



Version 2

How to Interpret this Report

Purpose The Leadership in Energy and Environmental Design (LEED) Rating System was designed by the US Green Building Council to encourage and facilitate the development of more sustainable buildings. The Phase I Science Building project was evaluated according to this system and the Final Rating is totaled below.

Environmental Categories The report is organized into five environmental categories as defined by LEED including: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources and Indoor Environmental Quality. The category of Innovation and Design Process is also included.

LEED Prerequisites Prerequisites must be achieved. Non-compliant prerequisites must be resolved before a certification can be awarded.

LEED Credits The environmental categories are subdivided into the established LEED credits, which are based on desired performance goals within each category. An assessment of whether the credit is earned, pending, or rejected is made and a narrative describes the basis for the assessment.

Achieved The applicant has provided the mandatory documentation which supports the achievement of the credit requirements, achieving the associated points. Currently the project has scored the adjacent points in this category.

30

Denied The applicant has applied for a point in a particular credit, but has misinterpreted the credit intent or cannot substantiate meeting the requirements. Currently the project has the adjacent points in this category.

8

Rating Final Rating is Certified

Official LEED v2 Scores: Certified: 26-32 Silver Rating: 33-38 Gold Rating: 39-51 Platinum Rating: 52 +

Achieved	6				Denied	4	Sustainable Sites	Possible Points 14
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Y **Erosion & Sedimentation Control** Prerequisite 1-Version 2.0

Preliminary Review: Project team has provided a letter certifying that the erosion and sediment control plan used meets local drainage control regulations which implement EPA standards. A site plan has been provided highlighting erosion control measures.

Please provide a list of measures implemented to support your submittal.

Final Review Project team has provided local resources outlining local requirements for stormwater control and verifying that local code is as stringent as EPA requirements.

While a specific list of strategies implemented has not been provided, it appears from the content of the documentation provided that the local code was followed and that the intent of this prerequisite is met.

1 **Site Selection** Credit 1-Version 2.0

Preliminary Review: Project team has provided a letter from the architect declaring that the site has been used for academic building purposes for at least 60 years, and does not meet any of the prohibited criteria listed.

1 **Urban Redevelopment** Credit 2-Version 2.0

Preliminary Review: A brief narrative has been provided declaring that the project is located in a campus setting, resulting in an approximate lot size of 1 acre per building. The LEED calculator has been included indicating an average density of 65,987 SF/acre. A site plan with a scaled radius locating the building in context has been included.

Not Attempting **Brownfield Redevelopment** Credit 3-Version 2.0

Preliminary Review: No Comments.

1 **Alternative Transportation, Public Transportation Access** Credit 4.1-Version 2.0

Preliminary Review: Project team has provided a brief narrative declaring that the project is located within 1/4 mile of three bus lines. A scaled area map locating the building and associated bus stops has been included, as well as information on bus routes to that location.

Achieved

Denied

1

Alternative Transportation, Bicycle Storage & Changing Rooms

Credit 4.2-Version 2.0

Preliminary Review: A narrative has been provided explaining that as a campus facility, over half of the 2889 occupants live on campus and do not commute. Therefore calculations for 41% of occupants, or 1195 people have been provided resulting in an estimated 400 FTE occupants, or 164 commuter base. Please note that it is not clear from your calculations where the 400 FTE occupants comes from.

Storage for 8 bicycles and 1 shower have been calculated as the required quantity for this building. It is noted that additional showers and bike racks are provided for adjacent campus buildings. A scaled site plan locating the building, associated new bike racks for 10 bikes, and adjacent buildings with existing shower and bike rack facilities has been provided. Bike rack specifications have also been included.

As noted in CIR inquiry dated 7/25/02, on-campus students may also use bicycles and should be included for bicycle rack calculations. Therefore bike racks should be provided for 5% of the full time equivalent occupants (see pg. 39 of the LEED 2.1 Reference Guide and CIR ruling dated 6/4/03) to determine required number of racks. This calculation should be based on total number of building occupants, including on and off campus students. Showers may also be calculated on a FTE basis.

Please note that building occupants as noted in this credit (2889 people) differs from that noted in SSc4.4 (322 people). Please clarify and revise calculations for consistency throughout.

Final Review Project team has provided a narrative stating that there are 322 building occupants that require 16 bike racks. The narrative further states that racks for 10 bicycles have been provided for this building, and that adjacent buildings (within 200 yards) provide additional racks to support credit requirements. A site plan locating adjacent facilities has been included, as well as photos of additional bike racks and a copy of the University's "Bicycle Parking Requirements" demonstrating acceptable bike storage capacity.

SSc4.2 CIR ruling dated 10/14/03 states that the required bicycle storage calculation should be rounded up to the next whole number. In this case, the calculations (322 x 0.5) would be rounded up to 17 required spaces instead of the 16 as stated by the team. However, this does not significantly impact this submittal though as the team has provided sufficient documentation indicating that racks for 10 bicycles have been provided for the new building and the remaining seven required spaces will be accommodated by the adjacent buildings.

The project team has indicated that one shower has been provided for this building, and a narrative further states that additional showers (an exact number is not provided) are located in an adjacent building within 200 yards. Two showers are required for credit compliance. In the future please provide additional information detailing how many showers are located in adjacent buildings, and which buildings specifically.

Not Attempting

Alternative Transportation, Alternative Fuel Refueling Stations

Credit 4.3-Version 2.0

Preliminary Review: No Comments.

Achieved	Denied
<input type="checkbox"/>	<input checked="" type="checkbox"/>

1 Alternative Transportation, Parking Capacity

Credit 4.4-Version 2.0

Preliminary Review: Project team has provided a narrative explaining that there is a campus wide parking plan which includes 20 carpool spaces. Occupancy for this project is estimated at 322 people at maximum capacity, or an average of 161 people on a daily basis. Campus parking regulations highlighting the carpool program have been included, as well as a site plan locating the carpool spaces approximately 300' from the building.

It is not clear from the information provided if the allocated carpool parking is intended to serve the entire campus, or if it is specifically for this building. For credit achievement it must be demonstrated that building designated carpool stalls have been provided for 5% of FTE occupants for this building only. Please see SSc4.4 CIR rulings dated 7/16/03, 8/7/2002 and 6/28/2002 for clarification on this issue. This calculation should be based on total number of building occupants, including on and off campus students and staff, and should be consistent throughout all credit calculations.

Please provide documentation on total parking capacity allocated for this building only, as well as a copy of local zoning requirements to demonstrate that the project does not exceed code requirements.

Note that building occupants as outlined for this credit (322 people) differs from that noted in SSc4.2 (2889 people). Please clarify and revise calculations for consistency throughout.

Requirements Size parking capacity to meet only minimum local zoning requirements AND provide preferred parking for carpools or van pools capable of serving 5% of the building occupants, OR add no new parking for rehabilitation projects AND provide preferred parking for carpools or van pools capable of serving 5% of the building occupants.

Submittals [] Provide a design narrative, parking plan, and company literature demonstrating that carpool and van pool programs serve 5% of the building occupants.
[] For new projects, provide a copy of the local zoning requirements highlighting the criteria for minimum parking capacity. Provide a parking plan highlighting the total parking capacity.
OR
[] For rehabilitation projects, provide a pre-rehabilitation parking plan and a post-rehabilitation parking plan demonstrating that no new parking capacity was added.

Final Review Project team has provided a narrative stating that the project did not add parking, and that parking capacity meets local code. It is further stated that of the 1,341 campus parking spaces, 25 are designated for carpooling. This appears to represent campus wide carpooling, and is not building specific. Documentation provided indicates that the University designates carpool spaces on "an as requested basis."

While allocating parking for one building in a campus setting may be challenging, for the purposes of this credit, and as noted in the preliminary review and associated referenced CIRs, it is a requirement. As stated in SSc4.4 ruling dated 8/7/02, "the project must designate the appropriate number of carpool spaces as near as possible to the facility. These do not have to be newly built spaces, just newly designated".

Documentation provided does not represent sufficient carpool spaces for the project under review, therefore credit achievement cannot be granted.

Achieved	Denied
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>

Reduced Site Disturbance, Protect or Restore Open Space Credit 5.1-Version 2.0

Preliminary Review: Project team has provided a brief narrative explaining that the site contains 41% restored adaptive lawn, and 22% drought tolerant planting. A site plan has been included, as well as a statement that the plants were selected for drought tolerance and appropriateness in the local climate.

Please provide more information on what constitutes the restored adaptive lawn. Note that a monoculture of turf grass does not meet the requirements of this credit. See CIR ruling dated 4/19/2004 that explicitly excludes lawn or turf from credit achievement.

Requirements On greenfield sites, limit site disturbance including earthwork and clearing of vegetation to 40 feet beyond the building perimeter, 5 feet beyond primary roadway curbs, walkways, and main utility branch trenches, and 25 feet beyond pervious paving areas that require additional staging areas in order to limit compaction in the paved area; OR, on previously developed sites, restore a minimum of 50% of the remaining open area by planting native or adapted vegetation.

Submittals [] On greenfield sites, provide site drawings and specifications highlighting limits of construction disturbance.
OR
[] On previously developed sites, provide a narrative describing restoration of degraded habitat areas. Include highlighted site drawings with area calculations demonstrating that 50% of degraded habitat areas have been restored.

Final Review Credit withdrawn.

1	<input type="checkbox"/>	<input type="checkbox"/>
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Reduced Site Disturbance, Development Footprint Credit 5.2-Version 2.0

Preliminary Review: Project team has provided a narrative declaring that the project shares the site with the entire campus, that local zoning requires 40% open space, and that the project has 65% open space. A scaled site plan locating the 8 buildings on campus has been included, as well as a letter from the University declaring that land between this building and a neighboring building will be conserved. Zoning information has also been provided.

Please clarify that all of the land being declared as open space for the purposes of this credit will be conserved for the life of the building.

Note that if you are claiming the entire campus area as your site for the purpose of this credit, you will need to be consistent in all site credits including SSc7 and SSc8. Currently each of these credits reflect distinct site boundaries.

Final Review Project team has provided a narrative and calculations confirming 65% open space across the immediately adjacent campus (defined as project site). This represents a 62.4% increase in open space compared to local requirements, which exceeds credit requirements of 25% open space.

A letter from the owner has been provided stating that the open space adjacent to the building (the "Tiffany Loop") will be preserved as such for the life of the building.

Campus open space policy, including a site plan has been provided.

Open space for this project is shared as a central part of the campus. It should be noted that this designated space (the Tiffany Loop) can only contribute as open space for this building. Future projects that may also be located on the Tiffany Loop must claim separate open space for credit compliance.

Achieved	Denied		
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Stormwater Management, Rate and Quantity Credit 6.1-Version 2.0

Preliminary Review: Project team has provided a narrative stating that 100% of the site runoff is directed to the local canal as opposed to municipal systems. Drainage Control Plan has been provided including site plans highlighting surface materials. The LEED calculator has been completed indicating a 100% decrease in imperviousness through 0% runoff in the design case.

The intention of this credit is to limit disruption and pollution of natural water flows by managing stormwater runoff on-site. Directing the water to another location does not meet the credit intent or requirements.

Requirements Implement a stormwater management plan that results in:
- No net increase in the rate and quantity of stormwater runoff from existing to developed conditions;
OR, if existing imperviousness is greater than 50%, implement a stormwater management plan that results in a 25% decrease in the rate and quantity of stormwater runoff.

Submittals [] For sites with less than 50% net imperviousness, provide pre-construction and post-construction site drawings. Include area calculations demonstrating no increase in net imperviousness of the site.
OR
[] For sites with greater than 50% net imperviousness, provide a copy of the stormwater management plan. Include calculations describing how the measures of the plan decrease net imperviousness of the site by 25% over existing conditions.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Stormwater Management, Treatment Credit 6.2-Version 2.0
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Preliminary Review: No Comments.

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Landscape & Exterior Design to Reduce Heat Islands, Non-Roof Surfaces Credit 7.1-Version 2.1
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Preliminary Review: Project team has provided a brief narrative stating that existing mature deciduous trees in combination with new plantings will provide a total shade coverage of 58%. A scaled site plan locating 6170sf, or 58% of impervious area that will be shaded within 5 years has been provided.

Note that the project boundary must be consistent in all site credits including SSc5 and SSc8. Currently each of these credits reflect distinct site boundaries. Please clarify and revise calculations accordingly.

Final Review Project team has provided a signed Letter Template declaring compliance. A site plan has been provided that represents a consistent site boundary with that defined for SSc5.2. Calculations indicate that 33% of impervious surfaces have been shaded per credit requirements. An aerial photo has also been included.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Landscape & Exterior Design to Reduce Heat Islands, Roof Surfaces Credit 7.2-Version 2.0
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Preliminary Review: No Comments.

Achieved	Denied
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>

Light Pollution Reduction

Credit 8-Version 2.1

Preliminary Review: Project team has provided a narrative stating that all exterior fixtures have a full cutoff designation. Average lighting level is noted at .66 foot candles, less than the 1 foot candle max determined by IES. A photometric site plan has been included, as well as a light fixture schedule and product cut sheets.

Note that the project boundary must be consistent in all site credits including SSc5 and SSc7. Currently each of these credits reflect distinct site boundaries. Please clarify and revise calculations accordingly.

Requirements Meet or provide lower light levels and uniformity ratios than those recommended by the Illuminating Engineering Society of North America (IESNA) Recommended Practice Manual: Lighting for Exterior Environments (RP-33-99). Design exterior lighting such that all exterior luminaires with more than 1000 initial lamp lumens are shielded and all luminaires with more than 3500 initial lamp lumens meet the Full Cutoff IESNA Classification. The maximum candela value of all interior lighting shall fall within the building (not out through windows) and the maximum candela value of all exterior lighting shall fall within the property. Any luminaire within a distance of 2.5 times its mounting height from the property boundary shall have shielding such that no light from that luminaire crosses the property boundary.

Submittals Provide the LEED Letter Template, signed by an appropriate party, declaring that the credit requirements have been met.

Final Review Project team has provided a signed Letter Template declaring that the project meets credit requirements. A site plan has been provided representing a consistent site boundary, and locating fixtures on the site. Photos of site fixtures have also been included.

Although the project boundary issue has been clarified, additional submittal material has called into question fixture compliance. The bollard fixtures do not appear to meet credit requirements of full cut-off fixtures. For credit compliance, all fixtures over 3500 lumens must be full cut-off.

Appeal Review The project team has provided a narrative, cut sheets, invoices and photos in support of the credit. The documents indicate that louvers have been installed on the bollard fixtures questioned in the initial review. However, the initial documentation indicates that these are 50W HPS lamps. According to the newly submitted manufacturer data, this lamp type yields 4000 initial lumens, which is greater than the 3500 initial lumen limit for the full cut off requirement. The installed louvers qualify as shielded, but not as full cut off (no light emitted at or above the 90 degree level). Both the cut sheets and the new photos indicate that light will be emitted at 90 degrees. Thus the project does not meet the requirements of this credit.

Achieved	Denied		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Water Efficiency Possible Points 5
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Water Efficient Landscaping, Reduce by 50% Credit 1.1-Version 2.0</p> <p>Preliminary Review: Project team has provided a brief narrative declaring that high efficiency irrigation systems used on the site include a micro-irrigation system, clock timer, and weather database control. A letter from the landscape architects describing the water management system has been included. System cut sheets have also been provided. The LEED calculator has been included noting a 53% water use reduction. Although there is a minor input error in the area calculations (20sf) this does not affect credit achievement.</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Water Efficient Landscaping, No Potable Use or No Irrigation Credit 1.2-Version 2.0</p> <p>Preliminary Review: No Comments.</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Innovative Wastewater Technologies Credit 2-Version 2.0</p> <p>Preliminary Review: No Comments.</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Water Use Reduction, 20% Reduction Credit 3.1-Version 2.0</p> <p>Preliminary Review: No Comments.</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Water Use Reduction, 30% Reduction Credit 3.2-Version 2.0</p> <p>Preliminary Review: No Comments.</p>

Achieved	Denied			Possible Points 17
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Energy & Atmosphere	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fundamental Building Systems Commissioning	Prerequisite 1-Version 2.0
Preliminary Review: Project team has provided a signed letter from the commissioning authority declaring that all fundamental commissioning requirements have been met. The commissioning report has been provided including site observation, functional testing results, and an energy impact report.				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Minimum Energy Performance	Prerequisite 2-Version 2.0
Preliminary Review: Project team has provided a narrative declaring that the project meets or exceeds the requirements of ASHRAE 90.1-1999 as well as the 1997 version of the local code. An energy performance comparison has been included indicating compliance. Performance data and cut sheets have been included.				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CFC Reduction in HVAC&R Equipment	Prerequisite 3-Version 2.0
Preliminary Review: Project team has provided a letter from the consulting engineers declaring that the refrigerants used in the building are HFC based and do not contain CFC's. Equipment schedules, specifications, and cut sheets have been provided.				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Optimize Energy Performance, 20% New /10% Existing	Credit 1.1-Version 2.0
Preliminary Review: No Comments.				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Optimize Energy Performance, 30% New /20% Existing	Credit 1.2-Version 2.0
Preliminary Review: No Comments.				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Optimize Energy Performance, 40% New /30% Existing	Credit 1.3-Version 2.0
Preliminary Review: No Comments.				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Optimize Energy Performance, 50% New /40% Existing	Credit 1.4-Version 2.0
Preliminary Review: No Comments.				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Optimize Energy Performance, 60% New /50% Existing	Credit 1.5-Version 2.0
Preliminary Review: No Comments.				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Renewable Energy, 5% Contribution	Credit 2.1-Version 2.0
Preliminary Review: No Comments.				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Renewable Energy, 10% Contribution	Credit 2.2-Version 2.0
Preliminary Review: No Comments.				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Renewable Energy, 20% Contribution	Credit 2.3-Version 2.0
Preliminary Review: No Comments.				

Achieved	Denied		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Additional Commissioning Credit 3-Version 2.0
<p>Preliminary Review: Project team has provided a narrative declaring that reviews took place under LEEDv1.0, but appear to meet the requirements of LEEDv2.0. Letters from the commissioning authority have been provided confirming that submittal reviews and a re-commissioning manual have been completed. A near-warranty end review is contracted for completion. A letter from the Construction Manager states that value engineering was conducted, as well as a constructability study.</p> <p>As noted in the LEED 2.0 Reference Guide, pg. 146-147, the commissioning authority must conduct and sign off on all tasks as outlined. Value engineering is not an acceptable replacement for commissioning services. Please provide additional documentation to demonstrate credit achievement.</p>			
		<input checked="" type="checkbox"/>	Final Review Project team has provided a narrative declaring that all required commissioning tasks were conducted by third party companies per LEEDv1.0 requirements, which meet the intent of LEEDv2.0 EAc3 requirements. Signed letters from two third party companies have been provided describing tasks completed and indicating credit compliance.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ozone Depletion Credit 4-Version 2.0
<p>Preliminary Review: Project team has declared that no HCFC's or Halons are used in this project. A letter from the architect lists the HFC products that have been incorporated. Equipment schedules, specifications, and cut sheets have been provided.</p>			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Measurement & Verification Credit 5-Version 2.0
<p>Preliminary Review: No Comments.</p>			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Green Power Credit 6-Version 2.0
<p>Preliminary Review: No Comments.</p>			

Achieved	Denied			Possible Points 13
7	<input type="checkbox"/>	<input type="checkbox"/>	Materials & Resources	
Y	<input type="checkbox"/>	<input type="checkbox"/>	Storage & Collection of Recyclables	Prerequisite 1-Version 2.0
Preliminary Review: Project team has provided a signed letter from the owner stating that a recycling program exists per the requirements of LEED, and describing recycling operations. Floor plans locating the bins, access paths, and storage have been included.				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Building Reuse, Maintain 75% of Existing Shell	Credit 1.1-Version 2.0
Preliminary Review: No Comments.				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Building Reuse, Maintain 100% of Shell	Credit 1.2-Version 2.0
Preliminary Review: No Comments.				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Building Reuse, Maintain 100% Shell and 50% Non-Shell	Credit 1.3-Version 2.0
Preliminary Review: No Comments.				
1	<input type="checkbox"/>	<input type="checkbox"/>	Construction Waste Management, Divert 50%	Credit 2.1-Version 2.1
Preliminary Review: Project team has provided a narrative stating that three buildings were demolished as part of this project and most of the material was recycled. On-site recycling of organic waste and paper was also incorporated. The completed LEED calculator has been provided indicating 91% recycled/salvaged material. Recycling receipts have been provided.				
The supporting documentation for all the concrete figures are unclear. Please provide supporting documentation highlighting the amounts of concrete diverted from the landfill and where it went. A waste management plan should also be included per the requirements of this credit.				
Final Review Project team has provided a signed copy of the LEED 2.1 Letter Template with revised calculations indicating a 91% waste diversion. A copy of the waste management plan has also been included.				
The quantity of concrete diverted has been clarified via the Letter Template, and location of recycling has been noted in the waste management plan.				
1	<input type="checkbox"/>	<input type="checkbox"/>	Construction Waste Management, Divert 75%	Credit 2.2-Version 2.0
Preliminary Review: See comments for MRc2.1				
Final Review See comments for MRc2.1				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Resource Reuse, Specify 5%	Credit 3.1-Version 2.0
Preliminary Review: No Comments.				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Resource Reuse, Specify 10%	Credit 3.2-Version 2.0
Preliminary Review: No Comments.				

Achieved	Denied
<input checked="" type="checkbox"/>	<input type="checkbox"/>

Recycled Content, Specify 5% Credit 4.1-Version 2.1

Preliminary Review: Project team has provided a narrative noting that carpet, paneling, glass, floors, concrete and re-bar are among the main building materials with recycled content, resulting in an 85% recycled content rate. Letters and/or cut sheets from product manufacturers have been provided noting recycled content.

Please provide the required calculation spreadsheet of all materials used on the project highlighting recycled content materials. Also, ensure that all items on the spreadsheet have the required supporting documentation as outlined in the LEED RG.

Final Review Project team has provided a signed Letter Template with calculations indicating the use of 11.07% recycled content materials.

The supporting documentation provided is not sufficient as it is not from the manufacturer as required. The reviewer recalculated using the products that did have sufficient documentation and attributed the default value of 25% post-consumer recycled content for all steel products that did not have sufficient documentation. The result of the revised calculations indicated a recycled content value of 4.14% which is below the credit requirements.

Appeal Review The project team has provided revised calculations and manufacturers' submittals. Each claim of recycled content is supported by direct documentation from the manufacturer, rather than from a subcontractor. While some of the assumptions in designating post consumer vs. post industrial recycled content (e.g. for composite wood) are not supported by the documentation, a more conservative calculation assuming no post consumer recycled content still results in a recycled content value of 10%.

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Recycled Content, Specify 10% Credit 4.2-Version 2.1

Preliminary Review: See comments for MRc4.1

Final Review See comments for MRc4.1

Appeal Review See comments for MRc4.1

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Local/Regional Materials, 20% Manufactured Regionally Credit 5.1-Version 2.1

Preliminary Review: Project team has provided a narrative declaring that 34% of the total building materials were manufactured locally. Letters and/or cut sheets from the manufacturers noting location have been provided.

Please provide the required calculation spreadsheet of all materials used on the project highlighting locally manufactured materials and all other information listed in the LEED RG. Also, ensure that all items on the spreadsheet have the required supporting documentation as outlined in the LEED RG.

Final Review Project team has provided a signed Letter Template with calculations indicating that 22.24% of the total cost of materials (\$5,895,227) were regionally manufactured. Documentation has been provided indicating the distance from the location of manufacture.

The supporting documentation is not sufficient for some of the listed materials as the requirement is, as stated on page 199 of the LEED v2.0 Reference Guide, "a product cut sheet or letter from the manufacturer." The reviewer recalculated using only those products with sufficient documentation which indicated that 16.77% of the total cost of materials were regionally manufactured. This does not meet the required credit threshold.

Appeal Review The project team has provided revised calculations and manufacturers' submittals to demonstrate that 20.87% of the project materials, by value, were manufactured locally.

Achieved	Denied
<input checked="" type="checkbox"/>	<input type="checkbox"/>

Local/Regional Materials, 50% Extracted Regionally Credit 5.2-Version 2.1

Preliminary Review: Project team has provided a narrative stating that 59% of the regionally manufactured materials were also regionally harvested. Letters and/or cut sheets from the manufacturers noting harvest location have been provided.

Please provide the required calculation spreadsheet of all materials used on the project highlighting locally harvested materials and all other information listed in the LEED RG. Also, ensure that all items on the spreadsheet have the required supporting documentation as outlined in the LEED RG.

Final Review Project team has provided a signed Letter Template with calculations indicating that 54.79% of the cost of regionally manufactured materials were also regionally harvested. Documentation has been provided indicating the distance from the location of extraction.

The supporting documentation is not sufficient for some of the listed materials as the requirement is, as stated on page 199 of the LEED v2.0 Reference Guide, "a product cut sheet or letter from the manufacturer." The reviewer recalculated using only those products with sufficient documentation which indicated that 5.74% of the cost of regionally manufactured materials (0.96% of total materials cost) were also regionally harvested. This does not meet the required credit threshold.

Appeal Review The project team has provided revised calculations and manufacturers' submittals to demonstrate that 67.22% of the locally manufactured materials were harvested/extracted locally (14% of the total materials cost)..

Not Attempting

Rapidly Renewable Materials Credit 6-Version 2.0

Preliminary Review: No Comments.

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Certified Wood Credit 7-Version 2.1

Preliminary Review: Project team has provided a narrative stating that FSC certified wood was used for 81% of the project's wood based materials. Specifications, invoices, certificates of compliance, and chain of custody information have been provided.

Please provide the required calculation spreadsheet of all wood-based materials used on the project highlighting certified wood-based materials and all other information listed in the LEED RG. Also, ensure that all items on the spreadsheet have the required supporting documentation as listed in the LEED RG.

Final Review Project team has provided a signed Letter Template indicating that 96.40% of the cost of wood based materials on the project are FSC certified. Wood grilles, particle board, casework and guardrail/benches are listed as the wood materials incorporated. Chain of custody certificate numbers have been included, as well as invoices and certification certificates for each product.

Achieved	Denied		
11	2	Indoor Environmental Quality	Possible Points 15

Y **Minimum IAQ Performance** Prerequisite 1-Version 2.0

Preliminary Review: Project team has provided a narrative describing the intake design and stating that the Ventilation Rate Procedure has been used to achieve acceptable air quality. All systems in the building are stated to meet ASHRAE 62-1999. A letter from the engineer compares building design and ASHRAE requirements, noting achievement. Mechanical plan and elevations locating air intake have been provided, as well as project specifications.

Y **Environmental Tobacco Smoke (ETS) Control** Prerequisite 2-Version 2.0

Preliminary Review: Project team has provided a letter from the building owner stating that smoking is not permitted in the building or on the campus. A copy of the campus non-smoking policy has been included.

1 **Carbon Dioxide (CO2) Monitoring** Credit 1-Version 2.0

Preliminary Review: Project team has provided a narrative stating that the entire building has a high percentage of outside air, with the exception of the auditorium where a VOC sensor has been incorporated in lieu of a CO2 sensor. Specifications and sensor information have been provided. CO2 sensors are not required in lab spaces, but are required in all other spaces of the building.

VOC sensors and 100% outside air do not adequately replace the requirement for CO2 sensors. Some instrumentation is required in both cases to report on the resulting IAQ conditions. This may include a monitoring system that provides feedback in a form that affords operational adjustments. By providing a monitoring system that can give feedback on the space ventilation performance, operational adjustments (to outside air volumes, air changes, mixing boxes, distribution etc., either automatic or manual) can be made to correct problems. Please see CIR ruling dated 8/4/2003 for guidance on this issue.

Please provide drawings locating sensors, specifications, and product cut sheets to support your submittal.

Requirements Install a permanent carbon dioxide (CO2) monitoring system that provides feedback on space ventilation performance in a form that affords operational adjustments, AND specify initial operational set point parameters that maintain indoor carbon dioxide levels no higher than outdoor levels by more than 530 parts per million at any time.

Submittals [] Provide drawings, specifications and cut sheets highlighting the installed carbon dioxide monitoring system. Include a narrative describing the sequence of operation and control of building ventilation systems and initial operation set point parameters.

Final Review Credit withdrawn.

Not Attempting **Increase Ventilation Effectiveness** Credit 2-Version 2.0

Preliminary Review: No Comments.

1 **Construction IAQ Management Plan, During Construction** Credit 3.1-Version 2.1

Preliminary Review: Project team has provided a signed letter template listing MERV 13 filters used during and after construction. Procedures per SMACNA as incorporated on the project have been outlined.

Achieved

Denied

1 **Construction IAQ Management Plan, Before Occupancy** Credit 3.2-Version 2.1

Preliminary Review: Project team has provided a signed letter template declaring that a two week flush out was conducted between 7/15/03 - 8/4/03. Filter cut performance summary has been provided specifying MERV 13. Filter invoice has also been included.

1 **Low-Emitting Materials, Adhesives & Sealants** Credit 4.1-Version 2.0

Preliminary Review: Project team has provided a narrative stating that all adhesives comply with the exception of those used on a composite paneling system. Material data and cut sheets have been provided. Cut sheets verify that all products comply with the exception of the Marlite adhesive with a stated VOC content of 347 g/l.

The narrative claims that the weighted average complies with the credit requirements. Please provide calculations on quantities of adhesives and sealants used to support claim of a weighted average.

Final Review Project team has provided a list of all adhesives and sealants used on the project with quantity and VOC information, as well as a calculated weighted average.

A weighted average is not acceptable to demonstrate credit compliance. The VOC budget should be based on a comparison of the amount of VOC in grams of the actual project versus the allowable amount using the LEED limits. The reviewer recalculated the VOC budget using this method and determined that the project used 302,669 grams of VOC compared to the allowable LEED limit of 425,168 grams. This quantity is acceptable.

1 **Low-Emitting Materials, Paints** Credit 4.2-Version 2.0

Preliminary Review: Project team has provided a narrative stating that all interior paints meet the requirements with the exception of laboratory support areas which have been painted with a water-based epoxy with a VOC content of 176 g/l. This product is noted as meeting Green Seal requirements. An interior painting schedule has been included highlighting VOC content of each material listed. Product information on each material has also been included.

No VOC budget spreadsheet was supplied as stated in the narrative. Please include this information to support your budget calculations as outlined in the LEED 2.1 RG and in CIR ruling dated 2/25/03.

Final Review Project team has provided a letter from the builder noting errors in the original submittal, as well as an updated list of paint products used on the project. Calculations include VOC information for each product, and a weighted average.

A weighted average is not acceptable to demonstrate credit compliance. The VOC budget should be based on a comparison of the amount of VOC in grams of the actual project versus the allowable amount using the LEED limits. The reviewer recalculated the VOC budget using this method. Three products that the team termed "non-flat" should be considered "flat" as they are noted as primers and listed as such in the original documentation (Hi-Build, DTM Acrylic Primer, Prep Rite Block Filler). The resulting VOC budget determined that the project used 219,490 grams/liter of VOC compared to the allowable LEED limit of 496,267 grams/liter. This quantity is acceptable.

1 **Low-Emitting Materials, Carpet** Credit 4.3-Version 2.0

Preliminary Review: All carpet products that have been provided are shown to comply with the CRI Green Label Testing Program.

Achieved	Denied			
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Low-Emitting Materials, Composite Wood	Credit 4.4-Version 2.0
<p>Preliminary Review: The material information provided indicates that urea-formaldehyde was used as a binder in at least one of the materials (Tafipan particleboard) and thus disqualifies the project for this credit.</p> <p>Please refer to page 243 of the Reference Guide which clearly states that the "...products must contain no added urea-formaldehyde resins."</p> <p>Requirements Meet or exceed VOC limits for adhesives, sealants, paints, composite wood products, and carpet systems as follows:</p> <p>Composite wood and agrifiber products must contain no added urea-formaldehyde resins.</p> <p>Submittals [] Provide a cut sheet for each composite wood or agrifiber products used in the building highlighting urea-formaldehyde resin limits.</p>				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Indoor Chemical and Pollutant Source Control	Credit 5-Version 2.0
<p>Preliminary Review: Project team has provided a narrative declaring that walk off mats, deck to deck physical separation of all interior partitions, fume hood exhaust for areas with chemical use, and a separate acid waste plumbing system have been incorporated. Floor and system plans have been provided, as well as mat cut sheet and plumbing diagram.</p>				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Controllability of Systems, Perimeter	Credit 6.1-Version 2.0
<p>Not Attempting</p> <p>Preliminary Review: No Comments.</p>				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Controllability of Systems, Non-perimeter	Credit 6.2-Version 2.0
<p>Preliminary Review: Project team has provided a brief narrative stating that all of the non-perimeter rooms have lighting controls, and 84.7% of the non-perimeter rooms have temperature controls. A chart has been provided summarizing the amenities in each regularly occupied zone.</p> <p>Air flow has not been addressed in this submittal. Please provide drawings, cut sheets, and calculations per the requirements of this credit.</p> <p>Final Review Project team has provided a signed Letter Template declaring that controls have been provided for lighting, temperature and airflow.</p> <p>Drawings and cut sheets have not been provided as requested in the preliminary review. Without this information, credit achievement cannot be verified.</p> <p>Appeal Review The project team has provided a LEED 2.0 Template with a narrative in support of this credit. Highlighted drawings, room summary calculations and cut sheets of the DDC control system have also been provided. The submittals indicate that airflow has been addressed, and that the credit requirements have been met.</p>				
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Thermal Comfort, Compliance with ASHRAE 55-1992	Credit 7.1-Version 2.0
<p>Preliminary Review: Project team has provided a narrative declaring that direct digital controls are provided throughout, and that humidity control is not necessary in this climate. A letter from the consulting engineer verifies that the mechanical systems have been designed per the requirements of this credit. A supporting narrative describes temperature and humidity design conditions and assumptions. Psychrometric charts have been provided to illustrate that humidity is not required in this climate.</p>				

Achieved	Denied		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Thermal Comfort, Permanent Monitoring System Credit 7.2-Version 2.0
			<p>Preliminary Review: Project team has provided a narrative declaring that direct digital controls are provided throughout and that all system points, including room temperature sensors are available for monitoring. The requirements of the credit state that an active system must be installed. No such system has been incorporated therefore credit achievement cannot be granted.</p> <p>Final Review Project team has provided a revised narrative stating that the DDC system is connected to a central operator workstation which is used to monitor and trend HVAC performance.</p> <p>This clarification indicates that the system is in fact active, meeting the requirements of the credit.</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Daylight and Views, Daylight 75% of Spaces Credit 8.1-Version 2.1
			<p>Preliminary Review: Project team has provided a narrative declaring that only floors 1-3 are regularly occupied, and those have a daylight factor of 2% in 91% of spaces. Floor plans with daylit spaces highlighted have been provided, as well as a building section. LEED calculations further demonstrate compliance. Glazing specifications have been included for reference.</p> <p>Several rooms which appear to be regularly occupied spaces are not included in the calculations. These include rooms 212, 213, 214 (learning lab and prep), rooms 223, 224, and room 312 (chemistry prep). Please explain any rooms that are excluded in a narrative and/or revise calculations accordingly.</p>
			<p>Final Review Project team has provided a signed Letter Template and revised narrative describing excluded spaces. Exclusions include controlled laboratory environments where natural light is a detriment to the programmed activity, and spaces that are not regularly occupied such as preparation areas.</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Daylight and Views, Views for 90% of Spaces Credit 8.2-Version 2.1
			<p>Preliminary Review: Project team has provided a narrative declaring that the majority of rooms are organized along the exterior walls, resulting in 90% view area. Floor plans indicating view areas within regularly occupies spaces have been provided. The LEED calculator has been provided further demonstrating compliance.</p> <p>Several rooms which appear to be regularly occupied spaces are not included in the calculations. These include rooms 212, 213, 214 (learning lab and prep), rooms 223, 224, and room 312 (chemistry prep). Please explain any rooms that are excluded in a narrative and/or revise calculations accordingly.</p>
			<p>Final Review Project team has provided a signed Letter Template and revised narrative describing excluded spaces. Exclusions include controlled laboratory environments where natural light is a detriment to the programmed activity, and spaces that are not regularly occupied such as preparation areas.</p>

Achieved	Denied	3	2	Innovation & Design Process	Possible Points 5
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Achieved	Denied	1	Exemplary Performance MRc2	Credit 1.1-Version 2.0
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Preliminary Review: Project team has provided an intent, requirements, design approach, and submittal requirements for 90% landfill waste diversion. This project has demonstrated a 91% recycling rate.

Past projects that have achieved exemplary performance for construction waste management have demonstrated a diversion rate of at least 95% or better. 91% recycled rate as demonstrated for this project does not warrant a credit in innovation.

Requirements In writing using the LEED Credit Equivalence process, identify the INTENT of the proposed innovation credit, the proposed REQUIREMENT for compliance, the proposed SUBMITTALS to demonstrate compliance, and the DESIGN APPROACH used to meet the required elements.

Submittals [] Provide a narrative and supporting documents (e.g., drawings, specifications, cut sheets) for EACH innovative measure incorporated into the project. Include information that demonstrates the sustainable benefits of each measure.

Final Review Project team has submitted a letter stating that due to the age of this project (completed in 2000) it should not be held to exceptional standards realized on more recent projects.

While the waste management on the project is laudable, precedent for a point in exemplary performance for MRc2 has been set at 95% for all projects.

Achieved	Denied	1	Exemplary Performance MRc4	Credit 1.2-Version 2.0
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Preliminary Review: Project team has provided an intent, requirements, submittal requirements, and design approach for exceeding the requirements of MRc4 by 25%, or 75% total recycled content material. This project has indicated 85% recycled content rate.

Credit achievement is based on achievement of MRc4.

Requirements In writing using the LEED Credit Equivalence process, identify the INTENT of the proposed innovation credit, the proposed REQUIREMENT for compliance, the proposed SUBMITTALS to demonstrate compliance, and the DESIGN APPROACH used to meet the required elements.

Submittals [] Provide a narrative and supporting documents (e.g., drawings, specifications, cut sheets) for EACH innovative measure incorporated into the project. Include information that demonstrates the sustainable benefits of each measure.

Final Review MRc4 submittal includes a signed Letter Template with calculations indicating the use of 11.07% recycled content materials.

The minimum threshold for an additional point in exemplary performance for MRc4 is 15% which this project has not demonstrated. Please see comments for MRc4.

Achieved

Denied

1	<input type="checkbox"/>	<input type="checkbox"/>
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Exemplary Performance MRc7

Credit 1.3-Version 2.0

Preliminary Review: Project team has provided an intent, requirements, submittal requirements, and design approach for exceeding the requirements of MRc7 by 25%, or 75% total FSC certified wood. This project has indicated that 81% FSC certified wood was incorporated into the building.

Based on past precedent, a threshold of 75% will earn exemplary performance for MRc7. Credit achievement is contingent on achievement of MRc7.

Final Review For the MRc7 submission, project team has provided a signed Letter Template indicating that 96.40% of the cost of wood based materials on the project are FSC certified. Wood grilles, particle board, casework and guardrail/ benches are listed as the wood materials incorporated. Chain of custody certificate numbers have been included, as well as invoices and certification certificates for each product. This sufficiently exceeds the requirements of MRc7 for a credit in innovation.

Wood based materials represent 17.03% of total material costs on the project.

1	<input type="checkbox"/>	<input type="checkbox"/>
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Safety/ Risk Management - Water and Air Effluent

Credit 1.4-Version 2.0

Preliminary Review: Project team has provided an intent, requirements, and design approach for conducting a wind-tunnel analysis to model the air effluent stream from the building's exhaust system. The intent states that this study can improve air quality for this and surrounding buildings through a better understanding of the effluent. Excerpts from the air quality assessment study have been included.

While this strategy may indeed improve air quality, it appears to be good practice for this building program, and does not warrant a credit in innovation.

Final Review (Formerly Safety and Risk Management - Air Effluent)

Project team has provided a revised submittal which includes additional information on the wind-tunnel study, as well as a laboratory waste water neutralization system.

The wind-tunnel process has been outlined and it is stated that the analysis informed the design of exhaust sources and velocities. It is noted that the wind tunnel engineer calls this technology state-of-the art, and states that it is not commonly used for laboratory buildings. It is further noted that 1 point is available through Labs21 for this analysis. Environmental benefits from the technology include mitigation of air pollutants by altering the air effluent.

The waste water system is stated to include acid resistant piping, exterior catch basins, and a neutralization chamber. These practices are noted in the narrative as being above and beyond that required by local code. Environmental benefits from the technology include safe discharge of laboratory water into the municipal treatment system.

The combination of these systems, and the fact that analysis was conducted early enough to inform design, represents a comprehensive approach to environmental performance, and is worthy of one credit in innovation.

1	<input type="checkbox"/>	<input type="checkbox"/>
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LEED™ Accredited Professional

Credit 2-Version 2.0

Preliminary Review: Project team has provided a brief narrative stating that the project manager is a LEED Accredited Professional. A copy of the Accreditation certificate has been provided.