



LEED Certification Review Report

This report contains the results of the technical review of an application for LEED® certification submitted for the specified project. LEED certification is an official recognition that a project complies with the requirements prescribed within the LEED rating systems as created and maintained by the U.S. Green Building Council® (USGBC®). The LEED certification program is administered by the Green Building Certification Institute (GBCI®).

Griggs Hall Addition G

Project ID 1000007665
Rating system & version LEED-NC v2009
Project registration date 07/19/2010



D and C Application Decision

CERTIFIED: 40-49, SILVER: 50-59, GOLD: 60-79, PLATINUM: 80+

LEED FOR NEW CONSTRUCTION & MAJOR RENOVATIONS (V2009)

ATTEMPTED: 54, DENIED: 0, PENDING: 0, AWARDED: 52 OF 110 POINTS

SUSTAINABLE SITES 18 OF 26	
SSp1 Construction Activity Pollution Prevention	Y
SSc1 Site Selection	1 / 1
SSc2 Development Density and Community Connectivity	5 / 5
SSc3 Brownfield Redevelopment	0 / 1
SSc4.1Alternative Transportation-Public Transportation Access	6 / 6
SSc4.2Alternative Transportation-Bicycle Storage and Changing Rooms	1 / 1
SSc4.3Alternative Transportation-Low-Emitting and Fuel-Efficient Vehicles	0 / 3
SSc4.4Alternative Transportation-Parking Capacity	2 / 2
SSc5.1Site Development-Protect or Restore Habitat	0 / 1
SSc5.2Site Development-Maximize Open Space	1 / 1
SSc6.1Stormwater Design-Quantity Control	1 / 1
SSc6.2Stormwater Design-Quality Control	1 / 1
SSc7.1Heat Island Effect, Non-Roof	0 / 1
SSc7.2Heat Island Effect-Roof	0 / 1
SSc8 Light Pollution Reduction	0 / 1

WATER EFFICIENCY 8 OF 10	
WEp1 Water Use Reduction-20% Reduction	Y
WEc1 Water Efficient Landscaping	4 / 4
WEc2 Innovative Wastewater Technologies	0 / 2
WEc3 Water Use Reduction	4 / 4

ENERGY AND ATMOSPHERE 7 OF 35	
EAp1 Fundamental Commissioning of the Building Energy Systems	Y
EAp2 Minimum Energy Performance	Y
EAp3 Fundamental Refrigerant Mgmt	Y
EAc1 Optimize Energy Performance	4 / 19
EAc2 On-Site Renewable Energy	0 / 7
EAc3 Enhanced Commissioning	0 / 2
EAc4 Enhanced Refrigerant Mgmt	0 / 2
EAc5 Measurement and Verification	3 / 3
EAc6 Green Power	0 / 2

MATERIALS AND RESOURCES 2 OF 14	
MRp1 Storage and Collection of Recyclables	Y
MRc1.1Building Reuse-Maintain Existing Walls, Floors and Roof	0 / 3
MRc1.2Building Reuse, Maintain 50% of Interior	0 / 1
MRc2 Construction Waste Mgmt	1 / 2
MRc3 Materials Reuse	0 / 2
MRc4 Recycled Content	0 / 2

MATERIALS AND RESOURCES CONTINUED	
MRc5 Regional Materials	1 / 2
MRc6 Rapidly Renewable Materials	0 / 1
MRc7 Certified Wood	0 / 1

INDOOR ENVIRONMENTAL QUALITY 9 OF 15	
IEQp1 Minimum IAQ Performance	Y
IEQp2 Environmental Tobacco Smoke (ETS) Control	Y
IEQc1 Outdoor Air Delivery Monitoring	0 / 1
IEQc2 Increased Ventilation	0 / 1
IEQc3.1Construction IAQ Mgmt Plan-During Construction	1 / 1
IEQc3.2Construction IAQ Mgmt Plan-Before Occupancy	0 / 1
IEQc4.1Low-Emitting Materials-Adhesives and Sealants	1 / 1
IEQc4.2Low-Emitting Materials-Paints and Coatings	1 / 1
IEQc4.3Low-Emitting Materials-Flooring Systems	1 / 1
IEQc4.4Low-Emitting Materials-Composite Wood and Agrifiber Products	0 / 1
IEQc5 Indoor Chemical and Pollutant Source Control	1 / 1
IEQc6.1Controllability of Systems-Lighting	0 / 1
IEQc6.2Controllability of Systems-Thermal Comfort	1 / 1
IEQc7.1Thermal Comfort-Design	1 / 1
IEQc7.2Thermal Comfort-Verification	1 / 1
IEQc8.1Daylight and Views-Daylight	0 / 1
IEQc8.2Daylight and Views-Views	1 / 1

INNOVATION IN DESIGN 5 OF 6	
IDc1.1 Innovation in Design	1 / 1
IDc1.2 Innovation in Design	1 / 1
IDc1.3 Innovation in Design	1 / 1
IDc1.4 Innovation in Design	1 / 1
IDc1.5 Innovation in Design	0 / 1
IDc2 LEED® Accredited Professional	1 / 1

REGIONAL PRIORITY CREDITS 3 OF 4	
SSc6.1 Stormwater Design-Quantity Control	1 / 1
SSc6.2 Stormwater Design-Quality Control	1 / 1
WEc1 Water Efficient Landscaping	1 / 1
MRc2 Construction Waste Mgmt	0 / 1
MRc5 Regional Materials	0 / 1
IEQc8.1Daylight and Views-Daylight	0 / 1

TOTAL 52 OF 110

CREDIT DETAILS



Project Information Forms

Plf1: Minimum Program Requirements

Approved

05/04/2012 **DESIGN AND CONSTRUCTION PRELIMINARY REVIEW**

The LEED Project Information Form has been submitted stating that the project complies with all Minimum Program Requirements. The project Owner has signed the form as required. The project will comply with MPR 6 (Must commit to sharing whole-building energy and water usage data) via Option 1. The ENERGY STAR Portfolio Manager title is the same as the LEED-NC project name as required. The project is located in Duluth, MN.

However, the required signatory for this form is the project team Owner, but it has been signed by the project team Architect (Elness Swenson Graha). In addition, the ENERGY STAR Portfolio Manager title does not match the LEED-NC project name as required.

TECHNICAL ADVICE:

Please provide a revised form with the required signatory. Note that the project Owner must be designated the proper role in the Team Administration tab in LEED Online and must be logged in with his or her own account when signing the form. In addition, revise the ENERGY STAR Portfolio Manager or LEED-NC project name as necessary to ensure consistency.

01/25/2013 **DESIGN AND CONSTRUCTION FINAL REVIEW**

The LEED Project Information Form has been revised to address the issues outlined in the Preliminary Review comments and has been signed by the project Owner.

Plf2: Project Summary Details

Approved

05/04/2012 **DESIGN AND CONSTRUCTION PRELIMINARY REVIEW**

The LEED Project Information Form has been submitted including the following project summary details. There is one building in this LEED-NC application with a total of eight stories and 73,909 gross square feet. The project is 100% new construction. The total site area within the LEED-NC project boundary is 122,345 square feet and the building area to site area ratio is 60.41%. The project is located on a campus. There are 31 parking spaces available to the occupants, seven floors above grade and one floor below grade (excluding parking levels). The site was previously developed. The building uses energy from natural gas and electricity and uses water from a municipal potable water system. The sewage is conveyed to a municipal sewer system. The total project budget is \$14,000,000.

01/25/2013 **DESIGN AND CONSTRUCTION FINAL REVIEW**

This Project Information Form was previously approved in the Preliminary Review. No changes have been made.

Plf3: Occupant and Usage Data

Approved

05/04/2012 **DESIGN AND CONSTRUCTION PRELIMINARY REVIEW**

The LEED Project Information Form has been submitted including the following occupant and usage data. The occupant is residential and an occupant type that consists primarily of dormitory spaces. The building is intended to be owner-occupied after project completion. The average users value is 30, the peak users value is 280, the FTE value is zero, the project includes 280 residents and the building is occupied 272 days per year.

However, the total regularly occupied area presented here (34,594 square feet) is inconsistent with that within EAp2 (Minimum Energy Performance) (72,403 square feet). All square footage values must be reported consistently across all submittals. In addition, based on the narrative provided under Plf4 (Schedule and Overview Documents) and WEp1 (Water Use Reduction), it appears that the project actually has 280 residents and 30 transients. The form should be revised to reflect this and ensure that the occupancy values are consistent across all credits. Finally, IEQc6.2 (Controllability of Systems, Thermal Comfort) states that there are two office workstations. These FTE occupants have not been included in the occupancy calculations.

TECHNICAL ADVICE:

Revise the form as necessary to ensure that the total regularly occupied area is consistent across all submittals. In addition, revise the

form to reflect the actual occupancy for the project. Ensure that all FTE, residential, and transient occupants are properly accounted for and reported consistently across all credits.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

The LEED Project Information Form has been revised to address the issues outlined in the Preliminary Review comments and the occupancy values are reported consistently across all credits.

However, the total regularly occupied area presented here (33,916 square feet) is inconsistent with that reported in EAp2: Minimum Energy Performance (34,447 square feet). In this case, the discrepancy does not affect compliance for any credits. For future submittals, ensure that all area values are reported consistently across all credits.

Pf4: Schedule and Overview Documents

Approved

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Project Information Form has been submitted including the design and construction schedule, the estimated date of substantial construction completion is noted as August 17, 2011, and the estimated date of occupancy is noted as August 18, 2011. The following required documents have been uploaded: exterior photographs, interior photographs, floor plans, building sections and elevations, a site plan identifying the LEED project boundary, mechanical schedules, and mechanical drawings. Additionally, an online map, the building systems narrative and the project narrative have been provided.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

This Project Information Form was previously approved in the Preliminary Review. No changes have been made.



Sustainable Sites

SSp1: Construction Activity Pollution Prevention

Awarded

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Prerequisite Form has been provided stating that the project has implemented an erosion and sedimentation control (ESC) plan which conforms to the 2003 EPA Construction General Permit (CGP). The requirements of the CGP are more stringent than local erosion and sedimentation control standards and codes. The ESC plan addresses the necessary requirements to prevent soil loss, sedimentation, and pollution of the air as required. The periodic inspection log has been provided to confirm that the ESC plan was implemented appropriately. The periodic inspection log confirms that at least three inspections occurred at intervals spaced evenly throughout the site work period and includes sample dates, inspection frequency, and descriptions of any corrective actions taken. The ESC Plan and Stormwater Pollution Prevention Plan have also been provided.

However, it is unclear if the ESC plan includes the proper measures for the prevention of air pollution (dust and particulate matter).

TECHNICAL ADVICE:

Please provide a revised ESC plan and supporting documentation which includes detailed information describing the measures taken for the prevention of polluting the air with dust and particulate matter.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

A narrative and the stormwater management specifications have been provided to address the issues outlined in the Preliminary Review comments and confirm that the project has taken the proper measures for the prevention of air pollution (dust and particulate matter). The documentation demonstrates prerequisite compliance.

SSc1: Site Selection

Awarded: 1

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that the project site does not meet any of the prohibited criteria.

SSc2: Development Density and Community Connectivity

Awarded: 5

POSSIBLE POINTS: 5

ATTEMPTED: 5, DENIED: 0, PENDING: 0, AWARDED: 5

05/21/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that the project complies with Option 2 and the site is located within one half mile of a minimum of ten basic community services and a minimum of one residential district (with a minimum density of ten units per acre). The project site condition is noted as previously developed with existing infrastructure. A scaled area plan showing the one half mile radius, the locations of the basic services, and the residential district has been provided. In addition, property details to confirm the density of the residential district have been provided.

However, the listing of community services counts the park, medical, theater, and church service twice (Chester Park, UMD Health Services, UMD Quick Care, Weber Music Hall, Marshall Performing Arts Center, Bagley Nature Area, Newman Catholic Campus Ministries, and United Methodist Church). Please note that with the exception of restaurants, no service may be counted more than once in the calculation. Up to two restaurants may be counted toward achievement of this credit. In addition, it is unclear whether all of the basic services are available to the general public due to the fact that they are located on the campus (Medical services, Fitness Center, Library, Theaters, Restaurant, Bank). It is the intent of this credit that basic services are available to everyone and are not restricted to campus occupants and staff.

TECHNICAL ADVICE:

Please provide a revised form and map which highlights ten unique, qualifying basic services (restaurants may be counted twice) that are within the one half mile radius of the project site. In addition, provide a clarification narrative which demonstrates that the noted services are accessible to the public.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

The LEED Credit Form has been revised to address the issues outlined in the Preliminary Review comments and includes ten basic services. A revised site plan has also been provided.

It is noted that the laundry facilities are located within the project building and therefore cannot count towards this credit. In this case, this issue was not noted in the Preliminary Review comments. In addition, independent reviewer research has confirmed that the Fitness Facility is available to the public. The documentation demonstrates credit compliance.

SSc3: Brownfield Redevelopment

Not Attempted

POSSIBLE POINTS: 1

SSc4.1: Alternative Transportation-Public Transportation Access

Awarded: 6

POSSIBLE POINTS: 6

ATTEMPTED: 6, DENIED: 0, PENDING: 0, AWARDED: 6

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that the project complies with Option 2 and is served by eight bus lines within one quarter mile walking distance of the project site. A scaled map showing the location of the transit stops and pedestrian route, ridership data, a map of all bus routes, and bus schedules have been provided. The LEED Credit Form indicates that the project is pursuing the Exemplary Performance option for this credit and that the project reserves one point within the Innovation and Design Credit category for this strategy.

SSc4.2: Alternative Transportation-Bicycle Storage and Changing Rooms

Awarded: 1

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that the project includes residential spaces and that covered bicycle storage facilities have been provided to serve 21.79% of the LEED-NC project residents. Covered bicycle storage facilities must be provided for at least 15% of project residents. Plans have been provided showing the location of the covered bicycle storage facilities.

However, Plf3 (Occupant and Usage Data) has been denied pending clarifications due to issues with the occupancy for this project.

TECHNICAL ADVICE:

Please see the comments within Plf3. Revise this credit as necessary to ensure that bicycle storage facilities have been provided for at least 5% of peak FTE and transient project occupants and that shower facilities have been provided for at least 0.5% of FTE project occupants as required.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

Clarifications have been provided under Plf3: Occupant and Usage Data to address the issues outlined in the Preliminary Review comments. The occupancy values are reported consistently across all credits. Sufficient bicycle storage and shower facilities have been provided. The documentation demonstrates credit compliance.

SSc4.3: Alternative Transportation-Low-Emitting and Fuel-Efficient Vehicles

Not Attempted

POSSIBLE POINTS: 3

SSc4.4: Alternative Transportation-Parking Capacity

Awarded: 2

POSSIBLE POINTS: 2

ATTEMPTED: 2, DENIED: 0, PENDING: 0, AWARDED: 2

05/21/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that the LEED-NC project is residential and applies Case 2 but has provided an

alternative compliance narrative. Site plans demonstrating that the site has provided a parking reduction of 33 spaces, resulting in a net decrease in parking spaces have also been provided.

However, the project must provide a revised form marking that the project has provided no new parking and the project Owner must sign the form.

TECHNICAL ADVICE:

Please provide a revised form stating that the project is selecting the no new parking option and ensure that the form is complete with the required project Owner signatory.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

The LEED Credit Form has been revised to address the issues outlined in the Preliminary Review comments and the project Owner has signed the form, as required. The documentation demonstrates credit compliance.

SSc5.1: Site Development-Protect or Restore Habitat **Not Attempted**

POSSIBLE POINTS: 1

SSc5.2: Site Development-Maximize Open Space **Awarded: 1**

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that the project site does not have local open space zoning regulations therefore the project complies with Case 2. 79,301 square feet of open space has been provided which is more than the footprint of the LEED-NC building (12,093 square feet). Additionally, 100% of this dedicated open space is vegetated. A minimum area of open space equal to the footprint of the LEED-NC building is required and at least 25% of that dedicated open space must be vegetated. The calculations do not include wetlands or naturally designed ponds. The project Owner has signed the form as required. A site plan highlighting the dedicated open space has been provided. The LEED Credit Form indicates that the project is pursuing the Exemplary Performance option for this credit and that the project reserves one point within the Innovation and Design Credit category for this strategy.

SSc6.1: Stormwater Design-Quantity Control **Awarded: 1**

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that prior to development of this LEED-NC project, the existing site imperviousness was less than or equal to 50% therefore the project applies Case 1 - Option 1. A stormwater management plan has been implemented such that the post-development site runoff in both rate and quantity does not exceed the pre-development runoff rate and quantity for both the one- and two-year 24-hour storm events. The pre- and post-development runoff values have been provided within the form. The stormwater management plan which includes the description of the stormwater management strategies and calculations supporting the claimed runoff values has been provided. In addition, the calculations and narrative provided confirm that the plan is comprehensive for the adjacent properties in the centralized stormwater management system.

SSc6.2: Stormwater Design-Quality Control **Awarded: 1**

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that stormwater runoff from 90% of the average annual rainfall is captured or treated such that 80% of the average annual post-development Total Suspended Solids (TSS) is removed. The form lists the project BMPs and describes the contribution to stormwater filtration of each, including their TSS removal rate and percent of annual rainfall volume treated.

SSc7.1: Heat Island Effect, Non-Roof
POSSIBLE POINTS: 1

Not Attempted

SSc7.2: Heat Island Effect-Roof
POSSIBLE POINTS: 1

Not Attempted

SSc8: Light Pollution Reduction
POSSIBLE POINTS: 1

Not Attempted



Water Efficiency

WEp1: Water Use Reduction-20%Reduction

Awarded

05/04/2012 **DESIGN AND CONSTRUCTION PRELIMINARY REVIEW**

The LEED Prerequisite Form and water use calculations have been provided stating that the project has reduced potable water use by 46% from a calculated baseline design through the installation of low-flow water closets, low-flow lavatory faucets and low-flow showers. A minimum reduction of 20% is required. Manufacturer documentation for the fixtures has been provided.

However, Plf3 (Occupant and Usage Data) has been denied pending clarifications due to issues with the occupancy for this project.

TECHNICAL ADVICE:

Please see the comments within Plf3. Revise this prerequisite as necessary to ensure that all occupants (daily average) have been included in the water use calculations.

2013 JAN 25 **DESIGN AND CONSTRUCTION FINAL REVIEW**

WEc1: Water Efficient Landscaping

Awarded: 4

POSSIBLE POINTS: 4

ATTEMPTED: 4, DENIED: 0, PENDING: 0, AWARDED: 4

05/04/2012 **DESIGN AND CONSTRUCTION PRELIMINARY REVIEW**

The LEED Credit Form has been provided stating that the landscaping does not utilize permanent irrigation systems and that all temporary irrigation systems used for plant establishment will be removed within one year of installation. The form indicates that project conditions do not allow for the installation of vegetation on the grounds therefore plants, a vegetated roof, and/or courtyard landscaping have been installed in order to meet credit requirements. The project team Architect has signed the form as required. The landscape plan and the narrative describing how the landscape has been designed for no irrigation have been provided.

WEc2: Innovative Wastewater Technologies

Not Attempted

POSSIBLE POINTS: 2

WEc3: Water Use Reduction

Awarded: 4

POSSIBLE POINTS: 4

ATTEMPTED: 4, DENIED: 0, PENDING: 0, AWARDED: 4

05/04/2012 **DESIGN AND CONSTRUCTION PRELIMINARY REVIEW**

The LEED Credit Form has been provided stating that the project has reduced potable water use by 46% from the calculated baseline design fixture performance. A minimum reduction of 30% is required.

However, WEp1 (Water Use Reduction, 20% Reduction) has been denied pending clarifications.

TECHNICAL ADVICE:

Please see the comments within WEp1 and resubmit this credit.

01/25/2013 **DESIGN AND CONSTRUCTION FINAL REVIEW**

Clarifications have been provided under WEp1: Water Use Reduction to address the issues outlined in the Preliminary Review comments. The revised calculations state that the project has reduced potable water use by 46%. The documentation demonstrates credit compliance.



EAp1: Fundamental Commissioning of the Building Energy Systems

Awarded

05/02/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Prerequisite Form has been provided stating that the fundamental commissioning report for the project energy-related systems has been completed. The required commissioning authority experience of the project team Commissioning Agent has been provided, and the documentation confirms that the Owner Project requirements (OPR) and Basis of Design (BOD) are consistent with the final construction documentation and completed project. The project Owner and project team Commissioning Agent have signed the form as required. The executive summary of the commissioning report which includes a list of the systems commissioned, a summary of issues corrected and a list of unresolved issues has been provided.

EAp2: Minimum Energy Performance

Awarded

05/03/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Prerequisite Form and supporting documentation have been provided stating that the project is new construction and therefore complies with Option 1. The project has achieved an energy cost savings of 19.87% using the ASHRAE 90.1-2007 Appendix G methodology. A minimum energy cost savings of 10% is required for all new construction projects. The project team Architect, Mechanical Engineer, and Electrical Engineer have signed the form as required. Energy efficiency measures incorporated into the building design include an improved thermal envelope, high efficiency glazing, reduced interior lighting power density, occupancy sensors and natural ventilation.

However, the following thirteen review comments requiring a project response (marked as Mandatory) must be addressed for the Final Review. For the remaining review comments (marked as Optional), a project response is optional.

TECHNICAL ADVICE:

REVIEW COMMENTS REQUIRING A PROJECT RESPONSE (Mandatory):

1. The exterior wall construction as indicated in Section 1.4 - Supplemental Tables 1.4.1A and 1.4.1B do not appear to have been modeled in the Baseline Case as required by Table G3.1.5(Baseline)(b). Revise the exterior wall in the Baseline model to steel framed walls for residential buildings with the corresponding assembly U-value from the corresponding climate zone in Table 5.5.7. In the case of this building, the wall construction U-value should be $0.042 (R \geq 13.0 + R \geq 15.6 \text{ ci})$.
2. Section 1.4 - Supplemental Table 1.4.1A, the Baseline floor/slab construction has been modeled with an F-value of 0.52. However, the LEED Summary Report indicates that the floor/slab construction has been modeled with an F-factor of 0.1. Please verify how the Baseline building floor/slab construction was modeled and ensure that it is consistent with the corresponding assembly f-factor from ASHRAE Table 5.5-7 (0.52). Revise the simulation as necessary and provided updated simulation summary reports to confirm the changes.
3. The Baseline SHGC does not appear to meet the requirements of Table G3.1.5(Baseline)(c), which requires that all Baseline Vertical Fenestration (both North and Non-North facing glass) be modeled using the SHGC values from Table 5.5-7 (SHGC = NR) for residential buildings. Revise all Baseline fenestration to reflect the SHGC value for both North and non-North facing glass. Update Section 1.4 - Supplemental Table 1.4.1B and simulation as necessary.
4. The Baseline and Proposed Case interior lighting power densities reported in Section 1.4 - Supplemental Table 1.4.5 are not consistent with the lighting power densities reported in the LEED Summary Report. Please verify the lighting power densities in the energy model and revise the model and supplemental table as necessary. Provide updated simulation input and summary reports to reflect the changes.
5. An energy savings is reflected for exterior lighting; however, the tradable and non-tradable surfaces have not been listed separately as required. Provide a narrative confirming that the Proposed Case exterior lighting reflects the actual building design and the Baseline Case reflects the allowed lighting power from the ASHRAE 90.1-2007 Section 9. Ensure that no credit is taken in the Proposed Design Case for lighting reductions on non-tradable surfaces. Additionally, note that additional lighting power allowance cannot be claimed in the Baseline model for surfaces that are not provided with lighting in the actual design, and lighting fixtures cannot be double counted for different exterior surfaces. Report the tradable and non-tradable surface lighting power separately (in units of Watts or Kilowatts) for both the Baseline and Proposed Case in Section 1.4 - Supplemental Table 1.4.5 and verify that these values are appropriately reflected in the model outputs and Tables EAp2-4 and EAp2-5.
6. It is unclear whether the Baseline Case fan air flow rates were sized based on a 20 degrees F supply-air-to-room-air temperature difference for each Baseline system in accordance with Section G3.1.2.8, and whether the Proposed Case air flow rates were modeled as designed for each system. Provide input summary reports showing that the Baseline Case air flow rates were sized based on a 20 degrees F supply-air-to-room-air temperature difference per G3.1.2.8, verify that the Proposed Case air flow rates reflect the actual building design, update the Section 1.4 - Supplemental Table 1.4.2 to reflect the total Baseline and Proposed Case air flows, and energy models, input and output summaries, and form as necessary to reflect any changes made.
7. The LEED Summary Report lists the Baseline cooling efficiencies as EER. Note that Section G3.1.2.1 requires that where efficiency ratings, such as EER and COP, include fan energy, the descriptor shall be broken down into its components so that supply fan energy

can be modeled separately. Since the efficiency ratings are calculated at ARI-rated conditions, the fans should also be broken out at ARI-rated conditions. Most simulation software programs have the capability to perform this step automatically. Provide documentation showing that this calculation has been performed by the software automatically or provide calculations consistent with the ASHRAE 90.1-2007 Users Manual showing that the calculation has been performed at ARI-rated conditions.

8. It is unclear whether the controls for hot water temperature reset were modeled in the Baseline Case as required by Section G3.1.3.4. Revise the Baseline model as necessary to reflect the specified temperature reset controls and include these controls in the input parameters described in the Section 1.4 - Supplemental Tables 1.4.2 and 1.4.3. Indicate any reset controls modeled for the Proposed Case.

9. Insufficient information is provided in Section 1.4 - Supplemental Table 1.4.3 regarding the Baseline and Proposed Case hot water loop and pump parameters. Confirm that the Baseline hot water loop is modeled with variable primary flow (two-way valves), with a constant speed pump riding the curve in accordance with G3.1.3.5, and operating between 180F and 130F as required by G3.1.3.3. Additionally, indicate the pump power (in kW) and flow (in gpm) and verify that the pump power complies with the requirements of section G3.1.3.5 (19 W/gpm). After making any necessary updates to the model, update Table 1.4.3 to report the hot water loop and pump parameters for both the Baseline and Proposed Case.

10. Electric space heating is reported in Table EAp2-4 for the Baseline Case even though the Baseline system type is reported as System Type #1. This is unexpected. Note that the hot water boiler must be modeled as a natural draft boiler and there should be no electric space heaters modeled in the Baseline Case. Revise the model and form as necessary, and note whether Exception G3.1.1(a) applies for spaces greater than 20,000 square feet.

11. The Proposed Case service hot water heating boiler efficiency is inconsistent between Section 1.4 - Supplemental Table 1.4.4 (94%) and the LEED Summary Report (140%). Please verify the Proposed Case service hot water heating inputs and revise the model as necessary. Provide updated simulation summary reports to confirm any changes.

12. The Baseline and Proposed Case energy use values entered in Tables EAp2-4 and EAp2-5 are inconsistent with the LEED Summary report. Please confirm the values entered in the form and revise as necessary. Ensure all values are consistent between the form and simulation documentation.

13. Section 1.4 - Supplemental Table 1.4.2 indicates that certain spaces are only served by finned tube radiators; however, cooling equipment should be modeled in both cases if the spaces are considered conditioned per the definition in Section 3 of ASHRAE 90.1-2007. Refer to the definition of conditioned space, semi-heated space, and unconditioned space in Section 3 for more information. If the heating output capacity is greater than or equal to 15 Btu/h²sq. ft. then the space is considered conditioned so cooling should be included in the Baseline and Proposed Case models. The cooling should be modeled using the Baseline cooling system type (System Type 1) in both the Baseline and Proposed Case model using identical cooling capacity ratios and efficiencies in the Baseline and Proposed Case. If the heating output capacity is less than 15 Btu/h²sq. ft., then the space is considered semi-heated or unconditioned, so only heating equipment should be included in the Proposed and Baseline models; the heating type, capacity ratios, fan volume, and fan power for these spaces should be modeled identically between the Baseline and Proposed Case. Please revise the Proposed model and Baseline model as needed so the correct system type is modeled in all spaces. Please also indicate the total heating capacity and building area for semi-conditioned spaces to verify that they qualify as semi-conditioned spaces. In addition, please update Section 1.2 - Table EAp2-1 and Table 1.4.2 as needed reflecting the changes.

Please note that the energy efficiency measures for natural ventilation in the dormitory rooms should be modeled using the Exceptional Calculation methodology. A narrative should describe all Baseline and Proposed Case assumptions included for this measure as well as the calculation methodology used to determine the projected savings. The narrative and energy savings should be reported separately from the other efficiency measures in Section 1.7 - Table EAp2-7. The Baseline Case description should verify that the efficiency measure is not standard practice for a similar newly constructed facility by referencing a recently published document, utility program that incentivizes the equipment installed, or by documenting systems used to perform the same function in other newly constructed facilities. Savings associated with the Proposed Case measure should also be justified with published or monitored data.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

The LEED Prerequisite Form has been revised to address the issues outlined in the Preliminary Review and states that the project has achieved an energy cost savings of 19.87% using the ASHRAE 90.1-2007 Appendix G methodology. Revised supporting documentation has been provided including narrative response to Preliminary Review comments, updated simulation input and output summary files and an updated EAp2 Section 1.4 Table. Sufficient information has been provided to address all issues raised in the Preliminary Review. The total predicted annual energy consumption for the project is 995,906 kWh/year of electricity and 57,618 therms/year of natural gas. The documentation demonstrates prerequisite compliance.

EAp3: Fundamental Refrigerant Management

Awarded

05/02/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Prerequisite Form has been provided stating that there are no CFC-based refrigerants in the HVAC systems which serve the LEED-NC project.

EAc1: Optimize Energy Performance**Awarded: 4**

POSSIBLE POINTS: 19

ATTEMPTED: 4, DENIED: 0, PENDING: 0, AWARDED: 4

05/02/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form and supporting documentation have been provided stating that the project is new construction and has achieved an energy cost savings of 19.87% using the ASHRAE 90.1-2007 Appendix G methodology. A minimum energy cost savings of 12% is required for all new construction projects.

However, EAp2 (Minimum Energy Performance) is denied pending clarifications.

TECHNICAL ADVICE:

Please see the comments within EAp2 and resubmit this credit.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

Additional documentation has been provided for EAp2: Minimum Energy Performance claiming an energy cost savings of 19.87%. The clarifications provided are sufficient to verify the savings claimed. The documentation demonstrates credit compliance.

EAc2: On-Site Renewable Energy**Not Attempted**

POSSIBLE POINTS: 7

EAc3: Enhanced Commissioning**Not Attempted**

POSSIBLE POINTS: 2

EAc4: Enhanced Refrigerant Management**Not Attempted**

POSSIBLE POINTS: 2

EAc5: Measurement and Verification**Awarded: 3**

POSSIBLE POINTS: 3

ATTEMPTED: 3, DENIED: 0, PENDING: 0, AWARDED: 3

05/02/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that the project complies with Option 1 and has developed and implemented a measurement and verification plan consistent with Option D (Calibrated Simulation Savings Estimation Method) of the 2003 IPMVP. A Measurement and Verification Plan has been provided. Electrical diagrams and lighting power density tables have also been provided.

However, the provided plan does not confirm compliance with Option D of the IPMVP.

TECHNICAL ADVICE:

Please revise the Measurement and Verification Plan as necessary to ensure that the following components of Option D of the 2003 IPMVP are included.

1. Identify the Measurement and Verification period (dates, triggers, etc.) and the means of collecting data and frequency of data collection.
2. Identify the acceptable range(s) of error (generally there is a different range allowable for both monthly and annual data).
3. Identify the parties responsible for completing the Measurement and Verification.
4. Explain the corrective action plan that will be applied if Measurement and Verification determines that the building does not perform as anticipated.
5. Identify the means for ongoing accountability.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

Anarrative response and revised Measurement and Verification Plan have been provided to address the issues outlined in the Preliminary Review comments and states that the plan confirms compliance with Option D of the IPMVP. The documentation demonstrates credit compliance.

EAc6: Green Power
POSSIBLE POINTS: 2

Not Attempted



Materials and Resources

MRp1: Storage and Collection of Recyclables **Awarded**

05/04/2012 **DESIGN AND CONSTRUCTION PRELIMINARY REVIEW**

The LEED Prerequisite Form has been provided stating that the project has provided appropriately sized dedicated areas for the collection and storage of materials for recycling, including cardboard, paper, plastic, glass, and metals. The narrative describing the size, accessibility and dedication of recycling storage areas and a floor plan showing the location of the recycling storage areas within the LEED-NC project have been provided. The area is adequately sized and located, and the narrative confirms the expected volume and pick-up frequencies.

MRc1.1: Building Reuse-Maintain Existing Walls, Floors and Roof **Not Attempted**

POSSIBLE POINTS: 3

MRc1.2: Building Reuse, Maintain 50% of Interior **Not Attempted**

POSSIBLE POINTS: 1

MRc2: Construction Waste Management **Awarded: 1**

POSSIBLE POINTS: 2

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/04/2012 **DESIGN AND CONSTRUCTION PRELIMINARY REVIEW**

The LEED Credit Form has been provided stating that the project has diverted 50.09% of the on-site generated construction waste from landfill. A minimum of 50% diverted is required. Calculations and a Construction Waste Management Plan have been provided to document the waste types and receiving agencies for the diverted materials.

MRc3: Materials Reuse **Not Attempted**

POSSIBLE POINTS: 2

MRc4: Recycled Content **Not Attempted**

POSSIBLE POINTS: 2

MRc5: Regional Materials **Awarded: 1**

POSSIBLE POINTS: 2

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/04/2012 **DESIGN AND CONSTRUCTION PRELIMINARY REVIEW**

The LEED Credit Form and the LEED Materials and Resource Calculator have been provided stating that 18.75% of the total building materials value includes building materials and products that have been manufactured and extracted within 500 miles of the project site. A minimum of 10% must be extracted and manufactured within 500 miles of the project site. Manufacturer documentation has been provided for at least 20% of the compliant materials as required.

MRc6: Rapidly Renewable Materials **Not Attempted**

POSSIBLE POINTS: 1

MRc7: Certified Wood **Not Attempted**

POSSIBLE POINTS: 1



IEQp1: Minimum Indoor Air Quality Performance

Awarded

05/03/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Prerequisite Form has been provided stating that the project is mechanically ventilated and mechanically conditioned, with the exception of the dormitories. The project has utilized the VRP Compliance Calculator and the form. The project team Ventilation Systems Designer has signed the form as required. The ventilation rate procedure and designed outdoor air intake rates confirming that the breathing zone outdoor air intake ventilation rates for all occupied spaces meets the minimum established in ASHRAE 62.1-2007 have been provided.

The LEED Prerequisite Form has been provided stating that the dormitories are naturally ventilated and naturally conditioned and the project meets ASHRAE 62.1-2007 Sections 4 through 7. All naturally ventilated spaces are permanently open to and within 25 feet of operable window or roof openings and the operable area are equal to at least 4% of the net occupiable floor area. Window area calculations have also been provided.

However, for the non-dormitory spaces, the ventilation systems serving the LEED-NC project space are multiple-zone recirculating systems and the version of the form utilized (Form v3.0) does not apply to these types of systems. The utilized form allows for only one zone and occupancy category per AHU which is appropriate for single-zone systems; however, the air handling units in this project serve multiple zones with varying occupancy types. While the form can be used in conjunction with supplemental documentation to confirm compliance of this prerequisite for multi-zone systems, the form itself is only appropriate for a limited type of system designs (i.e. single-zone systems).

It is noted that drawings showing the naturally ventilated building zones and operable window areas have not been provided. However, it can be determined from the Architectural plans that the naturally ventilated zones are within 25 feet of operable windows as required. For future submittals, provide project drawings showing the naturally ventilated building zones and operable window areas.

TECHNICAL ADVICE:

Please provide a separate ventilation rate procedure calculation for each multiple-zone recirculating system serving the LEED-NC project. Note that an upgraded version of the IEQp1 Prerequisite Form (Form v04) is available, which includes a calculator appropriate for documenting multiple-zone recirculating systems. Though not required, it is strongly encouraged that the project upgrade to the most recent version of the credit form. Projects may request a form upgrade through the feedback button in LEED Online v3. Please include the specific prerequisite form, project number, project name, and rating system when requesting an upgrade.

As an alternate to the form calculator, the project may choose to provide supplemental ventilation rate procedure calculations with the ASHRAE 62MZCalc Calculator, which may be downloaded from LEED Online for this prerequisite through the Credit Resources section. The 62MZCalc also includes the 30% increased ventilation calculations required for compliance with IEQc2. Note that

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

The LEED Prerequisite Form has been revised to address the issues outlined in the Preliminary Review and includes calculations for both multiple zone and 100% outdoor air systems, reflecting the project design. The calculations confirm that the breathing zone outdoor air intake ventilation rates for all occupied spaces meets the minimum established in ASHRAE 62.1-2007. The documentation demonstrates prerequisite compliance.

IEQp2: Environmental Tobacco Smoke (ETS) Control

Awarded

05/03/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Prerequisite Form has been provided stating that the project minimizes exposure to ETS-containing air by prohibiting smoking on-site. Additionally, smoking is prohibited within the building. Drawings, photographs and project specifications confirming the signage system communicating the exterior smoking policy have been provided.

However, the required signatory for this prerequisite is the project team Owner, but the form has been signed by the project team Architect (Terence Gruenhagen of Elness Swenson Graham).

TECHNICAL ADVICE:

Please provide a revised form with the required signatory. Note that the Owner must be designated the proper role in the Team Administration tab in LEED Online and must be logged in with his or her own account when signing the form.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

The LEED Prerequisite Form has been revised to address the issues outlined in the Preliminary Review comments and has been signed by the Owner, as required. The documentation demonstrates prerequisite compliance.

IEQc1: Outdoor Air Delivery Monitoring

Not Attempted

POSSIBLE POINTS: 1

IEQc2: Increased Ventilation

Not Attempted

POSSIBLE POINTS: 1

**IEQc3.1: Construction IAQ Management Plan-
During Construction**

Awarded: 1

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that the project developed and implemented a Construction IAQ Management Plan that followed the referenced SMACNA Guidelines. The form narrative describes how absorptive materials were protected from moisture damage during the construction and preoccupancy phases. The project team Contractor has signed the form as required. Permanently installed air handling units were not operated during construction. A copy of the Construction IAQ Management Plan has been provided.

However, the provided documentation and Construction IAQ Management Plan do not indicate that all of the SMACNA Design Approaches were utilized on the project as required. It appears that HVAC Protection, Source Control, Pathway Interruption, and Scheduling were not addressed.

TECHNICAL ADVICE:

Please provide a narrative describing the five Design Approaches of SMACNA IAQ Guidelines for Occupied Buildings under Construction, 1995, Chapter 3 or photographs highlighting how HVAC Protection, Source Control, Pathway Interruption, and Scheduling were handled during the construction of the tenant space.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

A revised IAQ management plan and photographs have been provided to address the issues outlined in the Preliminary Review comments. The IAQ plan describes the strategies for HVAC Protection, Source Control, Pathway Interruption, and Scheduling which were applied during the construction of the project. The documentation demonstrates credit compliance.

**IEQc3.2: Construction IAQ Management Plan-
Before Occupancy**

Not Attempted

POSSIBLE POINTS: 1

**IEQc4.1: Low-Emitting Materials-Adhesives and
Sealants**

Awarded: 1

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that all adhesive and sealant products comply with the VOC limits of the referenced standards for this credit. A summary of all interior adhesive and sealant products has been provided along with VOC data for each product confirming that they comply with the referenced VOC limits. The project team Contractor has signed the form as required. Manufacturer documentation has been provided for at least 20% of the products as required.

However, it is unclear if all required materials have been listed in the table. Specifically, it does not appear that all flooring adhesives have been included.

TECHNICAL ADVICE:

The following items are included in this credit: construction adhesives, floor covering adhesives and sealants, base cove/molding adhesives, wall covering adhesives, plumbing adhesives, painters caulk, acoustic-lined ductwork/mechanical/HVAC equipment, protective sealants, adhesives used for surface mounting items such as signage or mirrors, and fire-related adhesives. Please provide a comprehensive list of adhesives and sealants and/or a narrative explaining why these items were not used.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

The LEED Credit Form has been revised to address the issues outlined in the Preliminary Review comments and additional adhesives and sealants have been included. A response narrative and manufacturer documentation have also been provided. The documentation demonstrates credit compliance.

IEQc4.2: Low-Emitting Materials-Paints and Coatings

Awarded: 1

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that all interior paints and coatings applied on-site comply with the VOC limits of the referenced standards for this credit. The project requires a high-VOC product and therefore has submitted a VOC Budget indicating that the overall VOC Budget is equal to or below the required standard. The project team Contractor has signed the form as required. Manufacturer documentation has been provided for at least 20% of the products as required.

IEQc4.3: Low-Emitting Materials-Flooring Systems

Awarded: 1

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that all interior flooring materials and finishes meet or exceed applicable criteria for the Carpet and Rug Institute, South Coast Air Quality Management District or FloorScore. The adhesives used have a VOC level of less than 50 g/L that complies with IEQc4.1 (Low-Emitting Materials: Adhesives and Sealants). A summary of the products along with data for each product has been provided in the form. Manufacturer documentation has been provided for at least 20% of the materials and for at least 20% of the adhesive and sealant products as required.

However, IEQc4.1 (Low-Emitting Materials, Adhesives and Sealants), has been denied pending clarifications for the flooring adhesives.

TECHNICAL ADVICE:

Please see comments within IEQc4.1 and resubmit this credit.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

Clarifications have been provided under IEQc4.1: Low-Emitting Materials, Adhesives and Sealants to address the issues outlined in the Preliminary Review comments and all flooring adhesives have been included in the form. A narrative and manufacturer documentation have also been provided. The documentation demonstrates credit compliance.

IEQc4.4: Low-Emitting Materials-Composite Wood and Agrifiber Products

Not Attempted

POSSIBLE POINTS: 1

IEQc5: Indoor Chemical and Pollutant Source Control

Awarded: 1

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/03/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that the project includes high-volume exterior entryways. Permanent entryway systems have been installed immediately within the required entryways to capture dirt and particulates. A floor plan showing the location of the installed permanent entryway systems including measurements has been provided.

The project includes spaces where hazardous gases or chemicals are present or used. These spaces have been designed to be sufficiently exhausted to create a negative pressure in respect to all adjacent spaces and these spaces include self-closing doors and deck-to-deck partitions or a hard-lid ceiling. The Isolated Exhaust System Areas table has been completed and confirms that air recirculation is not present for any of the hazardous gas or chemical areas. Mechanical drawings highlighting the location of the

chemical/hazardous gas usage areas, room separations and associated exhaust systems have been provided. Sequences of operation for the Laundry Room have also been provided.

The project is mechanically ventilated and all supply air systems serving regularly occupied spaces have been outfitted with a new filtration media with a rating of at least MERV 13 immediately prior to occupancy. Mechanical schedules confirming the installed filtration media have been provided. Filter specifications have also been provided.

However, the provided drawings indicate that the walk off mat in drawing IEQc5-3 is less than 10 feet long from the entrance to the door entering the corridor. Per the credit requirements, the entryway systems must be at least ten feet long in the primary direction of travel.

TECHNICAL ADVICE:

Provide documentation confirming that all entryway systems are at least 10 feet long in the primary direction of travel into the interior spaces.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

The LEED Credit Form has been revised to address the issues outlined in the Preliminary Review comments. Drawings showing the locations and sizes of the entryway systems have been provided. The drawings confirm that all entryway systems are at least 10 feet long in the primary direction of travel, as required. The documentation demonstrates credit compliance.

IEQc6.1: Controllability of Systems-Lighting

Not Attempted

POSSIBLE POINTS: 1

IEQc6.2: Controllability of Systems-Thermal Comfort

Awarded: 1

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that the required ventilation and temperature controls are provided to enable 83.33% of the occupants with the ability to make adjustments to suit individual needs and preferences. A minimum of 50% of individual workstations must have individual thermal controls. The project is mechanically and naturally ventilated. The project team Mechanical Designer has signed the form as required. Drawings confirming the location of the individual thermal controls have been provided.

However, the following three issues are pending:

1. The total quantity of individual workstations and multi-occupant spaces presented here (140 individual + 0 multi-occupant) is inconsistent with that presented within IEQc6.1 (0 individual + 152 multi-occupant). The quantity of workstations must be consistent across all credits.
2. It appears that the meeting rooms and study rooms may be inappropriately classified as an individual space. Note that in individual occupant spaces, workers use standard workstations to conduct individual tasks. Examples are private offices and open office areas with multiple workers. Shared multi-occupant spaces include conference rooms, classrooms, and other indoor spaces used as places of congregation. Thermal comfort controls do not appear to be provided for these spaces and, in order to qualify for this credit, controls must be provided for 100% of shared multi-occupant spaces.
3. In residential applications, living and family rooms are considered regularly occupied space and it appears that the Lounges are included in this space type. In this case, thermal comfort controls must be provided for 100% of shared multi-occupant spaces, which includes lounges.

TECHNICAL ADVICE:

Please provide a clarification narrative and revise the form so that the individual occupant workstations and shared, multi-occupant spaces are reported consistently across all submittals.

2. Provide a narrative describing the thermal comfort controls available in the shared multi-occupant spaces. It is unclear if the study rooms are shared multi-occupant or individual spaces, so a narrative describing the nature of these spaces is required. If necessary, provide details on change orders made to ensure that thermal controls have been provided.

3. Provide a narrative describing the design changes made to ensure that sufficient thermal comfort controls are available in the lounge areas to ensure that sufficient controls are available for 100% of shared multi-occupant spaces.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

The LEED Credit Form has been revised to address the issues outlined in the Preliminary Review comments and all required spaces have been included. The individual and shared multi occupant spaces have been classified accordingly within the calculations. A response narrative has also been provided. The documentation demonstrates credit compliance.

IEQc7.1: Thermal Comfort-Design**Awarded: 1**

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/03/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that the mechanically ventilated and mechanically conditioned project spaces are in compliance with ASHRAE 55-2004. The project has utilized Table IEQc7.1-1 to determine credit compliance. The metabolic rate and clothing insulation, weather design conditions, and operating conditions have been provided for both the cooling and heating mode. Local discomfort effects have been considered and are considered unlikely. Supporting documentation to confirm that all design conditions fall within the ASHRAE 55-2004 acceptable ranges has been provided.

The LEED Credit Form has also been provided stating that the naturally ventilated and naturally conditioned project spaces are within the 80% acceptability limits set by ASHRAE 55-2004. The weather design conditions have been provided. The LEED-NC project space has operable windows which are readily adjustable by occupants, no mechanical cooling systems serve the spaces, no heating system is in operation when natural conditioning is used, metabolic rates are expected to be from 1.0 to 1.3 MET, and occupants may freely adapt their clothing to the indoor and/or outdoor thermal conditions as required. Documentation, which includes the worst-case design outdoor and indoor conditions for each month and the inputs and results of the calculations or simulations, have been provided.

IEQc7.2: Thermal Comfort-Verification**Awarded: 1**

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/03/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that a permanent monitoring system and process for corrective action are in place to ensure performance to the desired comfort criteria as determined by the credit requirements. IEQc7.1 has been earned as required. The project Owner has signed the form as required. A sample questionnaire and a narrative which identifies the comfort criteria, strategy for ensuring performance to the comfort criteria, description of the permanent monitoring system implemented, and process for corrective action have been provided.

However, the answers for the survey questions are not based on a seven-point scale format as required.

TECHNICAL ADVICE:

Please provide a revised survey which presents the answers to the survey questions in a seven-point scale.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

A revised thermal comfort survey has been provided to address the issues outlined in the Preliminary Review comments and includes answers to the questions in a seven-point format as required. The documentation demonstrates credit compliance.

IEQc8.1: Daylight and Views-Daylight**Not Attempted**

POSSIBLE POINTS: 1

IEQc8.2: Daylight and Views-Views**Awarded: 1**

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form and the LEED Supplemental Daylight and Views Calculator have been provided stating that the project has provided direct line of sight views from 94.94% of all regularly occupied seated spaces. Access to views must be provided for at least 90% of all regularly occupied gross area. Copies of applicable project drawings highlighting the direct line of sight through exterior windows from 42 inches above the floor have been provided. The LEED Credit Form indicates that the project is pursuing the Exemplary Performance option for this credit and that the project reserves one point within the Innovation and Design Credit category for this strategy.

However, it appears that some non-regularly occupied areas have been included in the calculations. Specifically, the Mail Room has been included in the calculations. Note that non-regularly occupied spaces include corridors, hallways, lobbies, break rooms, copy rooms, storage rooms, kitchens, restrooms, and stairwells. In addition, Pf3 (Occupant and Usage Data) is pending clarifications regarding the value of regularly occupied area.

TECHNICAL ADVICE:

Please provide a detailed narrative describing the function and reason for including these areas as regularly occupied spaces in the credit calculations. If these spaces were incorrectly included, please provide a revised calculation spreadsheet and updated project drawings to include only regularly occupied spaces. Regularly occupied spaces are defined as areas where workers are seated or standing as they work inside a building. In residential applications it refers to living and family rooms.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

The LEED Credit Form has been revised to address the issues outlined in the Preliminary Review comments and states that the project has provided direct line of sight views from 94.94% of all regularly occupied seated spaces. The mail room has been excluded from the calculations.

For future submittals, please note that the regularly occupied area (33,916 square feet) is inconsistent with that within EAp2: Minimum Energy Performance (34,447 square feet). In this case, the discrepancy does not affect credit compliance. For future submittals, ensure that all area values are reported consistently across all credits. The documentation demonstrates credit compliance.



Innovation in Design

IDc1.1: Innovation in Design

Awarded: 1

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that the project achieves exemplary performance for IEQc8.2 (Daylight and Views - Views) as specified in the LEED Reference Guide for Green Building Design and Construction, 2009 Edition (Updated June 2010). The guidelines for exemplary performance in IEQc8.2 are to demonstrate a compliance with at least two Exemplary Performance measures for at least 90% of all regularly occupied spaces. The form states that that 90% or more of regularly occupied spaces have views that include at least 2 of the following: 1) vegetation, 2) human activity, or 3) objects at least 70 feet from the exterior of the glazing; that 90% of regularly occupied spaces have access to unobstructed views within three times the head height of the vision glazing; and that 90% or more of regularly occupied spaces have access to views with a view factor of 3 or greater. Copies of applicable project drawings have been provided under IEQc8.2 which highlight the exemplary performance measures obtained by each space.

However, the base credit is pending clarifications.

TECHNICAL ADVICE:

Please see the comments within IEQc8.2. Ensure that any issues noted there are addressed within the exemplary performance documentation when resubmitting this credit.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

Clarifications have been provided under IEQc8.2: Daylight and Views, Views to address the issues outlined in the Preliminary Review comments and the project has met the exemplary performance requirements. The documentation demonstrates credit compliance.

IDc1.2: Innovation in Design

Awarded: 1

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been submitted stating that the project achieves exemplary performance for SSc4.1 (Alternative Transportation - Public Transportation Access) as specified in the LEED Reference Guide for Green Building Design and Construction, 2009 Edition (Updated June 2010). The documentation provided within SSc4.1 demonstrates that the project is within one quarter mile of at least two stops for at least four public or campus bus lines. The total frequency of the bus lines is 5,235 rides per day. A minimum of 200 transit rides per day is required for Exemplary Performance. Transit schedules have been provided under SSc4.1 as required.

IDc1.3: Innovation in Design

Awarded: 1

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been provided stating that the project has developed and implemented an ID credit proposal in compliance with LEED-EBOM 2009 MRc4 (Sustainable Purchasing - Reduced Mercury in Lamps). Note that LEED Interpretation 5500 requires that projects comply with an average mercury content limit of 80 picograms in order to achieve an ID point. The project has an average mercury content in picograms per lumen hour of 29 for lamps which is less than 80 as required. Manufacturer cut sheets and a spreadsheet calculation of the mercury content have been provided.

For future submittals, please provide the LEED-EBOM 2009 MRc4 Credit Form.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

This credit was previously awarded; no changes have been made.

IDc1.4: Innovation in Design**Awarded: 1**

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been submitted stating that the project team has developed and implemented an energy use kiosk to display real time energy data and educate the building occupants. This appears to be part of a Public Education program. This strategy is detailed in LEED Reference Guide for Green Building Design and Construction, 2009 Edition (Updated June 2010). To take advantage of the educational value of the green building features of a project and to earn a LEED point, any approach should be actively instructional. At least two ongoing instructional initiatives must be documented, such as a comprehensive signage program, a case-study highlighting the successes of the LEED project, guided tours using the project as an example, an educational outreach program that engages occupants or the public through periodic events covering green building topics, and / or a website or electronic newsletter.

However, documentation has been provided for only one educational component (the energy kiosk may count as a signage program).

TECHNICAL ADVICE:

Please document the second component as required. Provide documentation demonstrating the development of a case-study (pdf of the hardcopy), guided tours (a script and tour stop description drawing), an educational outreach program (detailed narrative and supporting document), and/or a website (pdf of the web pages) or electronic newsletter (pdf of the hardcopy)] comply with the Reference Guide requirements.

01/25/2013 DESIGN AND CONSTRUCTION FINAL REVIEW

Revised narrative and pdf of a presentation have been provided to address the issues outlined in the Preliminary Review comments. The documentation demonstrates credit compliance.

IDc1.5: Innovation in Design**Not Attempted**

POSSIBLE POINTS: 1

IDc2: LEED® Accredited Professional**Awarded: 1**

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

05/04/2012 DESIGN AND CONSTRUCTION PRELIMINARY REVIEW

The LEED Credit Form has been submitted stating that a LEED AP has been a participant on the project development team. A copy of the LEED AP award certification for Terance Gruenhagen has been included as required.



Regional priority

SSc6.1: Stormwater Design-Quantity Control

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: , PENDING: , AWARDED: 1

SSc6.2: Stormwater Design-Quality Control

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: , PENDING: , AWARDED: 1

WEc1: Water Efficient Landscaping

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: , PENDING: , AWARDED: 1

MRc2: Construction Waste Management

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: , PENDING: , AWARDED: 0

MRc5: Regional Materials

POSSIBLE POINTS: 1

ATTEMPTED: 1, DENIED: , PENDING: , AWARDED: 0

IEQc8.1: Daylight and Views-Daylight

POSSIBLE POINTS: 1

TOTAL

110

54

0

0

52

REVIEW SUMMARY

Review			POINTS:			
	SUBMITTED	RETURNED	SUBMITTED	DENIED	PENDING	AWARDED

Design and Construction Preliminary	04/12/2012	05/21/2012	53	0	29	24
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Credit	STATUS	TYPE	POINTS: ATTEMPTED	DENIED	PENDING	AWARDED
Plf1: Minimum Program Requirements	Not Approved		0	0	0	0
Plf2: Project Summary Details	Approved		0	0	0	0
Plf3: Occupant and Usage Data	Not Approved		0	0	0	0
Plf4: Schedule and Overview Documents	Approved		0	0	0	0
SSp1: Construction Activity Pollution Prevention	Pending	Construction	0	0	0	0
SSc1: Site Selection	Awarded	Design	1	0	0	1
SSc2: Development Density and Community Connectivity	Pending	Design	5	0	5	0
SSc4.1: Alternative Transportation-Public Transportation Access	Awarded	Design	6	0	0	6
SSc4.2: Alternative Transportation-Bicycle Storage and Changing Rooms	Pending	Design	1	0	1	0
SSc4.4: Alternative Transportation-Parking Capacity	Pending	Design	2	0	2	0
SSc5.2: Site Development-Maximize Open Space	Awarded	Design	1	0	0	1
SSc6.1: Stormwater Design-Quantity Control	Awarded	Design	2	0	0	2
SSc6.2: Stormwater Design-Quality Control	Awarded	Design	2	0	0	2
WEp1: Water Use Reduction, 20% Reduction	Pending	Design	0	0	0	0
WEc1: Water Efficient Landscaping	Awarded	Design	5	0	0	5
WEc3: Water Use Reduction	Pending	Design	4	0	4	0
EAp1: Fundamental Commissioning of the Building Energy Systems	Awarded	Construction	0	0	0	0
EAp2: Minimum Energy Performance	Pending	Design	0	0	0	0
EAp3: Fundamental Refrigerant Management	Awarded	Design	0	0	0	0
EAc1: Optimize Energy Performance	Pending	Design	4	0	4	0
EAc5: Measurement and Verification	Pending	Construction	3	0	3	0
MRp1: Storage and Collection of Recyclables	Awarded	Design	0	0	0	0
MRc2: Construction Waste Management	Awarded	Construction	1	0	0	1
MRc5: Regional Materials	Awarded	Construction	1	0	0	1
IEQp1: Minimum Indoor Air Quality Performance	Pending	Design	0	0	0	0
IEQp2: Environmental Tobacco Smoke (ETS) Control	Pending	Design	0	0	0	0
IEQc3.1: Construction IAQ Management Plan-During Construction	Pending	Construction	1	0	1	0
IEQc4.1: Low-Emitting Materials-Adhesives and Sealants	Pending	Construction	1	0	1	0
IEQc4.2: Low-Emitting Materials-Paints and Coatings	Awarded	Construction	1	0	0	1
IEQc4.3: Low-Emitting Materials-Flooring Systems	Pending	Construction	1	0	1	0

IEQc5: Indoor Chemical and Pollutant Source Control	Pending	Design	1	0	1	0
IEQc6.2: Controllability of Systems-Thermal Comfort	Pending	Design	1	0	1	0
IEQc7.1: Thermal Comfort-Design	Awarded	Design	1	0	0	1
IEQc7.2: Thermal Comfort-Verification	Pending	Design	1	0	1	0
IEQc8.2: Daylight and Views-Views	Pending	Design	1	0	1	0
IDc1.1: Exemplary Performance - IEQc8.2	Pending	Design	1	0	1	0
IDc1.2: Exemplary Performance SSc4.1	Awarded	Design	1	0	0	1
IDc1.3: Innovation in Design-Low Mercury Lighting	Awarded	Design	1	0	0	1
IDc1.4: Innovation in Design-Energy Use Display Kiosk	Pending	Design	1	0	1	0
IDc2: LEED® Accredited Professional	Awarded	Construction	1	0	0	1

Design and Construction Final

01/10/2013

01/30/2013

29

0

0

52

Credit	STATUS	TYPE	POINTS: ATTEMPTED	DENIED	PENDING	AWARDED
Pf1: Minimum Program Requirements	Approved		0	0	0	0
Pf2: Project Summary Details	Approved		0	0	0	0
Pf3: Occupant and Usage Data	Approved		0	0	0	0
Pf4: Schedule and Overview Documents	Approved		0	0	0	0
SSp1: Construction Activity Pollution Prevention	Awarded	Construction	0	0	0	0
SSc2: Development Density and Community Connectivity	Awarded	Design	5	0	0	5
SSc4.2: Alternative Transportation-Bicycle Storage and Changing Rooms	Awarded	Design	1	0	0	1
SSc4.4: Alternative Transportation-Parking Capacity	Awarded	Design	2	0	0	2
WEp1: Water Use Reduction, 20% Reduction	Awarded	Design	0	0	0	0
WEc3: Water Use Reduction	Awarded	Design	4	0	0	4
EAp2: Minimum Energy Performance	Awarded	Design	0	0	0	0
EAc1: Optimize Energy Performance	Awarded	Design	4	0	0	4
EAc5: Measurement and Verification	Awarded	Construction	3	0	0	3
IEQp1: Minimum Indoor Air Quality Performance	Awarded	Design	0	0	0	0
IEQp2: Environmental Tobacco Smoke (ETS) Control	Awarded	Design	0	0	0	0
IEQc3.1: Construction IAQ Management Plan-During Construction	Awarded	Construction	1	0	0	1
IEQc4.1: Low -Emitting Materials-Adhesives and Sealants	Awarded	Construction	1	0	0	1
IEQc4.3: Low -Emitting Materials-Flooring Systems	Awarded	Construction	1	0	0	1
IEQc5: Indoor Chemical and Pollutant Source Control	Awarded	Design	1	0	0	1
IEQc6.2: Controllability of Systems-Thermal Comfort	Awarded	Design	1	0	0	1
IEQc7.2: Thermal Comfort-Verification	Awarded	Design	1	0	0	1
IEQc8.2: Daylight and Views-Views	Awarded	Design	1	0	0	1
IDc1.1: Exemplary Performance - IEQc8.2	Awarded	Design	1	0	0	1
IDc1.3: Innovation in Design-Low Mercury Lighting	Awarded	Design	1	0	0	1
IDc1.4: Innovation in Design-Energy Use Display Kiosk	Awarded	Design	1	0	0	1