PART 1 - GENERAL

1.1 PURPOSE

A. The owner is pursuing a LEED v3 Gold certification for the project.

B. The purpose of this Section is to define the LEED design and documentation submittal requirements the Design-Build contractor is responsible for and must include in his work. The electrical design-build subcontractor shall support these efforts throughout design and construction. Reduction in scope of work or reduction in specified equipment efficiency will not be allowed for this project.

C. LEED documentation and calculations will be required for the prerequisites and credits as listed in this Section. The contractors involved in performing work for this Section shall provide documentation where necessary to assist the Design Professionals in completing all documentation to obtain LEED certification. The Design Professionals will be responsible for final documentation submittal, along with the other discipline design professionals, to USGBC. Contractor may obtain further program documentation by visiting www.usgbc.com.

D. Contractor(s) shall demonstrate and provide systems and functions that meet or exceed the requirements of the LEED certification process listed herein and in all other Division 26 Electrical sections and the construction drawings.

1.2 APPLICABLE REQUIREMENTS

A. All work under this Section shall comply with the requirements of General Conditions, Supplemental Conditions, Special Conditions and Division 01, “General Requirements” and shall include all Electrical Sections specified herein.

1.3 RELATED WORK SPECIFIED ELSEWHERE (NOTE TO EDITOR: REVISE APPLICABLE SECTIONS BELOW.)

A. All Division 26 Electrical sections included herein.

1.4 APPLICABLE STANDARDS OR GUIDELINES

A. Provide in accordance with requirements of the United States Green Building Council (USGBC) for the following:
   a. LEED Version 3 (2009) Building Design + Construction Reference Guide as published by the USGBC.
   2. LEED Green Building Rating System for Existing Buildings as published by the USGBC.
   3. LEED for Commercial Interiors Rating System as published by the USGBC.

1.5 DESIGN SUBMITTALS

A. Contractor shall submit LEED documentation and calculations as required as a project team member.
   1. The Design-Builder must coordinate with the project LEED Manager Professional who will be responsible for all aspects of the LEED process.

2. The Design-Builder must designate an on-site field staff person to assist the LEED Manager Professional and be the contact for all LEED prerequisites and credit documentation, subcontractor supervision and submittal coordination and to manage the Design-Builder's portions of the LEED-Online submittal process.
3. Documentation for LEED prerequisites and credit must be submitted in the format required by the USGBC for review using LEED-Online. Including all required credit audit documentation, completion of LEED calculators, and LEED credit templates.
4. Additional information on LEED and how to purchase copies of the LEED v3 for BD+C: New Construction and major Renovation reference guide and how to use LEED-Online can be found at www.usgbc.org and https://LEEDonline.usgbc.org

1.6 QUALITY ASSURANCE (QA)

A. Design-Builder will identify one person on Design-Builder's staff to be responsible for compliance and coordination of responsibilities contained in this specification section.
   1. QA Responsibilities:
      a. Review Criteria Documents carefully for LEED
      b. Coordinate work of trades, subcontractors, and suppliers relating to LEED-related issues.
      c. Instruct workers relating to LEED-related issues.
      d. Oversee Design-Build LEED-related issues.
      e. Coordinate with Commissioning Authority on all Commissioning related activities and requirements.
   2. QA in Job Progress Meetings:
      a. All regularly scheduled job progress meetings will contain a heading for Environmental Procedures and LEED.
      b. All regularly scheduled job meetings will contain a heading for Commissioning Items on the Agenda.
      c. Environmental Procedures and Commissioning will be presented at the following meetings:
         1) Pre-construction meeting.
         2) Pre-installation meetings.
         3) Special sustainability issues meetings.
         4) Commissioning Scoping Meeting.

B. QA in Pre-Design Meeting: Soon after award of Agreement, the Design Builder must coordinate with the LEED Manager to schedule and conduct a meeting with the Owner and discipline designers to discuss the Design Builder's Proposed Environmental Procedure Compliance Plan(s).

1.7 LEED CERTIFICATION MEETINGS

A. Design-Builder will conduct LEED Certification meetings as required with his sub-consultants and subcontractors, in addition to those meetings outlined in Agreement. Meetings must be attended by the following personnel:
   1. Design-Builder's Project Manager
   2. Owner
   3. Design-Builder's LEED professional staff persons
   4. Sub-consultant representatives as appropriate to stage of work

5. Subcontractor representatives as appropriate to stage of work

B. At a minimum, LEED certification goals and issues will be discussed at the following meetings:
1. Preconstruction Meetings
2. Progress Meetings
3. Subcontractor Meetings
4. Monthly Design-Build LEED Meetings. Meetings should be scheduled as a part of regularly scheduled job meetings on site.

1.8 LEED COMPLIANCE

A. Design-Builder must prepare and submit with its Proposal during the RFP Phase, a LEED Compliance Plan for determining compliance of proposed design with certification as defined by the LEED program. The Plan will include a LEED Credit matrix and a discussion accompanying and/or associated with each and every intended/selected credit point describing how the design will comply with that specific credit requirement. These in turn will be correlated to a timeline that will adequately illustrate:
1. The definition and applied requirement of each credit in the design and/or construction.
2. The implementation of that credit into the actual work.
3. The expected compilation of the required credit submittal documents for each goal.
4. The date of submission of all the required documentation to the US Green Building Council.
5. The expected time period for corrections and resubmissions.
6. The final approval for LEED Certification.

B. Along with the Design-Builder Submittal Procedures as specified elsewhere in the specification sections, submit the following:
1. All proposed substitution requests that may affect meeting requirements of this Section and the LEED certification program.
2. All LEED Submittals necessary for the certification process and in accordance with the LEED Compliance Plan.

C. This specification section is intended to supplement and not supersede the requirements of other sections of the specifications and drawings.

1.9 SUBMITTALS

A. Submit additional LEED submittal requirements included in other Sections of the Specifications.

B. Design-Builder must submit and receive approval from the USGBC on enough credits as required to achieve the required LEED Project Certification rating.

C. LEED submittals must be prepared and submitted using the LEED-Online Credit web based application and minimum system requirements.
1. The Design-Builder is responsible for obtaining Project access to LEED-Online and joining the Project.

2. Once the Design-Builder has joined the Project through LEED-Online, the LEED Consultant will assign the LEED credits that the Design-Builder is responsible for completing.

D. LEED submittals are in addition to other submittals. If submitted item is identical to that submitted to comply with other requirements, submit duplicate copies as a separate submittal to verify compliance with indicated LEED requirements.

E. Design-Build Materials Cost Data:
1. Specific Material cost data for individual components and materials (not including labor) will be required to be provided as part of some LEED pre-requisite and credit requirements submittals.
2. Consistent numbers must be applied to various LEED credits submittals requiring similar material cost data.

F. Complete required LEED -Online Credit Templates declaring that all LEED credit requirements have been met.

G. With submittals provide the following:
1. Submittals for review with Basis of Design.
   a. LEED matrix identifying both the design and construction credits selected to achieve the LEED certification.
   b. Identify key players who are responsible for designing, implementing and documenting each LEED credit.
   c. Describe, through narrative, the approach that is taken to achieve each LEED credit. Include a schedule for task completion that corresponds with the overall Construction Schedule.
   d. Provide new performance criteria and concept drawings for any items required to achieve the LEED Certification which are not included in the Contract Documents.
2. Submittals for review during Construction Documents Phase.
   a. Update the LEED matrix identifying the credits and points selected to achieve at a minimum, the required LEED certification.
3. Submittals for review during Construction Phase.
   a. Update the LEED matrix identifying the credits and points selected to achieve at a minimum, the required LEED certification.
   b. Draft copies of the Construction Submittal Credit Templates (refer to LEED Design submittal requirements) and required LEED documentation.
4. Submittals for review at time of Closeout.
   a. Final the LEED matrix identifying the credits and points selected to achieve at a minimum, the required LEED certification.
   b. Final copies of the Construction Submittal Credit Templates (refer to LEED Design submittal requirements) and required LEED documentation.
   c. LEED Certification documentation from USGBC.
5. All approved Substitution Request Forms related to this Section.

1.10 SPECIAL PRODUCTS AND SUBSITUTIONS

A. Notify the Owner's Representative when Design-Builder wishes to substitute materials, equipment, or products that meet the aesthetic and programmatic intent of the Construction Documents and offer equivalent or increased environmental

sensitivity to materials, equipment, or products specified to meet LEED requirements as indicated in the Construction Documents.

B. Substitutions that may affect LEED certification must be clearly stated as such.

C. Comply with the requirements of Division 1 as follows:
1. Prior to submitting detailed information submit the following for initial review by the LEED Manger Professional.
   a. Product data including manufactures names, address, and phone number.
   b. Include copy of Material Safety Data Sheet (MSDS) if applicable.
   c. Description of the differences of the proposed substitution from specified product related to LEED requirements. Include description of environmental advantages of proposed substitution over specified product.
   d. The Design-Builder is responsible for re-submittal of all calculations, and documentation of products or material substitutions that affect LEED prerequisites and applies to any credits previously submitted as part of the LEED Design Application Submittal and all credits included in the LEED Construction Submittal. Products that do not meet these requirements should not be submitted for substitution.
   e. Substitutions of materials and products specified as part of the Agreement Documents in the following areas (but not necessarily limited to these items) will require review and potential re-submittal of LEED Design Application Pre-requisites and Credits:
      1) Interior and Exterior Lighting systems and controls
   f. Substituted products must not be ordered or installed without written acceptance by the Owner.
2. Requests for Substitutions
   a. Submit a separate request for each LEED related product substitution.
   b. Identify product Specification Section and LEED credit or credits, if applicable.
   c. List similar projects using product, dates of installation, and names of builders and owners.
   d. Give itemized comparison of proposed substitution with specified product, listing variations, and reference Specification Section and Article number.
   e. Include copy of Material Safety Data Sheet (MSDS) if applicable.
   f. Give cost data comparing proposed substitution with specified product and amount of net change to Agreement Sum. The cost data should be based on life cycle analysis for each affected product including annual energy consumption and maintenance costs.
   g. Identify the effect of substitution on construction schedule and changes required in other work of products.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.1 LEED DOCUMENTATION

A. General
1. Documentation is listed according to the appropriate LEED prerequisite or credit. Some credits may be modified, removed or added during the course of construction as required to obtain the LEED rating as required by the Owner. At the Owner's preference the Design-Build contractor is responsible for providing engineering support for available measures listed in the following sections.

B. General Requirements
1. Coordinate with the electrical contractor to ensure that the LEED electrical and lighting requirements are satisfied.
2. Coordinate with the General Contractor to ensure that the LEED general requirements are satisfied.

3.2 INTEGRATIVE PROCESS

A. Credit 1 – Integrative Process
1. Perform an energy modeling analysis and a preliminary water budget analysis before the completion of schematic design. Document how the analysis informed site, building form and design decisions in the project's OPR, BOD and eventual design. Demonstrate how at least one on-site non-potable water supply source was used.

3.3 SUSTAINABLE SITES

A. Credit 4.3 – Alternative Transportation
1. Option 1- Provide preferred parking for low-emitting and fuel efficient vehicles for 5% of the total parking capacity for the site.
2. Option 2-Install electrical vehicle supply equipment (EVSE) in 3% of all parking spaces used by the project. Clearly identify and reserve these spaces for the sole use by plug-in electric vehicles. The EVSE must:
a. Provide a Level 2 charging capacity (208 – 240 volts) or greater.
b. Comply with the relevant regional or local standard for electrical connectors, such as SAE Surface Vehicle Recommended Practice J1772, SAE Electric Vehicle Conductive Charge Coupler or IEC 62196 of the International Electrotechnical Commission for projects outside the U.S.
c. Be networked or internet addressable and be capable of participating in a demand-response program or time-of-use pricing to encourage off-peak charging.
3. Option 3-Provide low-emitting and fuel-efficient vehicles for 3% of full time equivalent (FTE) occupants.

3.4 SUSTAINABLE SITES

A. Credit 8 – Light Pollution Reduction
1. For Interior Lighting –

a. Option 1 – Reduce the input power of all nonemergency interior luminaires with a direct line of sight to any openings in the envelope by at least 50% between 11 PM and 5 AM.
b. Option 2 – All openings in the envelope with a direct line of sight to any nonemergency luminaires must have shielding (closed/controlled by automatic device for a resultant transmittance of less than 10% between 11 PM and 5 AM).

2. For Exterior Lighting – Light areas only as required for safety and comfort. Lighting power densities must not exceed ANSI/ASHRAE/IESNA Standard 90.1-2007 for the classified zone.

3.5 ENERGY AND ATMOSPHERE

A. Credit 2 – On-Site Renewable Energy. Provide documentation of energy produced on-site using solar, solar thermal, wind, geo thermal or micro-hydro based renewable energy systems compared to building annual energy cost from EA Credit 1. Coordinate with project team to optimize points for renewable energy.

B. Credit 5 – Measurement and Verification
1. Option 1 – Develop and implement a measurement and verification (M&V) plan consistent with Option D: Calibrated Simulation as specified in the International Performance Measurement and Verification Protocol (IPMVP) Volume III: Concepts and Options for Determining Energy Savings in New Construction, April, 2003. The M&V period must cover at least one year of post-construction occupancy. Provide a process for corrective action if the results of the M&V plan indicate that energy savings are not being achieved.
2. Option 2 – Develop and implement a measurement and verification (M&V) plan consistent with Option B: Energy Conservation Measure and Isolation, as specified in the International Performance Measurement and Verification Protocol (IPMVP) Volume III: Concepts and Options for Determining Energy Savings in New Construction, April, 2003. The M&V period must cover at least one year of post-construction occupancy. Provide a process for corrective action if the results of the M&V plan indicate that energy savings are not being achieved.

3.6 INDOOR ENVIRONMENTAL QUALITY

A. Credit 6.1 Controllability of Systems for Lighting
1. Provide individual lighting controls for 90% minimum of the building occupants to enable adjustments to suit individual task needs and preferences.
2. Provide lighting system controls for all shared multi-occupant spaces to enable adjustments that meet group needs and preferences.

3.7 INNOVATION & DESIGN PROCESS

A. Credit 1 - Innovation in Design
1. Coordinate with Architect and General Contractor for LEED Letter Template information required for applicable Innovation in Design credit(s).

END OF SECTION