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 Business Certification Inc. (GBCI®).

MSU CELS

Project ID	1000011995
Rating system & version	LEED-NC v2009
Project registration date	01/07/2011

CERTIFIED SILVER GOLD PLATINUM

Construction Application Decision

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

LEED FOR NEW CONSTRUCTION & MAJOR RENOVATIONS (V2009)

ATTEMPTED: 62, DENIED: 3, PENDING: 0, AWARDED: 61 OF 107 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 Room	0 / 1
SSc4.3Alternative Transportation-Low-Emitting and Fuel-Efficient V	3 / 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	0 / 1
SSc6.2Stormwater Design-Quality Control	0 / 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 — 10 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	3 / 19
EAc2 On-Site Renewable Energy	0 / 7
EAc3 Enhanced Commissioning	2 / 2
EAc4 Enhanced Refrigerant Mgmt	2 / 2
EAc5 Measurement and Verification	1 / 3
EAc6 Green Power	2 / 2

MATERIALS AND RESOURCES — 7 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 Non-Structural Ele	0 / 1
MRc2 Construction Waste Mgmt	2 / 2
MRc3 Materials Reuse	0 / 2
MRc4 Recycled Content	2 / 2

MATERIALS AND RESOURCES — CONTINUED

MRc5 Regional Materials	2 / 2
MRc6 Rapidly Renewable Materials	0 / 1
MRc7 Certified Wood	1 / 1

INDOOR ENVIRONMENTAL QUALITY — 12 OF 15

IEQp1 Minimum IAQ Performance	Y
IEQp2 Environmental Tobacco Smoke (ETS) Control	Y
IEQc1 Outdoor Air Delivery Monitoring	1 / 1
IEQc2 Increased Ventilation	1 / 1
IEQc3.1Construction IAQ Mgmt Plan-During Construction	1 / 1
IEQc3.2Construction IAQ Mgmt Plan-Before Occupancy	1 / 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	1 / 1
IEQc5 Indoor Chemical and Pollutant Source Control	1 / 1
IEQc6.1Controllability of Systems-Lighting	1 / 1
IEQc6.2Controllability of Systems-Thermal Comfort	0 / 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	0 / 1

INNOVATION IN DESIGN — 5 OF 6

IDc1.1 Building as a Teaching Tool	1 / 1
IDc1.1 Innovation in Design	0 / 1
IDc1.2 Innovation in Design	0 / 1
IDc1.2 Green Power	1 / 1
IDc1.3 Innovation in Design	0 / 1
IDc1.3 Fume Hood Commissioning	1 / 1
IDc1.4 Innovation in Design	0 / 1
IDc1.4 Green Cleaning Policy	0 / 1
IDc1.5 MR 4 Recycled Content	1 / 1
IDc1.5 Innovation in Design	0 / 1
IDc2 LEED® Accredited Professional	1 / 1

REGIONAL PRIORITY CREDITS — 1 OF 1

SSc4.1Alternative Transportation-Public Transportation Access	1 / 1

TOTAL — **61 OF 107**

CREDIT DETAILS

Project Information Forms

PIf1: Minimum Program Requirements — Approved

02/19/2017 CONSTRUCTION FINAL REVIEW

The revised LEED Form states that the project complies with all Minimum Program Requirements and that the project will comply with MPR 6: Must Commit to Sharing Whole-Building Energy and Water Usage Data via Option 1.

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project complies with all Minimum Program Requirements. The project will comply with MPR 6: Must Commit to Sharing Whole-Building Energy and Water Usage Data via Option 3. The project is located in Montclair, New Jersey.

PIf2: Project Summary Details — Approved

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form includes the required project summary details. There is one building in this LEED application with a total of five stories and 107,500 gross square feet.

PIf3: Occupant and Usage Data — Approved

08/31/2015 DESIGN FINAL REVIEW

The LEED Form has been revised and states that average users value is 773, the peak users value is 822, and the FTE value is 56.

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form includes the required occupant and usage data. The project consists primarily of Core Learning Spaces: College/University. The average users value is 464, the peak users value is 464, and the FTE value is 201. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. The peak period and daily average transient occupant values are listed identically in Table PIF3-3. However, for a building of this type the values are expected to be significantly different. The number of peak period transient occupants must reflect the total number of transients (students/visitors) expected to occupy the building at the same time during the peak occupancy period, while the daily average transient occupant value must reflect the total number of transient occupants that visit the building during a typical 24-hour period. Provide a narrative and revise the form to ensure that peak and daily average values for all expected transient occupants (students/visitors) have been reported appropriately within Table PIf3-3.

PIf4: Schedule and Overview Documents — Approved

08/31/2015 DESIGN FINAL REVIEW

The additional required documentation has been provided.

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form includes the design and construction schedule. The date of substantial completion is January 23, 2015 and the date of occupancy is March 30, 2015. Most of the required documents have been uploaded. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. The narrative describing the project building HVAC, lighting, and electrical systems does not appear to have been provided. The form states See Upload, and the pre-design report provided does not appear to provide a description of the systems in the final design. Provide a brief narrative which describes the project building HVAC, lighting, and electrical systems as required.

Sustainable Sites

SSp1: Construction Activity Pollution Prevention — Awarded

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that the project has implemented an erosion and sedimentation control (ESC) plan that conforms to the 2003 EPA Construction General Permit (CGP).

SSc1: Site Selection — Awarded: 1

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

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states 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

08/19/2015 DESIGN FINAL REVIEW

The additional documentation demonstrates compliance.

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project complies with Option 2: Community Connectivity. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. It is unclear whether all basic services are available to the general public as many are located on the campus and appear to be student services. Provide documentation demonstrating that all listed services are accessible to the public or provide a revised form and map highlighting ten unique, qualifying basic services (only restaurants may be counted twice) within a one-half mile radius of a main building entrance that are accessible to the public. It is the intent of this pathway that basic services are available to everyone and are not restricted to campus occupants and staff.

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

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project complies with Option 1: Rail Station, Bus Rapid Transit, and Ferry Terminal Proximity and is located within a one-half mile walking distance of a commuter rail, light rail, subway station, bus rapid transit station, or commuter ferry terminal.

SSc4.2: Alternative Transportation-Bicycle Storage and Changing Rooms — Not Attempted

POSSIBLE POINTS: 1

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

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

08/19/2015 DESIGN FINAL REVIEW

The additional documentation demonstrates compliance.

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project complies with Option 1 following special circumstances and provides preferred parking spaces for low-emitting and fuel-efficient vehicles for 5% of total parking capacity. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. It appears that the LEED project parking is located in a portion of a parking area that is shared with other occupants of the campus, and it is unclear how parking has been allocated between the LEED project and other building occupants. It is also unclear how preferred parking will be reserved for LEED project occupants. If parking is to be shared with neighboring building occupants, provide a narrative or signage samples indicating how sufficient preferred parking will be reserved only for occupants of the LEED project building. Alternatively, the project may demonstrate that preferred parking is provided for at least 5% of the total parking capacity of the shared parking area. In this case, provide revised site plans, calculations, and a narrative to demonstrate compliance at the whole-parking area level.

SSc4.4: Alternative Transportation-Parking Capacity — **Awarded: 2**
POSSIBLE POINTS: 2
ATTEMPTED: 2, DENIED: 0, PENDING: 0, AWARDED: 2

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that no new parking has been created within the LEED project scope of work.

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

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project complies with Case 2: Sites with No Local Zoning Requirements. The open space provided is equal to or greater than the footprint of the LEED project building.

Note that the vegetated roof cannot be included in the calculations of this credit unless SSc2: Development Density and Community Connectivity is also achieved, and SSc2 has been denied pending clarifications. When this area is excluded from the calculations, the project has provided 27,685 total square feet of vegetated open space and compliance is not affected.

SSc6.1: Stormwater Design-Quantity Control — **Not Attempted**
POSSIBLE POINTS: 1

SSc6.2: Stormwater Design-Quality Control — **Not Attempted**
POSSIBLE POINTS: 1

SSc7.1: Heat Island Effect, Non-Roof — **Not Attempted**
POSSIBLE POINTS: 1

SSc7.2: Heat Island Effect-Roof — **Not Attempted**
POSSIBLE POINTS: 1

SSc8: Light Pollution Reduction — **Not Attempted**
POSSIBLE POINTS: 1

Water Efficiency

WEp1: Water Use Reduction-20% Reduction — Awarded

08/31/2015 DESIGN FINAL REVIEW

Additional documentation has been provided and states that the project has reduced potable water use by 40%.

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project has reduced potable water use by 35%. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. PIf3: Occupant and Usage Data has been denied pending occupancy clarifications. Address the comments within PIf3 and ensure that the daily average occupancy values reported there are used in the revised calculations for this credit.

2. The calculations for the flush fixtures appear to indicate total daily uses values that differs from the standard calculation methodology. Revise the form with the standard usage rates represented for the flush fixtures as outlined in the LEED BD+C v2009 Reference Guide. If project-specific conditions exist to justify different usage rates, provide a narrative and supplemental calculations describing these conditions. Note that college/university students are generally calculated as transient occupants (0.5 water closet uses per day for females) rather than using the Student category from the Schools rating system, which is intended for all-day occupants such as elementary school students.

3. The narrative states that female handicap water closets are listed separately in the calculations to reflect their difference in water usage. However, the provided plumbing fixture schedule both WC-1 and 2 are dual-flush water closets, and weighted average flush rates have not been included in the calculations. When dual-flush water closets are used, weighted calculations must be performed to determine the average flush rate. Revise the form so that the weighted calculations for the dual-flush water closets are properly averaged. Refer to the Water Use Reduction Additional Guidance found on the USGBC website for additional information regarding how to calculate the weighted average flush rate.

4. The fixture schedule indicates that the lavatories are autocontrol/metered faucets, but the Fixture Type has not been selected as Metering in Table WEp1-4 Flow Fixture Data. Revise the form to ensure that the autocontrol/metered lavatory faucets are converted from GPM to GPC and listed in the form as Metering. Ensure that the design case calculations use the default 12-second duration when converting to GPC as outlined in Table 2 within the WEp1 section of the LEED BD+C v2009 Reference Guide. The duration column is not applicable in this case and therefore should not be modified. Refer to the Water Use Reduction Additional Guidance found on the USGBC website for additional information regarding autocontrol/metered lavatory faucets.

An upgraded version of this form is available, which may assist in documenting compliance. Though not required, it is strongly encouraged that the project uses the most recent version of the form. Project teams may request a form upgrade through the Feedback button in LEED Online v3. Include the specific prerequisite form, project number, project name, and rating system when requesting an upgrade. Alternatively, the updated form may be downloaded via the Sample Forms Download link within LEED Online and uploaded to this prerequisite.

WEc1: Water Efficient Landscaping — Awarded: 4

POSSIBLE POINTS: 4

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

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that the landscaping does not use permanent irrigation systems and that all temporary irrigation systems used for plant establishment will be removed within 18 months of installation.

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

08/31/2015 DESIGN FINAL REVIEW

The LEED Form has been revised and states that the project has reduced potable water use by 40%.

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project has reduced potable water use by 35%. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. WEp1: Water Use Reduction is pending clarifications. Refer to the comments within WEp1 and resubmit this credit.

Energy and Atmosphere

EAp1: Fundamental Commissioning of the Building Energy Systems — Awarded

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that fundamental commissioning is complete.

EAp2: Minimum Energy Performance — Awarded

08/19/2015 DESIGN FINAL REVIEW

The LEED 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 17.69%. The total predicted annual energy consumption for the project is 2,533,385 kWh/year of electricity, 7,730,300 kBtu/year of district chilled water, and 6,185,300 kBtu/year of district steam.

01/13/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project complies with Option 1: Whole Building Energy Simulation and has achieved an energy cost savings of 20.31%. However, to demonstrate compliance, the following 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.

A new Section 1.4 input file has been developed and is available to project teams (http://www.usgbc.org/resources/eap2-section-14-tables-new-all-bdampc-projects-regardless-registration-date). This new input file will be required to be used for all projects registered after September 30, 2013. Project teams are encouraged to begin using this file before the required date.

TECHNICAL ADVICE

REVIEW COMMENTS REQUIRING A PROJECT RESPONSE (Mandatory)

1. Provide the following:

a. A narrative response to each Preliminary Review comment below.

b. A narrative describing any additional changes made to the energy models between the Preliminary and Final Review phases not addressed by the responses to the review comments. The mandatory comments are perceived to reduce the projected savings for the Proposed design. If the projected savings increase substantially in the Final submission, without implementing any optional comments that may improve performance, a narrative explanation for these results must be provided.

2. Although U-factors are provided, Table 1.4.1A of the supplemental spreadsheet is missing information regarding the descriptions for the Baseline and Proposed Case construction assemblies of walls and roofs. Revise Table 1.4.1A with the requested information. Ensure that the proposed case U-values are congruous with the construction assembly U-values reflected for various wall and roof construction assemblies listed in Appendix A of 90.1-2007.

3. Based on information provided in Table 1.4 and the form, it appears that the team is following Option 1 of the document Treatment of District or Campus Thermal Energy in LEED v2 and LEED 2009 - Design & Construction (DES v2) dated August 10, 2010. Table 1.4.2 indicates that Baseline system type 3 modified to a four-pipe constant volume AHU per the DES requirements was specified under Other HVAC systems. However, secondary HVAC systems should not be specified in the Baseline building unless exception(s) from G3.1.1 are applicable, and the applicable exception has not been documented. Provide a narrative to explain if any exception(s) from G3.1.1 were used to specify an Other HVAC system type in the Baseline model and modify the model and supporting documentation if necessary. Note that ASHRAE 90.1#2007 Table G3.1.1(Proposed)(b) requires that all conditioned spaces in the Baseline and Proposed design be simulated as being both heated and cooled even if no cooling or heating system is being installed.

4. No software input reports have been provided for the Baseline or Proposed Cases. Upload EAp2-11 requires input summary reports in addition to BEPS, BEPU, and ES-D reports. As a result, it is unclear if the Baseline Case has been modeled to meet all general and system-specific requirements of Appendix G. Provide input summary reports for the Baseline Case such as SV-A and PV-A reports to demonstrate how the Baseline HVAC systems were modeled. Ensure that Table 1.4 and the software reports demonstrate that all requirements of Appendix G have been followed including the heating and cooling coil capacity autosizing and oversizing requirements of G3.1.2.2, fan system operation requirements of G3.1.2.4, design airflow rate autosizing requirements of G3.1.2.8, hot water loop requirements of G3.1.3.3, G3.1.3.4, and G3.1.3.5, chilled water loop requirements of G3.1.3.8, G3.1.3.9, and G3.1.3.10, supply air temperature reset requirements of G3.1.3.12, VAV minimum flow setpoint requirements of G3.1.3.13, and VAV fan part-load performance requirements of G3.1.3.15. Provide sufficient documentation for the Final Review to demonstrate that the Baseline has been modeled per all Appendix G requirements.

5. Based on the data provided it is unclear whether the Baseline Case fan power was modeled in accordance with

ASHRAE 90.1-2007 Section G3.1.2.9. If necessary, revise the sum of the design supply, return, exhaust, and relief fans for each Baseline HVAC system to be equal to the power calculated in G3.1.2.9 where CFM refers to the Baseline supply CFM at design conditions, autosized per the requirements of G3.1.2.8. If the energy simulation tool used for the analysis calculates this Baseline fan power value automatically, manually check the outputs for each system against equation G3.1.2.9 to verify that the fans have been modeled appropriately. Indicate any pressure adjustments reflected in the fan power calculations, ensuring these pressure adjustments are justified by the provided design drawings.

6. No software input reports have been provided for the Proposed Case as required by upload EAp2-11. As a result, it is unclear if the Proposed Case HVAC systems were modeled to match the design documents provided under PIf4: Schedule and Overview Documents. Provide input summary reports for the Proposed Case such as SV-A and PV-A reports to demonstrate how the Proposed HVAC systems were modeled. Table G3.1.10(Proposed)(b) requires that the model be consistent with the design documents. Update the model as necessary so that all HVAC system parameters (e.g. fan volumes, fan powers, efficiencies, heating/cooling capacities, etc.) are entered into the model consistent with the design documents. Update Table 1.4 and the form to reflect all changes made.

7. It is unclear whether Exhaust Air Energy Recovery should be modeled in the Baseline case per Section G3.1.2.10. Confirm for each Baseline system that the system outside air percentage is less than 70% or the supply air capacity is less than 5,000 cfm, or describe the applicable exception that applies to this project. If exhaust air energy recovery should be modeled in the Baseline Case, revise the model to reflect this energy recovery. If exception h for systems serving laboratories with exhaust rates of 5,000 cfm or greater is used, then G3.1.1 exception d requires that system type 5 or 7 is modeled which reduces the exhaust and makeup air volume to 50% of design values during unoccupied periods.

8. Based upon the information provided in IEQp1: Minimum Indoor Air Quality Performance, it appears that Demand Control Ventilation should be modeled in some spaces in the Baseline Case per Section 6.4.3.9. Confirm that the occupant density for all spaces is less than 40 people per 1,000 square feet, or verify that Demand Control Ventilation is reflected in the Baseline Case for all spaces where required.

9. Table 1.4.5 indicates that the interior lighting power density is based on the Building Area Method and that the Baseline Case lighting power density is 1.4 w/SF. However, per the Comcheck reports provided and Table 9.5.1 of 90.1-2007, it appears that the Baseline lighting power density value should be 1.2 W/SF for School/University. Revise the model as necessary such that the appropriate Baseline lighting power density is included in the model. Provide a narrative to justify the value used, and revise Table 1.4.5 to indicate the lighting power density modeled in the Baseline and Proposed Case. If using the Space-by-Space Method for the Final Review, specifically indicate the lighting power density per space function as well as the overall weighted average lighting power density for both the Baseline and Proposed Case in Table 1.4.5. Ensure that the same method (Building Area Method or Space-by-Space Method) is used for modeling the lighting power in the Baseline and Proposed Case.

10. All exterior lighting is reported as lighting for tradable surface types in Table 1.4.5. However, the provided Comcheck report indicates that non-tradable surface lighting is included (facade lighting). Tradable and non-tradable surface lighting must be listed separately, and no credit may be taken for lighting savings for non-tradable surface lighting. Non-tradable surface lighting must be modeled identically in the Baseline and Proposed Cases using the Proposed Case value. 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, 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 Table 1.4.5 and verify that these values are appropriately reflected in the model outputs and Tables EAp2-4 and EAp2-5.

11. All end uses are marked as process loads in Table EAp2-4. However, only end-uses which are non-regulated by 90.1-2007 (such as receptacle loads) may be marked as process loads. When only appropriate end-uses are marked as process loads, it appears that process energy accounts for less than 25% of the Baseline energy cost for the building. ASHRAE 90.1-2007 Table G3.1#1(Proposed)(a) and G3.1.12 requires that the models reflect the actual process loads in the appropriate spaces. If some of the process loads planned for the building (such as elevator loads, receptacle loads, kitchen loads, etc.) were not included in the preliminary model, revise the models to include all loads, ensure that the current process loads are modeled as accurately as possible, and update the form. If the process cost remains below 25%, provide an additional narrative justification for the low process cost.

REVIEW COMMENTS THAT DO NOT REQUIRE A PROJECT RESPONSE, BUT MAY LEAD TO AN IMPROVED PERFORMANCE RATING IF ADDRESSED (Optional)

12. Table 1.4.2 indicates economizer operation for the VAV systems in the Baseline. However, per G3.1.2.6, Baseline systems 3 through 8 do not require economizers in climate zone 4A.

REVIEW COMMENTS THAT DO NOT REQUIRE A PROJECT RESPONSE FOR THIS PROJECT, BUT SHOULD BE CONSIDERED AS EDUCATIONAL NOTES FOR FUTURE PROJECTS (Optional)

13. A Target Finder Score for this building type has not been provided in the Target Finder section of the form. It appears that ENERGY STAR target finder scores are available for this building type. Visit the Energy Star website and provide the appropriate Target Finder Score for this building type.

14. It is noted that the steam and chilled water rates entered in Table EAp2-3 of the form are inconsistent with the virtual energy rates reported in the ES-D reports. In addition, the rates have not been converted to account for appropriate units of energy allowable in the form (i.e. dollars per MBtu versus dollars per kBtu). As the manual cost

input option is being used in the form rather than the automatic calculation method, compliance is not affected by this issue in this case. For future submittals, ensure the rates entered in Table EAp2-3 are consistent with the virtual energy rates reported in the ES-D reports and converted as necessary to reflect the appropriate units of energy. Ensure that the steam and chilled water rates have been calculated using the method provided in the DES v2.0 document if following Option 1 or Option 2 of this guidance.

EAp3: Fundamental Refrigerant Management — Awarded

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that there are no CFC-based refrigerants serving the project building.

EAc1: Optimize Energy Performance — Awarded: 3

POSSIBLE POINTS: 19
ATTEMPTED: 3, DENIED: 2, PENDING: 0, AWARDED: 3

08/19/2015 DESIGN FINAL REVIEW

Additional documentation has been provided for EAp2: Minimum Energy Performance claiming an energy cost savings of 17.69%.

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project has achieved an energy cost savings of 20.31%. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. Refer to the comments within EAp2: Minimum Energy Performance and resubmit this credit.

EAc2: On-Site Renewable Energy — Not Attempted

POSSIBLE POINTS: 7

EAc3: Enhanced Commissioning — Awarded: 2

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

02/19/2017 CONSTRUCTION FINAL REVIEW

The additional documentation demonstrates compliance.

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that enhanced commissioning has been implemented. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. Only the Table of Contents for the Systems Manual has been provided. Additional data is needed to confirm that the systems manual contains sufficient detail to provide future operating staff with the information needed to understand and optimally operate the commissioned systems. Provide a copy of the systems manual or excerpts from the systems manual to include detail on at least two sections recommended by the LEED BD+C 2009 Reference Guide: final version of the basis of design; system single-line diagrams; as-built sequences of operations, control drawings, and original setpoints; operating instructions for integrated building systems; recommended schedule of maintenance requirements and frequency; recommended schedule for retesting of commissioned systems with blank test forms from the original commissioning plan; recommended schedule for calibrating sensors and actuators; other sections which provide future operating staff with information needed to understand and optimally operate the commissioned systems. If the systems manual is in draft form, it must still contain sufficient detail from at least two of the sections listed above.

EAc4: Enhanced Refrigerant Management — Awarded: 2

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

08/19/2015 DESIGN FINAL REVIEW

The revised LEED Form refrigerant impact calculation indicates that the total refrigerant impact of the LEED project is 96 per ton, which is less than the maximum allowable value of 100.

01/06/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project selected refrigerants and HVACR systems that minimize or eliminate the emission of compounds that contribute to ozone depletion and global climate change. Additionally, all fire suppression systems in the LEED project do not use ozone-depleting substances including CFCs, HCFCs, or halons. The refrigerant impact calculation indicates that the total refrigerant impact of the LEED project is 89 per ton, which is less than the maximum allowable value of 100. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. PIf2: Project Summary Details and EAp2: Minimum Energy Performance indicate that the project is using district cooling and it is unclear if this equipment has been correctly reported in the calculations. The capacity of the district chiller(s) relative to the size of the project area appears to be consistent with a district or campus cooling plant serving other buildings in addition to this project. For buildings connected to an existing chilled water system, the chilled water supplier must perform the required calculation and submit a letter showing compliance with the requirements.

Provide a letter from the existing chilled water supplier stating that the upstream plant equipment is in compliance with the requirements of this credit. Provide two separate form calculations; one for the district cooling plant and one for the project building to demonstrate that each separately complies with the credit requirements. Note that all equipment containing 0.5 lb or more of refrigerant must be included in the calculations. If either of the calculations are in non-compliance, then the project team may demonstrate compliance including both downstream and upstream equipment, with the district energy equipment capacity input based on the amount of capacity used by this building.

EAc5: Measurement and Verification — Awarded: 1

POSSIBLE POINTS: 3
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

02/19/2017 CONSTRUCTION FINAL REVIEW

PIf1: Minimum Program Requirements has been revised to indicate that the project will comply with MPR 6 following Option 1. The documentation demonstrates compliance.

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that the project complies with Option 3 and has committed to sharing whole-building energy and water data through the ENERGY STAR Portfolio Manager. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. The project has not selected Option 1: Energy and Water Data Release Form for compliance with MPR 6: Must Commit to Sharing Whole-Building Energy and Water Use Data in PIf1: Minimum Program Requirements. MPR 6 compliance path Option 1 must be selected in PIf1 in order to earn this credit following this compliance path. Revise the PIf1 form to indicate Option 1 under MPR 6 and resubmit this credit. Alternatively, the project may demonstrate compliance with either Option 1 or Option 2 of this credit or the Final Review.

EAc6: Green Power — Awarded: 2

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

03/20/2017 CONSTRUCTION APPEAL REVIEW

The LEED Form states that the project has a two-year purchase agreement to procure 100.02% of electricity for this LEED project that meets the Green-e definition for renewable power using Option 1: Whole Building Energy Simulation.

Materials and Resources

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

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project has provided appropriately sized dedicated areas for the collection and storage of materials for recycling.

MRc1.1: Building Reuse-Maintain Existing Walls, Floors and Roof — **Not Attempted**
POSSIBLE POINTS: 3

MRc1.2: Building Reuse - Maintain 50% of Interior Non-Structural Elements — **Not Attempted**
POSSIBLE POINTS: 1

MRc2: Construction Waste Management — **Awarded: 2**
POSSIBLE POINTS: 2
ATTEMPTED: 2, DENIED: 0, PENDING: 0, AWARDED: 2

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that the project has diverted 78.67% of the on-site generated construction waste from landfill.

MRc3: Materials Reuse — **Not Attempted**
POSSIBLE POINTS: 2

MRc4: Recycled Content — **Awarded: 2**
POSSIBLE POINTS: 2
ATTEMPTED: 2, DENIED: 0, PENDING: 0, AWARDED: 2

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that 38.067% of the total building materials content, by value, has been manufactured using recycled materials. However, the following issue is noted.

1. Based on the supporting documentation, it appears that the pre- and post-consumer content values for the Clifton Glass Old Castle windows have been reversed in the spreadsheet. In addition, it is unclear whether the 50% post-industrial/pre-consumer content meets the ISO 14021 definition of recycled content. Waste that is crushed, re-melted, and put back into the same manufacturing process (such as glass cullet) may not be considered recycled content.

When recalculated with 25% post-consumer content only for the product listed above, the calculations state that 34.67% of the total building materials content has been manufactured using recycled materials and compliance is not affected. Please note this issue for future projects.

MRc5: Regional Materials — **Awarded: 2**
POSSIBLE POINTS: 2
ATTEMPTED: 2, DENIED: 0, PENDING: 0, AWARDED: 2

02/19/2017 CONSTRUCTION FINAL REVIEW

The revised LEED Form states that 24.45% of the total building materials value includes materials and products that have been manufactured and extracted within 500 miles of the project site. However, the following issues are outstanding.

1. Supporting documentation for Weir Welding steel decking states the distance to the source location for the steel coil used to manufacture the final product as the extraction/harvest/recovery distance. However, steel coil is an intermediate product rather than a raw material. The raw material used for steel products is expected to be scrap steel (for recycled content) and iron ore, etc. (for virgin steel content). As a result, the regional content value cannot be confirmed.

When the spreadsheet is recalculated to address the issue outlined above, the calculations state that 21.12% of the total building materials value includes materials and products that have been manufactured and extracted within 500 miles of the project site and compliance is not affected.

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that 17.82% of the total building materials value includes materials and products that have been manufactured and extracted within 500 miles of the project site. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. All products which have been counted toward credit compliance are indicated as 100% regional content in Column T of the spreadsheet. However, the supporting documentation does not confirm the 100% regional material claim in all cases. As one example, the Gerdau structural steel is stated as 100% regional content, but the supporting documentation states only that 97% of the steel scrap (which is documented as 90.7% of the total product) qualifies as regional material and does not document that any of the virgin material in the product qualifies as regional. As a result, this line item should be documented as 97% of 90.2% = 87.5% regional material.

Additionally, it appears that the regional material cost has been manually overridden in Column AC for all listed products, making the percentage regional content claimed unclear. For example, $248,000 of the Marino Ware non-structural metal framing has been counted as regional material. However, the Sloan summary spreadsheet states that this product does not contain raw materials which have been extracted/harvested/recovered within 500 miles. As a result, it does not appear that any percentage of this product should be counted toward credit compliance. Revise the spreadsheet such that the percentage of the product cost counted as regional material is accurately reflected in Column T. Ensure that only the portion of the product which can be documented as extracted/harvested/recovered and manufactured within 500 miles of the project site is counted as regional material.

2. The documentation indicates several products have the same manufacture and harvest distance (Harris Rebar rebar and WWF, Nucor/Aubrun metal fabrications, Fessenden Hall NuGreen 2 PB — Uniboard, Russel plywood white maple, Holt and Bugbee solid maple, Kamak 220AF, Tremco Dymeric 240-FC, Pecora AC-20 Silicone, Firestone Iso 95 Insulation and Isogard HD, Nomaco Sof Rod, and STO Corp stucco products). It is not clear that each of the materials/products would be manufactured and extracted from the same location. The point of extraction for a recycled item could include a recycling facility, scrap yard, depository, stockpile, or any other location where the material was collected and packaged for market purchase before manufacturing. Therefore, the extraction location for a recycled material may or may not be the same as the manufacturing location. In most cases the extraction location for a recycled material will be a recycling facility or scrap yard. Provide documentation, such as manufacturer's letters or cut sheets, specifying that the materials listed above were manufactured and extracted within a 500 mile radius of the project. Ensure that the extraction location for the recycled content and the raw material content has been accounted for. Ensure that only the portion of the material where the extraction location is known is used toward compliance. Revise the form and LEED Materials and Resource Calculator if necessary.

MRc6: Rapidly Renewable Materials — Not Attempted
POSSIBLE POINTS: 1

MRc7: Certified Wood — Awarded: 1
POSSIBLE POINTS: 1
ATTEMPTED: 1, DENIED: 0, PENDING: 0, AWARDED: 1

02/19/2017 CONSTRUCTION FINAL REVIEW

The LEED Form states that 56.71% of the total wood-based building materials are certified in accordance with the principles and criteria of the Forest Stewardship Council (FSC). The additional documentation demonstrates compliance.

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that 98.25% of the total wood-based building materials are certified in accordance with the principles and criteria of the Forest Stewardship Council (FSC). However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. Invoices have not been provided for all products contributing toward this credit. No invoice could be located for the Frank’s Wood/Sloan miscellaneous rough carpentry. Provide FSC compliant vendor invoices, and additional documentation if necessary, for all FSC Certified wood products.

2. The Prestige Interior Architectural Woodwork line items are reported with no new wood content in the spreadsheet, but are reported with FSC content cost which has been counted toward credit compliance. As a result, it appears that these products have been included in the calculations for both MRc4: Recycled Content and MRc7: Certified Wood. As clarified in LEED Interpretation 10372, products identified as FSC Mix Credit or FSC Mix [NN]% also have pre- or post-consumer recycled content, the latter of which is commonly reported separately by the product manufacturer. In these instances, the project must choose whether to classify the product (or some fraction of the assembly) as FSC Certified or as recycled content; the material cannot contribute to both claims simultaneously. For recycled content claims, the material must meet the definition of ISO 14021. Provide a revised calculation with wood component values that do not double-count the wood product cost.

3. It appears that the component products of millwork which were sold to the millworker (Prestige) have been listed

rather than the final assembled products which were sold and delivered to the General Contractor or Owner at the project site. Invoices to the millwork company have been provided rather than invoices to the Owner or General Contractor; therefore, the correct invoices have not been provided with the materials costs reported correctly. As a result it is unclear whether the wood-based building materials are certified in accordance with the principles and criteria of the FSC. This credit requires the wood products to be FSC Certified and all of the entities in the Chain of Custody to have a CoC Certification until the products reach the LEED project site. Entities that modify a product's packaging or form, except as required for installation, must have a CoC Certification. Additionally, materials costs must include all taxes and transportation costs incurred by the contractor but exclude any cost for labor and equipment once the material has been delivered to the site.

Provide invoices for the products that were shipped to the project site and/or sold to the end-user to meet FSC requirements. Ensure that the calculation, including the manufacturers/vendors, product descriptions, numerators, and denominator, reflect the products that were delivered to the project site rather than the materials that have been sold to sub-contractors or millworkers. Provide a narrative that describes the Chain-of-Custody for the products above, including how the products were used in the project. Explain who manufactured, distributed, modified, and installed the products.

Refer to the detailed guidance outlined in the April 7, 2008 USGBC FSC Memorandum and LEED Interpretation 10296, which can be found on the USGBC website, for assistance on how to document this credit.

Indoor Environmental Quality

IEQp1: Minimum Indoor Air Quality Performance — Awarded

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project is mechanically ventilated and that the ventilation system has met the minimum requirements of ASHRAE 62.1-2007.

IEQp2: Environmental Tobacco Smoke (ETS) Control — Awarded

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that smoking is prohibited within 25 feet of entries, outdoor air intakes, and operable windows. Additionally, smoking is prohibited within the building.

IEQc1: Outdoor Air Delivery Monitoring — Awarded: 1

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

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project is mechanically ventilated, that a CO2 sensor has been installed within each densely occupied space, that an outdoor airflow measurement device has been installed for all systems where 20% or more of the design supply airflow services non-densely occupied spaces, and these devices are programmed to generate an alarm when the conditions vary by 10% or more from the design value.

IEQc2: Increased Ventilation — Awarded: 1

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

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project is mechanically ventilated and that the breathing zone outdoor air ventilation rates to all occupied spaces has been increased by at least 30% above the minimum rates required by ASHRAE 62.1-2007.

IEQc3.1: Construction IAQ Management Plan-During Construction — Awarded: 1

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

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that the project reduces air quality problems resulting from construction to promote the comfort and well-being of construction workers and building occupants.

IEQc3.2: Construction IAQ Management Plan-Before Occupancy — Awarded: 1

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

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that an Indoor Air Quality (IAQ) Management Plan was developed and implemented and that the project complies with Option 1, Path 1: Pre-occupancy flush-out.

IEQc4.1: Low-Emitting Materials-Adhesives and Sealants — Awarded: 1

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

02/19/2017 CONSTRUCTION FINAL REVIEW

The additional documentation demonstrates compliance.

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that all adhesive and sealant products used on the inside of the weatherproofing system and applied on-site have been included in the tables and comply with the VOC limits of the referenced standards for this credit. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. It is unclear whether all adhesives and sealants used on the inside of the weatherproofing system and applied on-site have been included in the table. As one example, resilient wall base has been included in the materials listing within MRc4: Recycled Content, but no wall base adhesive has been included in the documentation for this credit. Refer to the referenced standards of this credit and confirm whether the comprehensive list of adhesives and sealants, as defined by the referenced standards, used on the inside of the weatherproofing system and applied on-site have been included in the table. The following are common products included in this credit: flooring adhesives, subfloor adhesives, drywall and panel adhesives, wall-base adhesives, multipurpose construction adhesives, structural glazing and wood adhesives, substrate adhesives, tile adhesives, contact adhesives, architectural sealants (including grouts, and polyurethane or plastic foams), duct sealants, plumbing adhesives and sealants, wall-covering adhesives, fiberglass panel adhesives, welding adhesives, and aerosol adhesives. Refer to the South Coast Air Quality Management District (SCAQMD) South Coast Rule 1168 (effective date of July 1, 2005 and rule amendment date of January 7, 2005) for the complete list and definitions. Consult AQMD and product manufacturers for assistance in properly classifying products. Revise the form, provide additional manufacturer documentation, and include a narrative to explain any special circumstances, if necessary. Ensure that all applicable products have been included in the documentation.

IEQc4.2: Low-Emitting Materials-Paints and Coatings — Awarded: 1

POSSIBLE POINTS: 1

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

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that all paint and coating products used on the inside of the weatherproofing system and applied on-site have been included in the tables and comply with the VOC limits of the referenced standards for this credit.

IEQc4.3: Low-Emitting Materials-Flooring Systems — Awarded: 1

POSSIBLE POINTS: 1

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

02/19/2017 CONSTRUCTION FINAL REVIEW

The additional documentation demonstrates compliance.

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that all interior flooring materials meet or exceed applicable criteria for the Carpet and Rug Institute, South Coast Air Quality Management District, the California Department of Health Standard, or FloorScore; the carpet adhesives used have a VOC level of less than 50 g/L; all floor finishes meet the requirements of SCAQMD Rule 1113; and all tile setting adhesives and grout meet SCAQMD Rule 1168. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. The documentation within MRc4: Recycled Content indicates that wall base was used in the project, but is not included in the list for this credit. In addition, IEQc4.1: Low-Emitting Materials: Adhesives and Sealants has been denied pending clarification. Address the comments within IEQc4.1 and confirm that all applicable interior flooring materials and finishes (carpet, carpet pad, hard surface flooring, wall base, floor finishes, and tile setting adhesives and grouts) within the scope of work are listed in the tables. Revise the form and provide additional manufacturer documentation and a narrative if necessary.

IEQc4.4: Low-Emitting Materials-Composite Wood and Agrifiber Products — Awarded: 1

POSSIBLE POINTS: 1

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

02/19/2017 CONSTRUCTION FINAL REVIEW

The additional documentation demonstrates compliance.

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that all composite wood and agrifiber products used on the interior of the building and all laminating adhesives used to fabricate on-site and shop-applied composite wood and agrifiber assemblies contain no added urea-formaldehyde resins. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. Only one product has been listed in the table, while the supporting documentation indicates that additional composite wood and agrifiber products were used in the project. It is unclear if the supporting documentation includes all applicable products. Revise the form as necessary and confirm whether all composite wood, agrifiber, and laminating adhesives used on the project contain no added urea-formaldehyde. Provide additional manufacturer documentation and a narrative if necessary.

IEQc5: Indoor Chemical and Pollutant Source Control — Awarded: 1

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

08/19/2015 DESIGN FINAL REVIEW

The additional documentation demonstrates compliance.

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project has been designed to minimize building occupant exposure to particulates and chemical pollutants. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. The provided drawing shows an entryway system only at the main building entrance. Provide drawing(s) highlighting all building entry points and confirm that compliant entryway systems will be located at all regular used exterior entrances. Include dimensions to demonstrate that interior entryway systems are provided which are at least ten feet long in the direction of travel. Provide a narrative clarifying why any entry points have been excluded. Refer to the Implementation section of this credit in the LEED BD+C v2009 Reference Guide for additional information.

IEQc6.1: Controllability of Systems-Lighting — Awarded: 1

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

08/31/2015 DESIGN FINAL REVIEW

The additional documentation demonstrates compliance and states that lighting controls are provided for 96.43% of individual workstations and 100% of shared multi-occupant spaces to enable adjustments that meet needs and preferences.

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that lighting controls are provided for 100% of individual workstations and 100% of shared multi-occupant spaces to enable adjustments that meet needs and preferences. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. The total quantity of individual workstations presented here (56) is inconsistent with the total full-time equivalent (FTE) occupants reported in PIf3: Occupant and Usage Data (201 occupants). It is unclear whether all individual workstations have been addressed separately as required. For example, Room 110A Post Docs appears to have multiple individual workstations, but is listed as having only overhead lighting control. Update the form so that the quantity of individual occupant workstations is consistent with the total FTEs reported in PIf3 or provide a detailed narrative describing the discrepancy. Note that the IEQ Space Matrix (http://www.usgbc.org/resources/eq-space-type-matrix) provides information regarding the classification of individual occupant and shared multi-occupant for most space types encountered within buildings and can be used as a reference for this credit. Demonstrate that at least 90% of individual workstations include individual lighting controls as required.

IEQc6.2: Controllability of Systems-Thermal Comfort — Not Attempted

POSSIBLE POINTS: 1

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

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

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form and supporting documentation states that the mechanically ventilated and mechanically conditioned project space is in compliance with ASHRAE 55-2004.

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

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

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that a permanent monitoring system will be installed and a thermal comfort survey of building occupants will be conducted between six and 18 months after occupancy.

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

POSSIBLE POINTS: 1

IEQc8.2: Daylight and Views-Views — Not Attempted

POSSIBLE POINTS: 1

Innovation in Design

IDc1.1: Building as a Teaching Tool — Awarded: 1

POSSIBLE POINTS: 1

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

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The additional documentation demonstrates compliance.

01/05/2015 DESIGN PRELIMINARY REVIEW

The LEED Form states that the project team has developed and implemented a Public Education program. This strategy is detailed in the LEED BD+C v2009 Reference Guide. However, to demonstrate compliance, the following must be addressed.

TECHNICAL ADVICE

1. A powerpoint presentation has been provided as supporting documentation. Based on the narrative provided it appears that this powerpoint data is intended to be the basis for multiple educational components, including a digital signage program within the building. However, additional detail is required to demonstrate that at least two compliant educational components have been developed. Provide documentation demonstrating the development of a second educational component such as a case-study (pdf of the hardcopy), guided tour (a script and tour stop description drawing), an educational outreach program (detailed narrative and supporting document), and/or a website (pdf of the website) or electronic newsletter (pdf of the hardcopy).

IDc1.1: Innovation in Design — Not Attempted

POSSIBLE POINTS: 1

IDc1.2: Innovation in Design — Not Attempted

POSSIBLE POINTS: 1

IDc1.2: Green Power — Awarded: 1

POSSIBLE POINTS: 1

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

03/20/2017 CONSTRUCTION APPEAL REVIEW

The LEED Form states that the project achieves exemplary performance for EAc6: Green Power as specified in the LEED BD+C v2009 Reference Guide.

It is noted that the LEED form is blank. In this case, compliance is not affected because documentation was provided in EAc6: Green Power that confirms that exemplary performance was earned. For future submittals, ensure that the LEED form is completed.

IDc1.3: Innovation in Design — Not Attempted

POSSIBLE POINTS: 1

IDc1.3: Fume Hood Commissioning — Awarded: 1

POSSIBLE POINTS: 1

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

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that the project team has tested the laboratory fume hoods per LEED Interpretation 5793. The project has performed the full ANSI/ASHRAE 110 1995 test on all installed fume hoods. Test results have been provided.

IDc1.4: Innovation in Design — Not Attempted

POSSIBLE POINTS: 1

IDc1.4: Green Cleaning Policy — Denied

POSSIBLE POINTS: 1

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

02/19/2017 CONSTRUCTION FINAL REVIEW

The former proposal for exemplary performance under MRc6: Rapidly Renewable Materials has been replaced with a proposal for a Green Cleaning Policy.

The LEED Form states that the project team has developed and implemented a Green Cleaning Policy. The project must demonstrate compliance with LEED-EBOM 2009 IEQp3: Green Cleaning Policy. As noted during the Preliminary Design Review phase, a copy of a campus green maintenance policy effective through August 2012 has been provided. However, the following issue remains outstanding.

1. A current Green Cleaning Policy following the LEED-EBOM Policy Model has not been provided. The policy provided indicates that it was effective only through 2012. The policy must address all specific items listed in the LEED-EBOM 2009 IEQp3 Prerequisite Form. In addition, no completed copy of the LEED-EBOM 2009 IEQp3 Prerequisite Form was provided as requested.

As a result, the documentation does not demonstrate compliance.

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The former proposal for Green Housekeeping has been replaced with exemplary performance under MRc6: Rapidly Renewable Materials.

The LEED Form states that the project achieves exemplary performance for MRc6: Rapidly Renewable Materials. The requirement for exemplary performance is 5% and the project has documented 10.8%. However, the base credit has not been achieved.

TECHNICAL ADVICE

1. Refer to the comments within MRc6 and resubmit this credit. Alternatively, the project may pursue a different Innovation in Design strategy for the Final Review.

IDc1.5: MR 4 Recycled Content — Awarded: 1

POSSIBLE POINTS: 1

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

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that the project achieves exemplary performance for MRc4: Recycled Content. The requirement for exemplary performance is 30%. After recalculation due to the issue noted in MRc4, the project has documented 34.67%.

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

03/22/2016 CONSTRUCTION PRELIMINARY REVIEW

The LEED Form states that a LEED AP has been a participant on the project development team.

Regional priority

SSc4.1: Alternative Transportation-Public Transportation Access

POSSIBLE POINTS: 1

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

TOTAL	**107**	**62**	**3**	**0**	**61**

REVIEW SUMMARY

Review	SUBMITTED	RETURNED	POINTS: SUBMITTED	DENIED	PENDING	AWARDED
Design Preliminary	**12/01/2014**	**01/13/2015**	**41**	**0**	**22**	**19**

Credit	STATUS	TYPE	POINTS: ATTEMPTED	DENIED	PENDING	AWARDED
PIf1: Minimum Program Requirements	**Approved**		**0**	**0**	**0**	**0**
PIf2: Project Summary Details	**Approved**		**0**	**0**	**0**	**0**
PIf3: Occupant and Usage Data	**Not Approved**		**0**	**0**	**0**	**0**
PIf4: Schedule and Overview Documents	**Not Approved**		**0**	**0**	**0**	**0**
SSc1: Site Selection	**Anticipated**	Design	**1**	**0**	**0**	**1**
SSc2: Development Density and Community Connectivity	**Pending**	Design	**5**	**0**	**5**	**0**
SSc4.1: Alternative Transportation-Public Transportation Access	**Anticipated**	Design	**7**	**0**	**0**	**7**
SSc4.3: Alternative Transportation-Low-Emitting and Fuel-Efficient Vehicles	**Pending**	Design	**3**	**0**	**3**	**0**
SSc4.4: Alternative Transportation-Parking Capacity	**Anticipated**	Design	**2**	**0**	**0**	**2**
SSc5.2: Site Development-Maximize Open Space	**Anticipated**	Design	**1**	**0**	**0**	**1**
WEp1: Water Use Reduction, 20% Reduction	**Pending**	Design	**0**	**0**	**0**	**0**
WEc1: Water Efficient Landscaping	**Anticipated**	Design	**4**	**0**	**0**	**4**
WEc3: Water Use Reduction	**Pending**	Design	**3**	**0**	**3**	**0**
EAp2: Minimum Energy Performance	**Pending**	Design	**0**	**0**	**0**	**0**
EAp3: Fundamental Refrigerant Management	**Anticipated**	Design	**0**	**0**	**0**	**0**
EAc1: Optimize Energy Performance	**Pending**	Design	**5**	**0**	**5**	**0**
EAc4: Enhanced Refrigerant Management	**Pending**	Design	**2**	**0**	**2**	**0**
MRp1: Storage and Collection of Recyclables	**Anticipated**	Design	**0**	**0**	**0**	**0**
IEQp1: Minimum Indoor Air Quality Performance	**Anticipated**	Design	**0**	**0**	**0**	**0**
IEQp2: Environmental Tobacco Smoke (ETS) Control	**Anticipated**	Design	**0**	**0**	**0**	**0**
IEQc1: Outdoor Air Delivery Monitoring	**Anticipated**	Design	**1**	**0**	**0**	**1**
IEQc2: Increased Ventilation	**Anticipated**	Design	**1**	**0**	**0**	**1**
IEQc5: Indoor Chemical and Pollutant Source Control	**Pending**	Design	**1**	**0**	**1**	**0**
IEQc6.1: Controllability of Systems-Lighting	**Pending**	Design	**1**	**0**	**1**	**0**
IEQc7.1: Thermal Comfort-Design	**Anticipated**	Design	**1**	**0**	**0**	**1**
IEQc7.2: Thermal Comfort-Verification	**Anticipated**	Design	**1**	**0**	**0**	**1**
IDc1.1: Building as a Teaching Tool	**Pending**	Design	**1**	**0**	**1**	**0**

Design Final	**08/11/201509/01/2015**	**19**	**2**	**0**	**19**	

Credit	STATUS	TYPE	POINTS: ATTEMPTED	DENIED	PENDING	AWARDED
PIf3: Occupant and Usage Data	**Approved**		**0**	**0**	**0**	**0**
PIf4: Schedule and Overview Documents	**Approved**		**0**	**0**	**0**	**0**
SSc2: Development Density and Community Connectivity	**Anticipated**	Design	**5**	**0**	**0**	**5**
SSc4.3: Alternative Transportation-Low-Emitting and Fuel-Efficient Vehicles	**Anticipated**	Design	**3**	**0**	**0**	**3**
WEp1: Water Use Reduction, 20% Reduction	**Anticipated**	Design	**0**	**0**	**0**	**0**
WEc3: Water Use Reduction	**Anticipated**	Design	**4**	**0**	**0**	**4**
EAp2: Minimum Energy Performance	**Anticipated**	Design	**0**	**0**	**0**	**0**
EAc1: Optimize Energy Performance	**Anticipated**	Design	**3**	**2**	**0**	**3**
EAc4: Enhanced Refrigerant Management	**Anticipated**	Design	**2**	**0**	**0**	**2**
IEQc5: Indoor Chemical and Pollutant Source Control	**Anticipated**	Design	**1**	**0**	**0**	**1**
IEQc6.1: Controllability of Systems-Lighting	**Anticipated**	Design	**1**	**0**	**0**	**1**

Construction Preliminary	12/01/2015	03/29/2016	23	0	12	11

Credit	STATUS	TYPE	POINTS: ATTEMPTED	DENIED	PENDING	AWARDED
SSp1: Construction Activity Pollution Prevention	Awarded	Construction	0	0	0	0
EAp1: Fundamental Commissioning of the Building Energy Systems	Awarded	Construction	0	0	0	0
EAc3: Enhanced Commissioning	Pending	Construction	2	0	2	0
EAc5: Measurement and Verification	Pending	Construction	1	0	1	0
MRc2: Construction Waste Management	Awarded	Construction	2	0	0	2
MRc4: Recycled Content	Awarded	Construction	2	0	0	2
MRc5: Regional Materials	Pending	Construction	2	0	2	0
MRc7: Certified Wood	Pending	Construction	1	0	1	0
IEQc3.1: Construction IAQ Management Plan-During Construction	Awarded	Construction	1	0	0	1
IEQc3.2: Construction IAQ Management Plan-Before Occupancy	Awarded	Construction	1	0	0	1
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
IEQc4.4: Low-Emitting Materials-Composite Wood and Agrifiber Products	Pending	Construction	1	0	1	0
IDc1.1: Building as a Teaching Tool	Awarded	Design	1	0	0	1
IDc1.3: Fume Hood Commissioning	Awarded	Construction	1	0	0	1
IDc1.4: Green Cleaning Policy	Pending	Construction	1	0	1	0
IDc1.5: MR 4 Recycled Content	Awarded	Design	1	0	0	1
IDc2: LEED® Accredited Professional	Awarded	Construction	1	0	0	1

Construction Final	**02/09/201702/27/2017**	**10**	**1**	**0**	**9**

Credit	STATUS	TYPE	POINTS: ATTEMPTED	DENIED	PENDING	AWARDED
PIf1: Minimum Program Requirements	**Approved**		**0**	**0**	**0**	**0**
EAc3: Enhanced Commissioning	**Awarded**	Construction	**2**	**0**	**0**	**2**
EAc5: Measurement and Verification	**Awarded**	Construction	**1**	**0**	**0**	**1**
MRc5: Regional Materials	**Awarded**	Construction	**2**	**0**	**0**	**2**
MRc7: Certified Wood	**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**
IEQc4.4: Low-Emitting Materials-Composite Wood and Agrifiber Products	**Awarded**	Construction	**1**	**0**	**0**	**1**
IDc1.4: Green Cleaning Policy	**Denied**	Construction	**1**	**1**	**0**	**0**

Construction Appeal	**02/28/201703/29/2017**	**3**	**0**	**0**	**3**

Credit	STATUS	TYPE	POINTS: ATTEMPTED	DENIED	PENDING	AWARDED
EAc6: Green Power	**Awarded**	Construction	**2**	**0**	**0**	**2**
IDc1.2: Green Power	**Awarded**	Construction	**1**	**0**	**0**	**1**