ft. of outdoor air per sq.ft. of floor area to the space. Once a space is occupied, it shall be ventilated at a minimum rate of 0.30 cfm/sq.ft. of outside air or the design minimum outside air rate determined in EQ Prerequisite 1, whichever is greater. During each day of the flush-out period, ventilation shall begin a minimum of three hours prior to occupancy and continue during occupancy. These conditions shall be maintained until a total of 14,000 cu.ft./sq.ft. of outside air has been delivered to the space.</p>					Mechanical Engineer/ GC													
EQ Credit 3.2: (con't)	<p><b>OR OPTION 2</b> — Air Testing: Conduct baseline IAQ testing, after construction ends and prior to occupancy, using testing protocols consistent with the United States Environmental Protection Agency Compendium of Methods for the Determination of Air Pollutants in Indoor Air and as additionally detailed in the Reference Guide. Demonstrate that the contaminant maximum concentrations listed below are not exceeded.</p> <table border="0" data-bbox="344 868 1155 1063"> <tr> <td>CONTAMINANT</td> <td>MAXIMUM CONCENTRATION</td> </tr> <tr> <td>Formaldehyde</td> <td>50 parts per billion</td> </tr> <tr> <td>Particulates (PM10)</td> <td>50 micrograms per cubic meter</td> </tr> <tr> <td>Total Volatile Organic Compounds (TVOC)</td> <td>500 micrograms per cubic meter</td> </tr> <tr> <td>* 4-Phenylcyclohexene (4-PCH)</td> <td>6.5 micrograms per cubic meter</td> </tr> <tr> <td>Carbon Monoxide (CO)</td> <td>9 part per million and no greater than 2 parts per million above outdoor levels</td> </tr> </table>	CONTAMINANT	MAXIMUM CONCENTRATION	Formaldehyde	50 parts per billion	Particulates (PM10)	50 micrograms per cubic meter	Total Volatile Organic Compounds (TVOC)	500 micrograms per cubic meter	* 4-Phenylcyclohexene (4-PCH)	6.5 micrograms per cubic meter	Carbon Monoxide (CO)	9 part per million and no greater than 2 parts per million above outdoor levels	1		1			
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Carbon Monoxide (CO)	9 part per million and no greater than 2 parts per million above outdoor levels																		
EQ Credit 3.2: (con't)	<p>For each sampling point where the maximum concentration limits are exceeded conduct additional flush-out with outside air and retest the specific parameter(s) exceeded to indicate the requirements are achieved. Repeat procedure until all requirements have been met. When retesting non-complying building areas, take samples from the same locations as in the first test. The air sample testing shall be conducted as follows: 1) All measurements shall be conducted prior to occupancy, but during normal occupied hours, and with the building ventilation system starting at the normal daily start time and operated at the minimum outside air flow rate for the occupied mode throughout the duration of the air testing. 2) The building shall have all interior finishes installed, including but not limited to millwork, doors, paint, carpet and acoustic tiles. Non-fixed furnishings such as workstations and partitions are encouraged, but not required, to be in place for the testing.</p>						<p>There have been changes to this credit and the way its calculated. <b>These new requirements should be thoroughly reviewed</b></p>												

Attachment 2

LEED Prerequisite/ Credit	Requirement	Possible Points	Yes	Maybe	No	Responsibility	Comments
<b>EQ Credit 3.2:</b> (con't)	3) The number of sampling locations will vary depending upon the size of the building and number of ventilation systems. For each portion of the building served by a separate ventilation system, the number of sampling points shall not be less than one per 25,000 sq.ft., or for each contiguous floor area, whichever is larger, and include areas with the least ventilation and greatest presumed source strength. 4) Air samples shall be collected between 3 feet and 6 feet from the floor to represent the breathing zone of occupants, and over a minimum 4-hour period.						
<b>EQ Credit 4.1:</b> Low-Emitting Materials, Adhesives and Sealants	All adhesives and sealants used on the interior of the building (defined as inside of the weatherproofing system and applied on-site) shall comply with the requirements of the following reference standards: Adhesives, Sealants and Sealant Primers: South Coast Air Quality Management District (SCAQMD) Rule #1168. VOC limits are listed in the table below and correspond to an effective date of July 1, 2005 and rule amendment date of January 7, 2005. Aerosol Adhesives: Green Seal Standard for Commercial Adhesives GS-36 requirements in effect on October 19, 2000.	1	1			Architect/ GC	Appropriate requirements to be included in the specifications. GC is responsible for documenting credit compliance. Note changes to the credit with more stringent requirements from vs 2.1
<b>EQ Credit 4.2:</b> Low-Emitting Materials, Paints & Coatings	Paints and coatings used on the interior of the building (defined as inside of the weatherproofing system and applied on-site) shall comply with the following criteria: Architectural paints, coatings and primers applied to interior walls and ceilings: Do not exceed the VOC content limits established in Green Seal Standard GS-11, Paints, First Edition, May 20, 1993. o Flats: 50 g/L o Non-Flats: 150 g/L Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates: Do not exceed the VOC content limit of 250 g/L established in Green Seal Standard GC-03, Anti-Corrosive Paints, Second Edition, January 7, 1997. Clear wood finishes, floor coatings, stains, and shellacs applied to interior elements: Do not exceed the VOC content limits established in South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings, rules in effect on January 1, 2004. o Clear wood finishes: varnish 350 g/L; lacquer 550 g/L o Floor coatings: 100 g/L o Sealers: waterproofing sealers 250 g/L; sanding sealers 275 g/L; all other sealers 200 g/L o Shellacs: Clear 730 g/L; pigmented 550 g/L o Stains: 250 g/L	1	1			Architect/ GC	Appropriate requirements to be included in the specifications. GC is responsible for documenting credit compliance. Note changes to the credit with more stringent requirements from vs 2.1
<b>EQ Credit 4.3:</b> Low-Emitting Materials, Carpet Systems	All carpet installed in the building interior shall meet the testing and product requirements of the Carpet and Rug Institute's Green Label Plus program. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program. All carpet adhesive shall meet the requirements of EQ Credit 4.1: VOC limit of 50 g/L.	1	1			Architect/ GC	Appropriate requirements to be included in the specifications. GC is responsible for documenting credit compliance. <b>Note changes to the credit with more stringent requirements from vs 2.1</b>

Attachment 2

LEED Prerequisite/ Credit	Requirement	Possible Points	Yes	Maybe	No	Responsibility	Comments
EQ Credit 4.4: Low-Emitting Materials, Composite Wood and Agrifiber Products	Composite wood and agrifiber products used on the interior of the building (defined as inside of the weatherproofing system) shall contain no added urea-formaldehyde resins. Laminating adhesives used to fabricate on-site and shop-applied composite wood and agrifiber assemblies shall contain 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. Materials considered fit-out, furniture, and equipment (FF&E) are not considered base building elements and are not included.	1		1		Architect/ GC	Appropriate requirements to be included in the specifications. GC is responsible for documenting credit compliance. <b>Note changes to the credit calculations are different from vs 2.1</b>
EQ Credit 5: Indoor Chemical and Pollutant Source Control	Design to minimize and control pollutant entry into buildings and later cross-contamination of regularly occupied areas: 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. Acceptable entryway systems include permanently installed grates, grilles, or slotted systems that allow for cleaning underneath. Roll-out mats are only acceptable when maintained on a weekly basis by a contracted service organization. Qualifying entryways are those that serve as regular entry points for building users.					Mechanical Engineer/ Architect	All main entry ways have permanent entryway systems.
EQ Credit 5: Indoor Chemical and Pollutant Source Control (con't)	Where hazardous gases or chemicals may be present or used (including garages, housekeeping/laundry areas and copying/printing rooms), 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. The exhaust rate shall be at least 0.50 cfm/sq.ft., with no air recirculation. The pressure differential with the surrounding spaces shall be at least 5 Pa (0.02 inches of water gauge) on average and 1 Pa (0.004 inches of water) at a minimum when the doors to the rooms are closed. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media prior to occupancy that provides a Minimum Efficiency Reporting Value (MERV) of 13 or better. Filtration should be applied to process both return and outside air that is to be delivered as supply air.	1	1				
EQ Credit 6.1: Controllability of Systems, Lighting	Provide individual lighting controls for 90% (minimum) of the building occupants to enable adjustments to suit individual task needs and preferences. <b>AND</b> Provide lighting system controllability for all shared multi-occupant spaces to enable lighting adjustment that meets group needs and preferences.	1		1		Electrical Engineer/ Architect	This is possible depending on workstations and existing lighting controls required by ASHRAE

Attachment 2

LEED Prerequisite/ Credit	Requirement	Possible Points	Yes	Maybe	No	Responsibility	Comments
<b>EQ Credit 6.2:</b> Controllability of Systems, Thermal Comfort	Provide individual comfort controls for 50% (minimum) of the building occupants to enable adjustments to suit individual task needs and preferences. Operable windows can be used in lieu of comfort controls for occupants of areas that are 20 feet inside of and 10 feet to either side of the operable part of the window. The areas of operable window must meet the requirements of ASHRAE 62.1-2004 paragraph 5.1 Natural Ventilation. <b>AND</b> Provide comfort system controls for all shared multi-occupant spaces to enable adjustments to suit group needs and preferences. Conditions for thermal comfort are described in ASHRAE Standard 55-2004 to include the primary factors of air temperature, radiant temperature, air speed and humidity. Comfort system control for the purposes of this credit is defined as the provision of control over at least one of these primary factors in the occupant's local environment.	1			1	Mechanical Engineer/ Architect	Only if raised access flooring includes air distribution
<b>EQ Credit 7.1:</b> Thermal Comfort, Design	Design HVAC systems and the building envelope to meet the requirements of ASHRAE Standard 55-2004, Thermal Comfort Conditions for Human Occupancy. Demonstrate design compliance in accordance with the Section 6.1.1 Documentation.	1		1		Mechanical Engineer	
<b>EQ Credit 7.2:</b> Thermal Comfort, Verification	Agree to implement a thermal comfort survey of the building occupants within a period of six to 18 months after occupancy. This survey should collect anonymous responses about thermal comfort in the building including an assessment of overall satisfaction with thermal performance and identification of thermal comfort-related problems. Agree to develop a plan for corrective action if the survey results indicate that more than 20% of occupants are dissatisfied with thermal comfort in the building. This plan should include measurement of relevant environmental variables in problem areas in accordance with ASHRAE Standard 55-2005	1		1		Mechanical Engineer/ Architect/ Owner	This is a change from vs 2.1 and new requirement this could also be attached to the cx agents scope as their warranty information could be tied into this



Attachment 2

LEED Prerequisite/ Credit	Requirement	Possible Points	Yes	Maybe	No	Responsibility	Comments
<b>EQ Credit 8.1:</b> Daylight and Views, Daylight 75% of Spaces	<b>OPTION 1</b> — CALCULATION Achieve a minimum glazing factor of 2% in a minimum of 75% of all regularly occupied areas. The glazing factor is calculated as follows: <b>OR</b> <b>OPTION 2</b> — SIMULATION Demonstrate, through computer simulation, that a minimum daylight illumination level of 25 footcandles has been achieved in a minimum of 75% of all regularly occupied areas. Modeling must demonstrate 25 horizontal footcandles under clear sky conditions, at noon, on the equinox, at 30 inches above the floor. <b>OR OPTION 3</b> — MEASUREMENT Demonstrate, through records of indoor light measurements, that a minimum daylight illumination level of 25 footcandles has been achieved in at least 75% of all regularly occupied areas. Measurements must be taken on a 10-foot grid for all occupied spaces and must be recorded on building floor plans. In all cases, only the square footage associated with the portions of rooms or spaces meeting the minimum illumination requirements can be applied towards the 75% of total area calculation required to qualify for this credit. In all cases, provide daylight redirection and/or glare control devices to avoid high-situations that could impede visual tasks. Exceptions for areas where tasks would be hindered	1		1		Architect	Verify based on final design
<b>EQ Credit 8.2:</b> Daylight and Views, Daylight 90% of Spaces	Achieve direct line of sight to the outdoor environment via vision glazing between 2'6" and 7'6" above finish floor for building occupants in 90% of all regularly occupied areas. Determine the area with direct line of sight by totaling the regularly occupied square footage that meets the following criteria: In plan view, the area is within sight lines drawn from perimeter vision glazing. In section view, a direct sight line can be drawn from the area to perimeter vision glazing. Line of sight may be drawn through interior glazing. For private offices, the entire square footage of the office can be counted if 75% or more of the area has direct line of sight to perimeter vision glazing. For multi-occupant spaces, the actual square footage with direct line of sight to perimeter vision glazing is counted.	1			1	Architect	Verify based on final design
		<b>15</b>	<b>5</b>	<b>8</b>	<b>2</b>		
<b>LEED INNOVATION CREDITS/ LEED ACCREDITED PROF.</b>							
Credit1.1 Innovation Credit	In writing, identify the intent of the proposed innovation credit, the proposed requirement for compliance, the proposed submittals to demonstrate compliance, and the design approach (strategies) that might be used to meet the requirements.	1	1			Team	LEED CI Furniture
Credit1.2 Innovation Credit	see above	1	1			Team	TBD
Credit1.3 Innovation Credit	see above	1		1		Team	TBD

Attachment 2

LEED Prerequisite/ Credit	Requirement	Possible Points	Yes	Maybe	No	Responsibility	Comments
Credit 1.4 Innovation Credit	see above	1		1		Team	TBD
Credit 2.0 LEED Accredited Professional	At least one principal participant of the project team that has successfully completed the LEED Accredited Professional exam.	1	1			Lidia Berger	
		5	3	2	0		

LEGEND:

Prerequisite	
YES Credit	
MAY BE Credit (High Probability)	
MAY BE Credit (Low Probability)	
NO Credit	