

## APPENDIX E

### Buildings, Benchmarks & Beyond (B3) & LEED for New Construction v2.2

#### A Comparative Analysis

**KEY**

<b>1</b>	DOA design guidelines appear to meet LEED requirements	
<b>2</b>	B3 required guideline appears to meet LEED requirements	
<b>3</b>	No B3 equivalent - LEED credit recommended for inclusion in the DOA design guidelines	
<b>4</b>	B3 recommended guideline appears to meet LEED requirements	POTENTIAL
<b>5</b>	Project and/or site specific and not recommended for inclusion in the DOA design guidelines	LEED 2.2
*Keyed items 1 - 4 are DOA required guidelines, item 5 is optional		POINTS

<b>CREDIT ANALYSIS SUMMARY</b>
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<b>1</b>	DOA design guideline appears to meet LEED requirements		
<b>1</b>	SS Credit 5.1 <b>Site Development: Protect or Restore Habitat</b>	1	
<b>1</b>	SS Credit 6.1 <b>Stormwater Design: Quantity Control</b>	1	
<b>1</b>	SS Credit 6.2 <b>Stormwater Design: Quality Control</b>	1	
<b>1</b>	WE Credit 3.1 <b>Water Use Reduction: 20% Reduction</b>	1	
<b>1</b>	WE Credit 3.2 <b>Water Use Reduction: 30% Reduction</b>	1	
<b>1</b>	EQ Credit 4.1 <b>Low-Emitting Materials: Adhesives &amp; Sealants</b>	1	
<b>1</b>	EQ Credit 4.2 <b>Low-Emitting Materials: Paints &amp; Coatings</b>	1	
<b>1</b>	EQ Credit 4.3 <b>Low-Emitting Materials: Carpet Systems</b>	1	
<b>1</b>	EQ Credit 4.4 <b>Low-Emitting Materials: Composite Wood &amp; Agrifiber Products</b>	1	
<b>1</b>	ID Credit 1.1 <b>Innovation in Design: Moisture Control</b>	1	
<b>2</b>	B3 required guideline appears to meet LEED requirements		
<b>2</b>	SS Prereq 1 <b>Construction Activity Pollution Prevention</b>	REQUIRED	
<b>2</b>	SS Credit 1 <b>Site Selection</b>	1	
<b>2</b>	WE Credit 1.1 <b>Water Efficient Landscaping: Reduce by 50%</b>	1	
<b>2</b>	EA Prereq 1 <b>Fundamental Commissioning of the Building Energy Systems</b>	REQUIRED	
<b>2</b>	EA Prereq 2 <b>Minimum Energy Performance</b>	REQUIRED	
<b>2</b>	EA Credit 1 <b>Optimize Energy Performance - 2 points minimum</b>	4	6
<b>2</b>	EA Credit 3 <b>Enhanced Commissioning</b>	1	
<b>2</b>	EA Credit 5 <b>Measurement &amp; Verification</b>	1	
<b>2</b>	MR Prereq 1 <b>Storage &amp; Collection of Recyclables</b>	REQUIRED	
<b>2</b>	MR Credit 2.1 <b>Construction Waste Management: Divert 50% from Disposal</b>	1	
<b>2</b>	MR Credit 2.2 <b>Construction Waste Management: Divert 75% from Disposal</b>	1	
<b>2</b>	EQ Prereq 1 <b>Minimum IAQ Performance</b>	REQUIRED	
<b>2</b>	EQ Prereq 2 <b>Environmental Tobacco Smoke (ETS) Control</b>	REQUIRED	
<b>2</b>	EQ Credit 3.1 <b>Construction IAQ Management Plan: During Construction</b>	1	
<b>2</b>	EQ Credit 3.2 <b>Construction IAQ Management Plan: Before Occupancy</b>	1	
<b>2</b>	EQ Credit 6.1 <b>Controllability of Systems: Lighting</b>	1	
<b>2</b>	EQ Credit 7.2 <b>Thermal Comfort: Verification</b>	1	
<b>2</b>	ID Credit 1.3 <b>Innovation in Design: Effective Acoustics</b>	1	

**3** No B3 equivalent - LEED credit recommended for inclusion in the DOA design guidelines

<b>3</b>	MR Credit 5.1 <b>Regional Materials: 10%</b>	1		
<b>3</b>	EQ Credit 2 <b>Increased Ventilation</b>	1		
<b>3</b>	EQ Credit 5 <b>Indoor Chemical &amp; Pollutant Source Control</b>	1		
<b>3</b>	ID Credit 1.2 <b>Innovation in Design: Green Cleaning</b>	1		
<b>3</b>	ID Credit 2 <b>LEED® Accredited Professional</b>	1		

**4** B3 recommended guideline appears to meet LEED requirements

<b>4</b>	SS Credit 7.1 <b>Heat Island Effect, Non-Roof</b>	1		
<b>4</b>	SS Credit 7.2 <b>Heat Island Effect, Roof</b>	1		
<b>4</b>	EA Prereq 3 <b>Fundamental Refrigerant Management</b>	REQUIRED		
<b>4</b>	EA Credit 4 <b>Enhanced Refrigerant Management</b>	1		
<b>4</b>	MR Credit 4.1 <b>Recycled Content: 10%</b>	1		
<b>4</b>	EQ Credit 1 <b>Outdoor Air Delivery Monitoring</b>	1		
<b>4</b>	EQ Credit 6.2 <b>Controllability of Systems: Thermal Comfort</b>	1		
<b>4</b>	EQ Credit 7.1 <b>Thermal Comfort: Design</b>	1		
<b>4</b>	WE Credit 1.2 <b>Water Efficient Landscaping: No Potable Use or No Irrigation</b>	1		

**5** Project and/or site specific and not recommended for inclusion in the DOA design guidelines

<b>5</b>	SS Credit 2 <b>Development Density &amp; Community Connectivity</b>		1	
<b>5</b>	SS Credit 3 <b>Brownfield Redevelopment</b>		1	
<b>5</b>	SS Credit 4.1 <b>Alternative Transportation: Public Transportation Access</b>		1	
<b>5</b>	SS Credit 4.2 <b>Alternative Transportation: Bicycle Storage &amp; Changing</b>		1	
<b>5</b>	SS Credit 4.3 <b>Alternative Transportation: Low-Emitting &amp; Fuel-Efficient Vehicles</b>		1	
<b>5</b>	SS Credit 4.4 <b>Alternative Transportation: Parking Capacity</b>		1	
<b>5</b>	SS Credit 5.2 <b>Site Development: Maximize Open Space</b>		1	
<b>5</b>	SS Credit 8 <b>Light Pollution Reduction</b>		1	
<b>5</b>	WE Credit 2 <b>Innovative Wastewater Technologies</b>		1	
<b>5</b>	EA Credit 2 <b>On-Site Renewable Energy</b>		3	
<b>5</b>	EA Credit 6 <b>Green Power</b>		1	
<b>5</b>	MR Credit 1.1 <b>Building Reuse: Maintain 75% of Existing Walls, Floors &amp; Roof</b>		1	
<b>5</b>	MR Credit 1.2 <b>Building Reuse: Maintain 95% of Existing Walls, Floors &amp; Roof</b>		1	
<b>5</b>	MR Credit 1.3 <b>Building Reuse: Maintain 50% of Interior Non-Structural Elements</b>		1	
<b>5</b>	MR Credit 3.1 <b>Materials Reuse: 5%</b>		1	
<b>5</b>	MR Credit 3.2 <b>Materials Reuse: 10%</b>		1	
<b>5</b>	MR Credit 4.2 <b>Recycled Content: 20%</b>		1	
<b>5</b>	MR Credit 5.2 <b>Regional Materials: 20%</b>		1	
<b>5</b>	MR Credit 6 <b>Rapidly Renewable Materials</b>		1	
<b>5</b>	MR Credit 7 <b>Certified Wood</b>		1	
<b>5</b>	EQ Credit 8.1 <b>Daylight &amp; Views: Daylight 75% of Spaces</b>		1	
<b>5</b>	ID Credit 1.4 <b>Innovation in Design: Green Guard Furniture</b>		1	
<b>5</b>	EQ Credit 8.2 <b>Daylight &amp; Views: Views for 90% of Spaces</b>		1	

**Totals**

**38 31 0**

- Certified 26-32 Points
- Silver 33-38 Points**
- Gold 39-51 Points
- Platinum 52-69 Points

## DETAILED CREDIT ANALYSIS

### KEY

- |   |  |           |
|---|--|-----------|
| 1 | MNSCU design standards appear to meet LEED requirements                                      |           |
| 2 | B3 required guideline appears to meet LEED requirements                                      |           |
| 3 | No B3 equivalent - LEED credit recommended for inclusion in the MNSCU design standards       |           |
| 4 | B3 recommended guideline appears to meet LEED requirements                                   | POTENTIAL |
| 5 | Project and/or site specific and not recommended for inclusion in the MNSCU design standards | LEED v2.2 |
- \*Keyed items 1 - 4 are MNSCU required standards, item 5 is optional

POTENTIAL  
LEED v2.2  
POINTS  
Yes ? No

### Sustainable Sites (SS) - 14 Points Possible

6	8	0
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#### 2 SS Prereq 1 **Construction Activity Pollution Prevention**

REQUIRED
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##### Credit Summary -

The requirements under B3 Guideline S.6 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 requirements.**

##### B3 Guideline Requirements -

Plan for and implement Erosion Control Management during construction (per NPDES site permit), until final punch list.

##### LEED Credit Requirements -

Create and implement an Erosion and Sedimentation Control (ESC) Plan for all construction activities that complies with the NPDES program.

#### 2 SS Credit 1 **Site Selection**

1		
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##### Credit Summary -

The requirements under B3 Guideline S.1 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 requirements.**

##### B3 Guideline Requirements -

Avoid selecting sites, or minimize the development footprint on portions of sites, that have biological or ecological significance, are prime farmland, less than 5' above the FEMA 100 year flood elevation, habitat for endangered species, under a conservation easement or was previously public parkland.

##### LEED Credit Requirements -

Do not develop sites that are prime farmland, less than 5' above the FEMA 100 year flood elevation, habitat for endangered species, within 100' of a wetland, or that were previously undeveloped land within 50' of a water body or land that was previously public park land.

#### 5 SS Credit 2 **Development Density & Community Connectivity**

	1	
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##### Credit Summary -

The recommendations under B3 Guideline S.9 are similar but may not achieve LEED credit. The recommendations are project specific, and therefore are not recommended for integration into the design guidelines. **The recommendations should be reviewed on a case by case basis.**

##### B3 Guideline Recommendations -

Select a site which presents the most comprehensively positive impact for environmental, economic, community, and human benefits. In addition, the development should maintain or improve upon site land use type and condition from pre-project to post project, including local density, open space and land use.

LEED Credit Requirements -

Construct or renovate a project on a previously developed site in a community with a minimum density of 60,000 square feet per acre net.

or

Construct or renovate a project on a previously developed site within a 1/2 mile of a residential neighborhood with an average density of 10 units per acre and within a 1/2 mile of 10 basic services and with pedestrian access between the building and services.

5

SS Credit 3 **Brownfield Redevelopment**

1

Credit Summary -

The recommendations under B3 Guideline S.10 are similar but may not achieve LEED credit. The recommendations are project specific, and therefore are not recommended for integration into the design guidelines. **The recommendations should be reviewed on a case by case basis.**

B3 Guideline Recommendations -

Redevelop a Brownfield site, provide remediation in accordance with the EPA and MPCA and/or develop a brownfield into greenspace connected to building development.

LEED Credit Requirements -

Develop on a site documented as contaminated by a Phase II Environmental Site Assessment or on a brownfield site.

4

SS Credit 4.1 **Alternative Transportation: Public Transportation Access**

1

Credit Summary -

The recommendations under B3 Guideline S.12 are similar but may not achieve LEED credit. The recommendations are project specific, and therefore are not recommended for integration into the design guidelines. **The recommendations should be reviewed on a case by case basis.**

B3 Guideline Recommendations -

Locate the building within 1/4 mile of one or more bus lines or a light rail/bus station and within 1/4 mile of retail and public services.

LEED Credit Requirements -

Locate project within a 1/2 mile of commuter rail or 1/4 mile of a bus stop for two or more bus lines.

5

SS Credit 4.2 **Alternative Transportation: Bicycle Storage & Changing**

1

Credit Summary -

The recommendations under B3 Guideline S.12 are similar but may not achieve LEED credit. The recommendations are site specific, and therefore are not recommended for integration into the design guidelines. **The recommendations should be reviewed on a case by case basis.**

B3 Guideline Recommendations -

Provide means for securing bicycles, with convenient changing/shower facilities for use by cyclists, for 5% or more of building full time equivalent (FTE) occupants OR according to local bicycle parking guidelines OR zoning requirements, whichever is more stringent.

LEED Credit Requirements -

Provide secure bicycle storage for 5% of building users and shower and changing facilities for 0.5% of building occupants.

5

SS Credit 4.3 **Alternative Transportation: Low-Emitting & Fuel-Efficient Vehicles**

1

Credit Summary -

The recommendations under B3 Guideline S.12 are similar but may not achieve LEED credit. The recommendations are project specific, and therefore are not recommended for integration into the design guidelines. **The recommendations should be reviewed on a case by case basis.**

B3 Guideline Recommendations -

Provide preferred parking for hybrid vehicle owners, carpools or van pools capable of serving 5% of the building occupants.

LEED Credit Requirements -

Provide preferred parking for low-emitting and fuel-efficient vehicles totaling 5% of the total vehicle parking capacity of the site.

5

SS Credit 4.4 **Alternative Transportation: Parking Capacity**

1

Credit Summary -

The recommendations under B3 Guideline S.12 are similar but may not achieve LEED credit. The recommendations are project specific, and therefore are not recommended for integration into the design guidelines. **The recommendations should be reviewed on a case by case basis.**

B3 Guideline Recommendations -

Limit parking area by sizing parking capacity not to exceed minimum local zoning requirements, encouraging shared parking with adjacent uses, and adding no new parking for rehabilitation projects.

LEED Credit Requirements -

Size parking to not exceed minimum local zoning requirements and provide preferred parking for carpools for 5% of the total parking capacity of the site.

or

Provide no new parking.

1

SS Credit 5.1 **Site Development: Protect or Restore Habitat**

1

Credit Summary -

The requirements under B3 Guideline S.3 are similar but may not achieve LEED credit. **These requirements are already integrated into the design guidelines and should continue to include a reference to the specific B3-MSBG requirements.**

B3 Guideline Requirements -

On all sites, limit disturbance to credit requirements.

LEED Credit Requirements -

On greenfield sites, limit disturbance to credit requirements.

or

On previously developed sites, restore or protect a minimum of 50% of the site area with native or adapted vegetation.

5

SS Credit 5.2 **Site Development: Maximize Open Space**

1

Credit Summary -

This is not a requirement or recommendation under the B3 Guidelines. The requirements are project specific, and therefore are not recommended for integration into the design guidelines. **The requirements should be reviewed on a case by case basis.**

LEED Credit Requirements -

Provide vegetated open space that exceeds the local zoning requirement by 25%

or

Provide vegetated open space equal to the building footprint when no zoning requirements exists.

or

Provide vegetated open space equal to 20% of the site area when a zoning code exists but does not require open space.

**1** SS Credit 6.1 **Stormwater Design: Quantity Control**

**1**

Credit Summary -

The requirements under B3 Guideline S.2 are similar but may not achieve LEED credit. **These requirements are already integrated into the design guidelines and should continue to include a reference to the specific B3-MSBG requirements.**

B3 Guideline Requirements -

Control the quantity of runoff from the site to pre-settlement conditions for the 100 year 24-hour precipitation event and there shall be no discharge from the site for a 1.25" rainfall based on the Rational Method.

LEED Credit Requirements -

If existing imperviousness is less than 50% then implement a stormwater management plan that prevents post-development peak discharge rate and quantity from exceeding pre-development discharge rate and quantity for the one and two year 24-hour design storms.

or

If existing imperviousness is greater than 50% then implement a stormwater management plan that results in a 25% decrease in volume of stormwater runoff from the two year 24-hour storm.

**1** SS Credit 6.2 **Stormwater Design: Quality Control**

**1**

Credit Summary -

The requirements under B3 Guideline S.2 are similar but may not achieve LEED credit. **These requirements are already integrated into the design guidelines and should continue to include a reference to the specific B3-MSBG requirements.**

B3 Guideline Requirements -

For a 2 year, 24-hour rainfall event, provide treatment systems designed to remove 80% of the average annual post development Total Suspended Solids (TSS) and 60% of the average annual post development Total Phosphorus (TP), by implementing required Best Management Practices (BMPs).

LEED Credit Requirements -

Implement a stormwater management plan that captures stormwater runoff from 90% of the average annual rainfall and treats the runoff utilizing BMPs that remove 80% of the average annual total suspended solids load.

**4** SS Credit 7.1 **Heat Island Effect, Non-Roof**

**1**

Credit Summary -

The recommendations under B3 Guideline S.11 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 recommendations.**

B3 Guideline Recommendations -

50% of the site hardscape should be shaded within 5-10 years, have a reflectance greater than .30 or consist of an open grid paving system.

or

50% of the parking spaces should be located underground or in a structured parking facility.

LEED Credit Requirements -

50% of the site hardscape should be shaded, have a SRI of greater than 29 or consist of an open grid paving system.

or

50% of the parking spaces should be located underground or under the cover of a surface with a minimum SRI of 29.

<b>4</b>	SS Credit 7.2 <b>Heat Island Effect, Roof</b>	1		
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Credit Summary -

The recommendations under B3 Guideline S.11 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 recommendations.**

B3 Guideline Recommendations -

Use Energy Star Roof-compliant, high-reflectance and high emissivity roofing, for a minimum of 75% of the roof surface.

or

Install a vegetated roof for at least 50% of the roof area.

LEED Credit Requirements -

Low-slope roofing should have a minimum SRI of 78 for a minimum of 75% of the roof area.

or

Install a vegetated roof for a minimum of 50% of the roof area.

<b>5</b>	SS Credit 8 <b>Light Pollution Reduction</b>		1	
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Credit Summary -

The requirements under B3 Guideline S.5 are similar but may not achieve LEED credit. The requirements are project specific, and therefore are not recommended for integration into the design guidelines. **The requirements should be reviewed on a case by case basis.**

B3 Guideline Requirements -

Do not exceed the provided night-time vertical illuminance values along the site property line for each of the four identified exterior lighting zone types.

LEED Credit Requirements -

Interior lighting should not exit out of windows or all non-emergency lighting should turn off automatically during non-business hours with a manual override.

and

Exterior lighting should not exceed 80% of lighting power densities for exterior lighting and 50% for façade and landscape lighting as established in ASHRAE 90.1-2004, in addition to specific IESNA zone requirements.

<b>Water Efficiency (WE) - 5 Points Possible</b>		4	1	0
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<b>2</b>	WE Credit 1.1 <b>Water Efficient Landscaping: Reduce by 50%</b>	1		
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Credit Summary -

The requirements under B3 Guideline S.7 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 requirements.**

B3 Guideline Requirements -

Design and maintain the landscape so that after a 2 year establishment period, the landscape uses 50% less municipal potable water or harvested ground water for irrigation than a base case landscape design.

LEED Credit Requirements -

Reduce potable water consumption for irrigation by 50%.

<b>4</b>	WE Credit 1.2 <b>Water Efficient Landscaping: No Potable Use or No Irrigation</b>	1		
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Credit Summary -

The recommendations under B3 Guideline S.7 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 recommendations.**

B3 Guideline Recommendations -

Design and maintain the landscape so that after 1-2 year establishment period, the landscape uses no municipal potable water or harvested ground water for irrigation.

LEED Credit Requirements -

Do not use potable water for an irrigation system or do not install a permanent irrigation system.

5

WE Credit 2 **Innovative Wastewater Technologies**

1

Credit Summary -

The recommendations under B3 Guideline S.13 are similar but may not achieve LEED credit. The recommendations are project specific, and therefore are not recommended for integration into the design guidelines. **The recommendations should be reviewed on a case by case basis.**

B3 Guideline Recommendations -

Reduce the volume of the projects' wastewater flow entering the municipal wastewater system, or an on-site conventional septic system, by 50%.

LEED Credit Requirements -

Reduce potable water use for building sewage conveyance by 50% or treat 50% of waste water on-site.

1

WE Credit 3.1 **Water Use Reduction: 20% Reduction**

1

Credit Summary -

The requirements under B3 Guideline S.8 are similar but may not achieve LEED credit. **These requirements are already integrated into the design guidelines and should continue to include a reference to the specific B3-MSBG requirements.**

B3 Guideline Requirements -

Reduce municipal potable water or harvested groundwater use in the project by 30% compared to code (1992 Energy Policy Act requirements) for any fixture types referenced by those requirements.

LEED Credit Requirements -

Reduce potable water use by 20%.

1

WE Credit 3.2 **Water Use Reduction: 30% Reduction**

1

Credit Summary -

The requirements under B3 Guideline S.8 are similar but may not achieve LEED credit. **These requirements are already integrated into the design guidelines and should continue to include a reference to the specific B3-MSBG requirements.**

B3 Guideline Requirements -

Reduce municipal potable water or harvested groundwater use in the project by 30% compared to code (1992 Energy Policy Act requirements) for any fixture types referenced by those requirements.

LEED Credit Requirements -

Reduce potable water use by 30%.

**Energy & Atmosphere (EA) - 17 Points Possible**

Yes ? No  
7 10 0

2

EA Prereq 1 **Fundamental Commissioning of the Building Energy Systems**

REQUIRED

Credit Summary -

The requirements under B3 Guideline P.4 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 requirements.**

B3 Guideline Requirements -

Verify that the building is constructed and calibrated to meet the design intent as represented in contract documents.

LEED Credit Requirements -

Verify that the building's energy related systems are installed, calibrated and perform according to the owner's project requirements, basis of design, and construction documents.

**2** EA Prereq 2 **Minimum Energy Performance** **REQUIRED**

Credit Summary -

The requirements under B3 Guideline E.1 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 requirements.**

B3 Guideline Requirements -

Reduce design energy costs compared to the energy cost budget by at least 30% for regulated energy components as described in the Minnesota State Energy Code.

LEED Credit Requirements -

Building should meet both mandatory provisions and prescriptive or performance requirements of ASHRAE 90.1-2004

**4** EA Prereq 3 **Fundamental Refrigerant Management** **REQUIRED**

Credit Summary -

The recommendations under B3 Guideline E.4 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific LEED recommendations.**

B3 Guideline Recommendations -

Achieve an Atmospheric Lifetime less than 33, achieve an Ozone Depletion Potential of less than 0.034, achieve a Global Warming Potential of less than 3500 and design, maintain and operate the mechanical equipment to reduce refrigerant leakage over the life of the building.

LEED Credit Requirements -

Zero use of CFC-based refrigerants in new base building HVAC&R systems.

**2** EA Credit 1 **Optimize Energy Performance - 2 points minimum** **4 6**

Credit Summary -

The requirements under B3 Guideline E.1 are similar but may not achieve LEED credit. The point total will vary between 2 and 6 depending on specific project performance. **We recommend that the design guidelines include reference to the specific B3 requirements.**

B3 Guideline Requirements -

Reduce design energy costs compared to the energy cost budget by at least 30% for regulated energy components as described in the Minnesota State Energy Code.

LEED Credit Requirements -

Demonstrate a percentage improvement in the proposed building performance rating compared to the baseline building performance rating per ASHRAE/IESNA Standard 90.1-2004

**5** EA Credit 2 **On-Site Renewable Energy** **3**

Credit Summary -

The requirements under B3 Guideline E.2 are similar but may not achieve LEED credit. Current State law requires 2% on-site production for State funded projects. The requirements are project specific, and therefore are not recommended for integration into the design guidelines. **The requirements should be reviewed on a case by case basis.**

B3 Guideline Requirements -

Analyze at least two scenarios that include the environmental and economic impacts of supplying a percentage of the building's total energy use with on-site or off-site renewable or cleaner distributed generation systems.

LEED Credit Requirements -

Use on-site renewable energy systems to offset building energy cost by 2.5% (1 point), 7.5% (2 points) or 12.5% (3 points).

2

EA Credit 3

**Enhanced Commissioning**

1

Credit Summary -

The requirements under B3 Guidelines P.4 & P.5 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 requirements.**

B3 Guideline Requirements -

Verify that the building is constructed and calibrated to meet the design intent as represented in contract documents.

LEED Credit Requirements -

In addition to the requirements for EA Prerequisite 1, the commissioning process should begin early during the design process and execute additional activities after systems performance verification is completed.

4

EA Credit 4

**Enhanced Refrigerant Management**

1

Credit Summary -

The recommendations under B3 Guideline E.4 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 recommendations.**

B3 Guideline Recommendations -

Achieve an Atmospheric Lifetime less than 33, achieve an Ozone Depletion Potential of less than 0.034, achieve a Global Warming Potential of less than 3500 and design, maintain and operate the mechanical equipment to reduce refrigerant leakage over the life of the building.

LEED Credit Requirements -

Do not use refrigerants.  
or  
Minimize emissions by complying with the maximum contribution threshold in the credit requirements.

2

EA Credit 5

**Measurement & Verification**

1

Credit Summary -

The requirements under B3 Guideline P.5 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 requirements.**

B3 Guideline Requirements -

Evaluate performance over time according to the Measurement and Verification Plan for water, energy, indoor air quality, waste and user comfort.

LEED Credit Requirements -

Develop and implement a Measurement & Verification Plan as specified in the IPMVP.

5

EA Credit 6

**Green Power**

1

Credit Summary -

The requirements under B3 Guideline E.2 are related but may not achieve LEED credit. The requirements are project specific, and therefore are not recommended for integration into the design guidelines. **The requirements should be reviewed on a case by case basis.**

B3 Guideline Requirements -

Analyze at least two scenarios that include the environmental and economic impacts of supplying a percentage of the building's total energy use with on-site or off-site renewable or cleaner distributed generation systems.

LEED Credit Requirements -

Provide at least 35% of the building's electricity from renewable sources by engaging in at least a two-year renewable energy contract.

Yes ? No

**Materials & Resources (MR) - 13 Points Possible**

4 9 0

**2 MR Prereq 1 Storage & Collection of Recyclables**

**REQUIRED**

Credit Summary -

The requirements under B3 Guideline M.3 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 requirements.**

B3 Guideline Requirements -

Reduce and recycle at least 50% of the waste generated during building operation. Provide dedicated recycling areas, processing and holding space, and reverse distribution space in the building.

LEED Credit Requirements -

Provide an easily accessible area that serves the entire building and is dedicated to the collection and storage of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics and metals.

**5 MR Credit 1.1 Building Reuse: Maintain 75% of Existing Walls, Floors & Roof**

1

Credit Summary -

This is not a requirement or recommendation under the B3 Guidelines. The requirements are project specific, and therefore are not recommended for integration into the design guidelines. **The requirements should be reviewed on a case by case basis.**

LEED Credit Requirements -

Maintain 75% of existing building structure and envelope.

**5 MR Credit 1.2 Building Reuse: Maintain 95% of Existing Walls, Floors & Roof**

1

Credit Summary -

This is not a requirement or recommendation under the B3 Guidelines. The requirements are project specific, and therefore are not recommended for integration into the design guidelines. **The requirements should be reviewed on a case by case basis.**

LEED Credit Requirements -

Maintain 95% of existing building structure and envelope.

**5 MR Credit 1.3 Building Reuse: Maintain 50% of Interior Non-Structural Elements**

1

Credit Summary -

This is not a requirement or recommendation under the B3 Guidelines. The requirements are project specific, and therefore are not recommended for integration into the design guidelines. **The requirements should be reviewed on a case by case basis.**

LEED Credit Requirements -

Maintain 50% of interior non-structural elements.

**2** MR Credit 2.1 **Construction Waste Management: Divert 50% from Disposal** **1**

Credit Summary -

The requirements under B3 Guideline M.3 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 requirements.**

B3 Guideline Requirements -

Minimize waste generated from construction, renovation and demolition of buildings through detailing and specifications, and divert at least 75% of construction, demolition, and land clearing debris from landfill disposal.

LEED Credit Requirements -

Recycle and/or salvage at least 50% of non-hazardous construction and demolition debris.

**2** MR Credit 2.2 **Construction Waste Management: Divert 75% from Disposal** **1**

Credit Summary -

The requirements under B3 Guideline M.3 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 requirements.**

B3 Guideline Requirements -

Minimize waste generated from construction, renovation and demolition of buildings through detailing and specifications, and divert at least 75% of construction, demolition, and land clearing debris from landfill disposal.

LEED Credit Requirements -

Recycle and/or salvage at least 75% of non-hazardous construction and demolition debris.

**5** MR Credit 3.1 **Materials Reuse: 5%** **1**

Credit Summary -

The recommendations under B3 Guideline M.2 are similar but may not achieve LEED credit. The recommendations are project specific, and therefore are not recommended for integration into the design guidelines. **The recommendations should be reviewed on a case by case basis.**

B3 Guideline Recommendations -

Use salvaged or reused materials for 5% of the total materials used in the project.

LEED Credit Requirements -

Use salvaged, refurbished or reused materials such that the sum of these materials constitutes at least 5% of the total value of materials on the project.

**5** MR Credit 3.2 **Materials Reuse: 10%** **1**

Credit Summary -

The recommendations under B3 Guideline M.2 are similar but may not achieve LEED credit. The recommendations are project specific, and therefore are not recommended for integration into the design guidelines. **The recommendations should be reviewed on a case by case basis.**

B3 Guideline Recommendations -

Use salvaged or reused materials for 5% of the total materials used in the project.

LEED Credit Requirements -

Use salvaged, refurbished or reused materials such that the sum of these materials constitutes at least 10% of the total value of materials on the project.

**4** MR Credit 4.1 **Recycled Content: 10%** 1

Credit Summary -

The recommendations under B3 Guideline M.2 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 recommendations.**

B3 Guideline Recommendations -

Use materials that contain, in aggregate, a minimum weighted average of 20% post-consumer recycled content material, OR, a minimum weighted average of 50% post-industrial recycled content material.

LEED Credit Requirements -

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.

**5** MR Credit 4.2 **Recycled Content: 20%** 1

Credit Summary -

The recommendations under B3 Guideline M.2 are similar but may not achieve LEED credit. The recommendations are project specific, and therefore are not recommended for integration into the design guidelines. **The recommendations should be reviewed on a case by case basis.**

B3 Guideline Recommendations -

Use materials that contain, in aggregate, a minimum weighted average of 20% post-consumer recycled content material, OR, a minimum weighted average of 50% post-industrial recycled content material.

LEED Credit Requirements -

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 20% (based on cost) of the total value of the materials in the project.

**3** MR Credit 5.1 **Regional Materials: 10%** 1

Credit Summary -

The recommendations under B3 Guideline M.2 are similar but may not achieve LEED credit. The recommendations are project specific, and therefore are not recommended for integration into the design guidelines. **The recommendations should be reviewed on a case by case basis.**

B3 Guideline Recommendations -

Use materials manufactured regionally within a radius of 250 miles of project site to specified qualifications, or are manufactured within the State of Minnesota and contain products from state sponsored, approved, or acknowledged recycling programs.

LEED Credit Requirements -

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.

**5** MR Credit 5.2 **Regional Materials: 20%** 1

Credit Summary -

The recommendations under B3 Guideline M.2 are similar but may not achieve LEED credit. The recommendations are project specific, and therefore are not recommended for integration into the design guidelines. **The recommendations should be reviewed on a case by case basis.**

B3 Guideline Recommendations -

Use materials manufactured regionally within a radius of 250 miles of project site to specified qualifications, or are manufactured within the State of Minnesota and contain products from state sponsored, approved, or acknowledged recycling programs.

LEED Credit Requirements -

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 20% (based on cost) of the total materials value.

5

MR Credit 6 **Rapidly Renewable Materials**

1

Credit Summary -

The recommendations under B3 Guideline M.2 are similar but may not achieve LEED credit. The recommendations are project specific, and therefore are not recommended for integration into the design guidelines. **The recommendations should be reviewed on a case by case basis.**

B3 Guideline Recommendations -

Use renewable, bio-based raw materials for 5% of the total value of all products used in the project. Qualifying materials must be either residues from the processing of renewable, bio-based materials or grown or harvested under a recognized sustainable management system.

LEED Credit Requirements -

Use rapidly renewable building materials and products for 2.5% of the total value of all building materials and products used in the project.

5

MR Credit 7 **Certified Wood**

1

Credit Summary -

The recommendations under B3 Guideline M.2 are similar but may not achieve LEED credit. The recommendations are project specific, and therefore are not recommended for integration into the design guidelines. **The recommendations should be reviewed on a case by case basis.**

B3 Guideline Recommendations -

Use renewable, bio-based raw materials for 5% of the total value of all products used in the project. Qualifying materials must be either residues from the processing of renewable, bio-based materials or grown or harvested under a recognized sustainable management system.

LEED Credit Requirements -

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.

**Indoor Environmental Quality (EQ) - 15 Points Possible**

Yes ? No  
13 2 0

2

EQ Prereq 1 **Minimum IAQ Performance**

REQUIRED

Credit Summary -

The requirements under B3 Guideline I.4 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 requirements.**

B3 Guideline Requirements -

Meet current ASHRAE ventilation standard 62.1 for commercial and institutional buildings

LEED Credit Requirements -

Meet the minimum requirements of Sections 4 through 7 of ASHRAE 62.1-2004, Ventilation for Acceptable Indoor Air Quality.

2

EQ Prereq 2 **Environmental Tobacco Smoke (ETS) Control**

REQUIRED

Credit Summary -

The requirements under B3 Guideline I.1 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 requirements.**

B3 Guideline Requirements -

Owner should establish a no smoking policy for the building and the policy will state where smoking outside of building can occur, such that design considerations will not introduce ETS into the building from outdoor sources. Design documentation must state explicitly that the building was designed assuming that smoking would not occur in the building and shall show the designated smoking areas and non-smoking areas outside of the building.

LEED Credit Requirements -

Prohibit smoking in the building and locate any exterior designated smoking area at least 25 feet away from entries, outdoor intakes and operable windows.

**4** EQ Credit 1 **Outdoor Air Delivery Monitoring** **1**

Credit Summary -

The recommendations under B3 Guideline I.4 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 recommendations.**

B3 Guideline Recommendations -

Design the ventilation system so that CO2 concentrations can be monitored continuously in all continuously occupied spaces and so that the CO2 concentration in continuously occupied breathing zones shall not exceed 450 ppm above outdoor concentrations. In addition, the project is required to meet ASHRAE 62.1-2004.

LEED Credit Requirements -

Monitor carbon dioxide concentrations within all densely occupied spaces and 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 as defined by ASHRAE 62.1-2004.

**3** EQ Credit 2 **Increased Ventilation** **1**

Credit Summary -

This is not a requirement or recommendation under the B3 Guidelines. The requirements are project specific, and therefore are not recommended for integration into the design guidelines. **The requirements should be reviewed on a case by case basis.**

LEED Credit Requirements -

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

**2** EQ Credit 3.1 **Construction IAQ Management Plan: During Construction** **1**

Credit Summary -

The requirements under B3 Guideline P.4 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 requirements.**

B3 Guideline Requirements -

A Construction Air Quality Management Plan shall cover practices to prevent introduction of air quality problems as a result of the construction process. Meet construction air quality requirements of SMACNA.

LEED Credit Requirements -

During construction, meet or exceed the SMACNA recommended Control Measures, protect stored on-site materials from moisture and if permanently installed air handlers are used during construction MERV 8 filtration media is required and needs to be replaced prior to occupancy.

**2** EQ Credit 3.2 **Construction IAQ Management Plan: Before Occupancy** **1**

Credit Summary -

The requirements under B3 Guideline P.4 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 requirements.**

B3 Guideline Requirements -

Comply with a pre-occupancy building flush-out as described in LEED-NC Version 2.2.

LEED Credit Requirements -

After construction ends, prior to occupancy and with all interior finishes installed, perform a building flushout.

or

Conduct baseline IAQ testing, after construction ends and prior to occupancy, using testing protocols consistent with the US EPA.

1

EQ Credit 4.1 **Low-Emitting Materials: Adhesives & Sealants**

1

Credit Summary -

The requirements under B3 Guideline 1.2 are similar but may not achieve LEED credit. **These requirements are already integrated into the design guidelines and should continue to include a reference to the specific B3-MSBG requirements.**

B3 Guideline Requirements -

All interior materials shall be certified to comply with the most current Indoor Air Quality portion of California Section 01350 standard, or be a product listed in one of the approved databases provided.

LEED Credit Requirements -

All adhesives and sealants used on the interior of the building shall comply with SCAQMD requirements.

1

EQ Credit 4.2 **Low-Emitting Materials: Paints & Coatings**

1

Credit Summary -

The requirements under B3 Guideline 1.2 are similar but may not achieve LEED credit. **These requirements are already integrated into the design guidelines and should continue to include a reference to the specific B3-MSBG requirements.**

B3 Guideline Requirements -

All interior materials shall be certified to comply with the most current Indoor Air Quality portion of California Section 01350 standard, or be a product listed in one of the approved databases provided.

LEED Credit Requirements -

Paints and coatings used on the interior of the building shall comply with Green Seal Standard GS-11. Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates should comply with Green Seal Standard GC-03. Clear wood finishes, floor coatings, stains, and shellacs applied to interior elements should comply with SCAQMD requirements.

1

EQ Credit 4.3 **Low-Emitting Materials: Carpet Systems (LHB)**

1

Credit Summary -

The requirements under B3 Guideline 1.2 are similar but may not achieve LEED credit. **These requirements are already integrated into the design guidelines and should continue to include a reference to the specific B3-MSBG requirements.**

B3 Guideline Requirements -

All interior materials shall be certified to comply with the most current Indoor Air Quality portion of California Section 01350 standard, or be a product listed in one of the approved databases provided.

LEED Credit Requirements -

All carpet and cushion installed in the building interior shall meet the testing and product requirements of the Carpet and Rug Institute's Green Label Plus program.

1

EQ Credit 4.4 **Low-Emitting Materials: Composite Wood & Agrifiber Products (LHB)**

1

Credit Summary -

The requirements under B3 Guideline I.2 are similar but may not achieve LEED credit. **These requirements are already integrated into the design guidelines and should include reference to the specific B3 requirements.**

B3 Guideline Requirements -

All interior materials shall be certified to comply with the most current Indoor Air Quality portion of California Section 01350 standard, or be a product listed in one of the approved databases provided.

LEED Credit Requirements -

Composite wood and agrifiber products used on the interior of the building shall contain no added urea-formaldehyde resins.

3

EQ Credit 5 **Indoor Chemical & Pollutant Source Control** (*LHB*)

1

Credit Summary -

This is not a requirement or recommendation under the B3 Guidelines. **We recommend that the design guidelines include reference to the specific LEED requirements.**

LEED Credit Requirements -

Minimize and control pollutant entry by employing entryway systems or roll-off mats, sufficiently exhausting spaces with hazardous gases or chemicals and by providing MERV 13 filtration for the regularly occupied areas in mechanically ventilated buildings.

2

EQ Credit 6.1 **Controllability of Systems: Lighting** (*Stanley*)

1

Credit Summary -

The requirements under B3 Guideline I.6 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 requirements.**

B3 Guideline Requirements -

The electric lighting design must be operable in multiple modes responsive to both daylight zones and differentiated uses within a given space such as separating controls for media projection areas from general task areas within a space.

LEED Credit Requirements -

Provide individual lighting controls for 90% of the building occupants and provide lighting system controllability for all shared multi-occupant spaces.

4

EQ Credit 6.2 **Controllability of Systems: Thermal Comfort** (*Stanley*)

1

Credit Summary -

The recommendations under B3 Guideline I.11 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 recommendations.**

B3 Guideline Recommendations -

Provide for local occupant control of interior conditions to better support work performance.

LEED Credit Requirements -

Provide individual comfort controls for 50% of the building occupants and provide comfort system controls for all shared multi-occupant spaces.

4

EQ Credit 7.1 **Thermal Comfort: Design** (*Stanley*)

1

Credit Summary -

The recommendations under B3 Guideline I.5 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 recommendations.**

B3 Guideline Recommendations -

It is a requirement to provide for occupant thermal comfort through control of ambient temperature and operative temperature, relative humidity, mean radiant temperature, and air velocity. Full compliance with ASHRAE 55-2004 is a recommendation.

LEED Credit Requirements -

Design HVAC systems and the building envelope to meet the requirements of ASHRAE Standard 55-2004, Thermal Comfort Conditions for Human Occupancy.

2

EQ Credit 7.2 **Thermal Comfort: Verification** (*Stanley*)

1

Credit Summary -

The requirements under B3 Guideline P.5 are similar but may not achieve LEED credit. **We recommend that the design guidelines include reference to the specific B3 requirements.**

B3 Guideline Requirements -

It is a requirement to evaluate performance over time through a user complaint/work request logs related to user comfort and satisfaction. It is a recommendation to perform a User Comfort and Satisfaction Assessment surveys as an indicator of ongoing IEQ performance.

LEED Credit Requirements -

Agree to implement a thermal comfort survey of building occupants within a period of six to 18 months after occupancy. Agree to develop a plan for corrective action if the survey results indicate that more than 20% of occupants are dissatisfied with thermal comfort in the building.

5

EQ Credit 8.1 **Daylight & Views: Daylight 75% of Spaces** (*Stanley*)

1

Credit Summary -

The requirements under B3 Guideline I.9 are similar but may not achieve LEED credit. The requirements are project specific, and therefore are not recommended for integration into the design guidelines. **The requirements should be reviewed on a case by case basis.**

B3 Guideline Requirements -

At least 75% of the floor area of continuously occupied spaces in the building shall have a minimum daylight factor of 1%, in every continuously occupied space with daylight, not more than 15% of the floor area shall exceed a uniformity ratio of 10:1, direct solar penetration must be controlled with fixed or operable shading devices and automatic controls should be employed to turn off or dim the electric lights when daylighting is available.

LEED Credit Requirements -

Provide for the building occupants a connection between indoor spaces and the outdoors through the introduction of daylight into a minimum of 75% of regularly occupied areas of the building. Credit compliance options include a calculation, simulation or measurement of daylight levels in the facility.

5

EQ Credit 8.2 **Daylight & Views: Views for 90% of Spaces** (*LHB*)

1

Credit Summary -

The recommendations under B3 Guideline I.10 are similar but may not achieve LEED credit. The recommendations are project specific, and therefore are not recommended for integration into the design guidelines. **The recommendations should be reviewed on a case by case basis.**

B3 Guideline Recommendations -

From every continuously occupied position in spaces there shall be visual access to an external window view and from every assigned and continuously occupied workstation position at seated eye height of 48 inches there shall be visual access to a view space that is at least 20 feet away.

LEED Credit Requirements -

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.

**Innovation & Design Process - 5 Points Possible**

4	1	0
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<b>1</b>	ID Credit 1.1 <b>Innovation &amp; Design: Moisture Control (Stanley)</b>	1		
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Credit Summary -

The requirements under B3 Guideline I.3 are not LEED requirements but may be accepted as an Innovation & Design credit. **These requirements are already integrated into the design guidelines and should include reference to the specific B3 requirements.**

B3 Guideline Requirements -

Design the building envelope to resist moisture penetration, keep the indoor dew point below 35 degrees during the coldest portion of the heating season and specify the maximum moisture content of materials used in construction to prevent the trapping of moisture in the subsurface layers of assemblies.

<b>3</b>	ID Credit 1.2 <b>Innovation &amp; Design: Green Cleaning (LHB)</b>	1		
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Credit Summary -

This is not a requirement or recommendation under the B3 Guidelines. **We recommend that the design guidelines include reference to the specific LEED requirements.**

LEED Credit Requirements -

In addition to the requirement for EQc3.1 and EQc3.2 the project should:

Conduct a final cleanup by independent green cleaning service using cleaning products that meet the Green Seal GS-37 standard, floor cleaners complying with CA Code of Regulations maximum VOC content, and disposable paper products, supplies and trash bags meeting the minimum requirements of US EPA's Comprehensive Procurement Guidelines

and

Develop and implement a green cleaning program post-occupancy including a statement of purpose, a description of contractual and procedural requirements, a clear set of acceptable performance standards, documentation of policies and strategies in a addition to product specifications.

<b>2</b>	ID Credit 1.3 <b>Innovation &amp; Design: Effective Acoustics (Stanley)</b>	1		
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Credit Summary -

The requirements under B3 Guideline I.7 are not LEED requirements but may be accepted as an Innovation & Design credit. **We recommend that the design guidelines include reference to the specific B3 requirements.**

B3 Guideline Requirements -

Prevent harmful acoustic conditions and promote positive acoustics appropriate to tasks by meeting both the required and recommended criteria of Guideline I.7.

<b>5</b>	ID Credit 1.4 <b>Innovation &amp; Design: Green Guard Furniture (LHB)</b>	1		
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Credit Summary -

This is not a requirement or recommendation under the B3 Guidelines. **We recommend that the design guidelines include reference to the specific LEED requirements.**

LEED Credit Requirements -

All systems furniture and seating introduced into the project space that has been manufactured, refurbished or refinished within one year prior to occupancy must either be Greenguard Indoor Air Quality Certified or have calculated indoor air concentrations that are less than those provided in the credit requirements.

3

ID Credit 2 **LEED® Accredited Professional (LHB)**

1

Credit Summary -

This is not a requirement or recommendation under the B3 Guidelines. **We recommend that the design guidelines include reference to the specific LEED requirements.**

LEED Credit Requirements -

At least one principal participant of the project team shall be a LEED Accredited Professional.

**Totals**

Yes	?	No
38	31	0

- Certified 26-32 Points
- Silver 33-38 Points**
- Gold 39-51 Points
- Platinum 52-69 Points