

1-25-2013

011000 - A - General Requirements

Sandra Hickey
sandra.hickey@unh.edu

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Recommended Citation

Hickey, Sandra, "011000 - A - General Requirements" (2013). *Division 01 – General Requirements*. 2.
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011000 - A - General Requirements

SECTION 01 1000 – GENERAL REQUIREMENTS

1.1 SUMMARY

A. This Section includes the following:

1. Special conditions LEED version 3.0, Silver Certification requirements or alternative owner approved equivalent certification process
2. General responsibilities of the contractor.
3. Regulations.
4. Temporary facilities and controls.
5. Quality requirements.
6. Submittal procedures.
7. Project record documents.
8. Operation and maintenance data.
9. Warranties.
10. Demonstration and training.
11. Final cleaning.
12. Certificates and testing reports.
13. Certificate of Occupancy-Issued by the NH State Fire Marshal's office.

B. General Requirements are intended to complement the University System of New Hampshire General Conditions of the Contract for Construction (ref. Specification Section 007000), hereinafter referred to as General Conditions and/or General Conditions of the Contract. They are not intended to replace or otherwise supersede the General Conditions. Rather, in the event of a conflict or contradiction between these General Requirements and the General Conditions, the General Conditions shall take precedence.

C. The General Conditions, Supplemental Conditions, and Division 01 Specifications of the Contract shall apply to each and every contract and contractor or other person or persons supplying labor, material, equipment and/or services entering into this Project and/or on the premises directly or indirectly.

D. Work Included in the Contract: Providing all labor, materials, equipment, and services, etc., as required to complete all Work identified in or otherwise required by the Contract Documents.

E. Work Excluded from the Contract: Work noted as "Not in Contract" (N.I.C.) or "By Owner". However, the Contractor shall provide services and coordination related to items not in the Contract as required by the Contract Documents.

1.2 SPECIAL CONDITIONS

A. All new Construction and Renovations on the University of New Hampshire Campus are to achieve the equivalent of LEED version 3.0, Silver Certification or owner approved.

1.3 GENERAL RESPONSIBILITIES OF THE CONTRACTOR

- A. Use of Local and Campus Roads: Existing roads, lanes, and required emergency access shall remain accessible at all times. At times when the Work interferes with the normal flow of traffic (including vehicles, bicycles, and pedestrians), both on and off the site, the Contractor shall coordinate with and comply with the requirements of the local and university police, highway, and public works departments including but not limited to the provision of adequate personnel, flagmen, and equipment to properly regulate traffic. Roadways and driveways shall be kept free of debris resulting from construction-related traffic. Where the Work results in the accumulation of dirt, dust, debris, etc. on local roads or in adjacent drainage channels or structures, the Contractor shall remedy said condition immediately and shall continue to do so in a manner, duration, and frequency appropriate to the condition and acceptable to the Owner and the authority having jurisdiction. Hauling permits and route approvals shall be obtained from governing authorities as applicable.
- B. Campus Access: All construction-related vehicles shall approach the campus from the west (i.e. Route 4 to Route 155A/Main Street to College Road).
- C. Site Access: Access to the site for workers and the delivery or removal of construction materials and/or equipment shall be coordinated in advance with the PM and all appropriate University Departments. The site access plan shall be crafted and signed by all appropriate parties and posted on site.
- D. Contractor shall be responsible for providing Police details for all deliveries which may impact pedestrian or vehicular traffic or safety.
- E. Use of the Site: The Contractor shall have use of the site as indicated elsewhere in the Contract Documents. Stockpiling of all materials shall be coordinated with the Owner.
- F. Use of the Existing Building: The Contractor shall maintain the existing building in a weather tight condition throughout the construction period and shall immediately repair to its pre-construction condition or better any damage caused by construction operations. Furthermore, the Contractor shall limit storage of on-site materials to locations acceptable to the Owner and governing authorities.
- G. Work Hours: The normal working hours for this contract shall be from 7 a.m. to 5 p.m., Monday through Friday, unless otherwise authorized by Owner. Such authorization will not be unreasonably withheld. Work shall not occur during Graduation and others days determined and agreed upon by the Contractor and the Project Manager.
- H. Transportation and Permits: Contractor is responsible for providing transportation of all workers from the remote Contractors Lot to the job site. Parking permits are the responsibility of the Contractor and subcontractors to obtain from UNH Transportation Services.
- I. Noise: Noise that is unnecessary or not construction-related (e.g. boom boxes, excessive hollering) are not allowed. Workers shall not wear personal audio systems. .
- J. Demolition waste and construction generated waste; the contractor shall be responsible for knowing and complying with regulatory requirements. Demolition and construction

generated waste shall be recycled. Refrigerants shall be recovered in accordance with EPA regulations and guidelines. Documentation of refrigerant recovery shall occur on UNH provided forms for each refrigerant. A waste management plan shall be established, and waste reduction progress reports shall be issued concurrent with each application for payment. Burning on site of waste is prohibited. All waste not recycled shall be transported off Owner's site and legally disposed of. Provide documentation of disposal for each load removed. Waste materials are not to accumulate on site and all waste waiting transport shall do be managed in a manner that will prevent spillage on adjacent surfaces and areas.

- K. Superintendent/Supervision: The Contractor shall place and maintain a competent, experienced construction superintendent in charge of the Work. Except as may be approved by the Owner for periods of minor or minimal activity, this superintendent shall be on the job site at all times while work is in progress, including overtime operations by the Contractor's forces or by subcontractors. No changes in this position shall be made without the Owner's prior approval. The Owner shall have the right to review the qualifications of the proposed superintendent and ask for a replacement if, in the Owner's opinion, the person proposed does not meet the qualifications that the project will demand. The same superintendent who was in charge during the general progress of the Work shall oversee the completion of all punch list items.
- L. Coordination: Except as specifically indicated otherwise, the Contractor shall be fully responsible for coordinating all construction activities, verifying dimensions and existing field conditions, establishing on-site lines of authority and communication, monitoring schedules and progress, monitoring quality and ensuring quality workmanship, maintaining records and reports and assuring the proper administration of the Work. Disruptions and inconveniences to the activities of existing facilities to remain in operation during construction shall be minimized, and shall be subject to the prior approval of the Owner.
- M. Job Meetings: The Contractor shall conduct regular job meetings once every week during the construction period, at such time and place as is mutually acceptable to the Owner, Project Architect, and Contractor. All major subcontractors shall be represented at each meeting as needed. Other trades or subcontractors may be called to particular job meetings, as the progress of the Work requires. The Project Architect shall record and distribute the minutes of each meeting.
- N. Utilities and Roadways: Except as indicated otherwise, existing facilities, systems, and roadways shall remain in operation throughout the execution of the Work of this Contract. The Contractor shall schedule and coordinate the Work with the Owner and local police, highway, and public works departments as required to maintain the safe and functional use of such facilities, systems, and roadways. The Contractor shall send proper notices, make all necessary arrangements, and perform all other services required for the removal or the protection and maintenance of all existing utilities and services, assuming all responsibility and paying all costs related thereto. Any work within XX ft of the EcoLine™ requires working with UNH Operations and Maintenance subcontractor for safe excavation including watching, inspecting, and/or review of the work at the cost of the contractor. Existing utilities and services shall not be disrupted without the prior approval, and then only to the minimum extent required. The Owner reserves the right to require the Contractor to implement temporary measures/services

rather than allowing a disruption of service, especially with regard to water and sewer, where applicable.

1. Tracer Wire: Bury directly on top of every substrate utility pipe that does not run clearly from Point A to Point B (i.e. sewer manhole to sewer manhole) or any other system that cannot be easily clamped onto after installation (i.e. domestic water, heating and cooling components, sewer force mains, plastic piping). Wire shall run to the surface through system valves, at building entrances, or at tracer boxes installed throughout the lines' route. Protocol shall follow the EcoLine™ methods of installing tracer wire and boxes.
- O. The Contractor, through the Owner's Representative, shall comply with the "Underground Utility Damage Prevention System" by notification to the University of New Hampshire Dig Safe Coordinator of intent to excavate or otherwise disturb the ground surface. The Contractor shall notify the Owner's Representative at least five days in advance of starting any such work. The Contractor shall continually maintain associated markings. Failing that, the Contractor shall coordinate with the Owner's Representative to request re-markings.
1. University of New Hampshire Dig Safe Document: See Attachment A and <http://www.unh.edu/facilities/dig-safe> ..
- P. Means and Methods: Except as specifically indicated otherwise, the Contractor shall be fully responsible for all means, methods, procedures, sequences and techniques of construction employed toward the completion of the Work.
- Q. Site Safety:
1. The Contractor shall comply with all applicable OSHA standards.
 2. The Contractor shall comply with all "hot work" and "confined space" safety standards and permit procedures required by the UNH Office of Environmental Health and Safety.
 3. The Contractor shall take all measures required to ensure the safety of construction workers, as well as the safety of the campus community and the public. The Contractor shall make safety a top priority and ensure that all necessary barricades and fencing are provided and that they comply with applicable regulations and standards of good practice.
 4. The construction site is near existing occupied buildings and roadways. Therefore, site safety is of the utmost importance. The Contractor shall pay all costs necessary for temporary partitioning, barricading, fencing, walks, ramps, enclosures, security and safety devices required for the maintenance of a clean and safe construction site.
 5. The Contractor shall prepare and manage and Emergency Response Plan which includes a comprehensive contact list. Plan shall be distributed to UNH PM and all appropriate departments across the campus.
- R. Fire Protection: The Contractor shall provide and maintain in good operating condition suitable and adequate fire protection equipment and services, and shall comply with all reasonable recommendations regarding fire protection made by the representatives of the fire insurance company carrying insurance on the Work or by governing fire or building authorities. Flammable products shall be properly stored in containers

acceptable to fire officials. The area within the site limits shall be kept orderly and clean, and all combustible rubbish shall be promptly removed from the site. A "Hot Work" permit shall be obtained through the Owner's Representative for all work involving any type of flame or spark producing torch, saw, etc. At all times of "Hot Work", the Contractor shall provide a dedicated "firewatch" person, who shall have no other responsibilities and whom the Contractor shall provide with appropriate fire protection and extinguishing equipment and training.

- S. Protection of Adjoining Property: The Contractor shall restrict construction operations and provide all shoring, fencing, and other work necessary to support, protect and keep unharmed all walls, footings, floors, roofs, walks, roadways and all other parts of any existing buildings, facilities, site improvements, land forms, trees and plant materials, etc. outside the limits of the Work or otherwise shown to remain. The Contractor shall hold the Owner and Architect harmless from any such damage due to any operations under this Contract. Any existing work or property damaged or disrupted as a result of this Contract shall be replaced or repaired to match original existing conditions at no additional cost to the Owner.
- T. Building Security: The Contractor will be issued one copy of the key(s) needed to access the applicable work area(s), which must be returned upon completion of the Work. It shall be the Contractor's responsibility to, ensure upon leaving the project site at any time, that all doors into areas within the Contractor's control are locked and properly latched and that all other doors that may be used by the Contractor are properly latched.
- U. Vandalism: The Contractor shall take all reasonable precautions necessary to prevent loss or damage caused by vandalism, theft, burglary, pilferage, or unexplained disappearance of property of the Owner, whether or not forming part of the Work, located within those areas of the Project to which the Contractor has access.
- V. Hazardous Substances: The Architect's Scope of Services and responsibilities exclude the investigation, discovery, detection, identification, presence, leakage, release, use, handling, disposal, encapsulation, abatement, treatment, or removal of, or exposure of a person or persons to hazardous materials, pollutants, contaminants, or disease transmitting organisms, pre-existing or otherwise deposited in any form at the project, indoors or outdoors, at any time before, during or after construction, including but not limited to volatile organic compounds, petroleum products, bacteria, molds, fungus, asbestos or asbestos products, lead, radon, electro-magnetic frequency radiation or other radiation. Should any such substances be encountered, the Owner and Architect shall be promptly notified, in writing.
- W. Miscellaneous:
 - 1. Smoking/Chewing: Smoking of any nature and chewing of tobacco or similar products is prohibited in and within twenty feet of all University buildings. The Contractor shall strictly enforce this prohibition and shall remove repeat offenders from the project site.
 - 2. Alcohol and Illicit Drugs: The possession or consumption of alcoholic beverages and or illicit drugs on University property and in University buildings is prohibited. The Contractor shall strictly enforce this prohibition and shall immediately remove offenders from the project site.

3. Sexual Harassment/Lewdness: Lewdness and other forms of sexual harassment including, but not limited to, catcalls, vulgar sounds or actions, and the display of prurient images will not be tolerated, especially when directed toward or observable by a member or members of the campus community or the public. The Contractor shall strictly enforce this policy and shall immediately remove offenders from the project.

1.4 REGULATIONS

- A. General: The Contractor shall fully comply with all governing Local, State and Federal Laws, Codes, Rules, Regulations and Ordinances, including but not limited to The Americans with Disabilities Act, Equal Employment Opportunity and Affirmative Action provisions, and Occupational Safety and Health Administration provisions.
- B. State Building Codes and Permits and Inspections: The University of New Hampshire, as a part of the University System of New Hampshire, falls under the jurisdiction of the New Hampshire statewide building code.
(see: <http://www.nh.gov/safety/boardsandcommissions/bldgcode/nhstatebldgcode.html>)
The Contractor shall comply therewith and shall cooperate with the Owner and with NH authorities having jurisdiction (and/or their agents) with regard to necessary reviews, testing and inspections. Normally, such construction phase reviews, testing and inspections include review of contractor submittals for sprinkler and fire alarm systems; observation of sprinkler flow, emergency lighting, and fire alarm testing; fireproofing verification; elevator, plumbing, electrical, and health inspections; as well as certificate of occupancy permitting and inspection(s). Plumbing Permit to be secured by Contractor. All inspection costs for plumbing and elevator permits and inspections shall be the responsibility of the Contractor.
- C. Local Building Codes and Permits: In general, the University of New Hampshire does not fall under local jurisdiction. However, the University is subject to local water/sewer connection permitting requirements, road cut/closure permitting requirements, and noise ordinances. Therefore, the Contractor shall comply with local water and sewer connection details and installation requirements; apply and pay for all road cut/closure permits; provide and pay for all required bond premiums and police/traffic details; comply with all associated excavation, backfill, patching, and safety requirements, etc.; and comply with local noise ordinances. Environmental Regulations: The Contractor shall comply with all applicable environmental laws and regulations. Particular attention shall be paid to proper erosion, sedimentation, and dust control.
- D. Parking: Parking shall be subject to University parking regulations, enforcement and procedures. The Contractor shall coordinate with UNH Parking Services relative to contractor parking permits/fees and the availability of contractor parking. It shall be understood by the Contractor that parking for all contractor and subcontractor vehicles may not be available immediately adjacent to the Project Site and that the Contractor may be directed to park some, most, or even all such vehicles remotely. Transferable contractor parking permits are available from UNH Parking Services.
- E. Refer to Chapter 5, Division 01, Section 010600 for additional information.

1.5 MEASUREMENT AND PAYMENT

- A. Schedule of Values: Prior to submittal of the first Application for Payment, the Contractor shall submit a schedule of values in accordance with the General Conditions.
- B. Payment Requisition: The Contractor shall submit on or about the first day of each month three original copies of AIA Form G702 "Application and Certificate for Payment" with attached AIA Form G703 "Continuation Sheet." Each copy shall be fully completed, properly executed and sealed, and delivered to the Project Architect. In order to expedite processing and payment of the Contractor's requisitions, it is recommended that, five (5) days prior to submittal of the formal requisition, the Contractor submit electronically or via FAX one draft copy thereof to the Project Architect and Owner for advance review.
- C. Release of Lien: The Contractor shall furnish current Lien Waivers for itself and from all subcontractors and material suppliers with each Application for Payment.

1.6 SUBMITTAL PROCEDURES

- A. Owner Review: With the delivery of any and all submittals to the Project Architect, the Contractor shall deliver two additional copies/sets thereof to the Owner for concurrent review. All Owner comments will be forwarded to the Architect for consideration and incorporation, as appropriate, into a consolidated submittal response.
- B. Identification: Each and every submittal shall be identified with a cover sheet inclusive of the following:
 - 1. Unique submittal identifier referencing respective specification section and paragraph and including revision number. For example, Submittal # 260553-2.1.E.2-Rev.0 would identify the initial submittal for fire and smoke seals used at electrical penetrations, as specified in Spec. Section 260553, Paragraph 2.1.E.2.
 - 2. Date.
 - 3. Project name.
 - 4. Name and address of Architect, Contractor, applicable subcontractor, supplier, and manufacturer.
 - 5. A space approximately 4 by 5 inches to record Contractor's review and approval markings and action taken by Architect.
 - 6. Drawing number and detail references, as appropriate.
 - 7. Contractor's certification stating that information submitted complies with requirements of the Contract Documents.
 - 8. Identification of deviations from requirements of the Contract Documents, including minor variations and limitations and, for resubmittals, identification of revisions other than those requested by Architect on previous submittals.
 - 9. Other necessary or otherwise appropriate identification.
- C. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 - 1. Name, address, and telephone number of entity performing subcontract or supplying products.

2. Number and title of related Specification Section(s) covered by subcontract.
 3. Drawing number and detail references, as appropriate, covered by subcontract.
- D. Comprehensive Construction Schedule: The Work of all trades shall be scheduled so that close coordination will be effected throughout all phases of construction. In accordance with the General Conditions, the Contractor shall prepare a comprehensive "Critical Path" construction schedule for his own use and the Owner's information. The schedule shall be submitted to the Architect and Owner within ten (10) days after award of Contract. The Architect's and/or Owner's receipt and review of this schedule shall in no way be construed to be approval or endorsement thereof. The Schedule shall show concisely the manner in which the Work will be prosecuted and shall specifically identify the start and completion dates of any work or activity that may disrupt or otherwise affect ongoing activities within or about the Project site.
1. If for any reason the progress schedule should fall behind schedule by ten (10) days or more the Contractor shall prepare a new progress schedule, which shall be changed to indicate the manner in which the Contractor will complete the project within the time allowed for construction.
 2. The term "Day", where used throughout the Contract unless otherwise stated, shall mean "Calendar Day."
- E. Submittal Schedule: Prepare a detailed schedule identifying all submittals required by the Contract Documents. Submittal schedule shall be organized chronologically to correspond to the sequence of construction and shall be coordinated with the Contractor's construction schedule and Schedule of Values. For each submittal, schedule shall list the scheduled date for initial submittal, applicable specification section/paragraph, description of the Work covered, name of respective subcontractor, supplier and/or manufacturer, scheduled date to allow for resubmittal if necessary, scheduled date for the final release/approval, and actual submittal and review dates. Update and submit the submittal schedule at least monthly and more frequently if submittal activity warrants. Final and approved submittals shall be turned over to the University in Hard Copy and electronic copy in pdf format.
- F. Materials Delivery Schedule: Accompanying the Comprehensive Construction Schedule, the Contractor shall submit a materials delivery schedule with which the Comprehensive Construction Schedule has been coordinated. The materials delivery schedule shall identify all materials required for the work that are not readily available from local suppliers and/or that have long lead times and shall indicate when such materials will be delivered and whether said delivery is contingent upon a specific submittal review timetable.
- G. Testing and Inspections Schedule and Coordination: Prepare a schedule of inspections, tests, and similar services required by the Contract Documents. Submit the schedule with the Contractor's construction schedule. The schedule shall be in tabular form and shall include, without limitation, the following: spec section number and name; description of the test; applicable standards; test methods; quantity and/or frequency of tests/samples; time requirements; entity responsible for performing tests; requirements for taking samples; and any unique characteristics of each service. The University shall hire the third party testing agency and the contractor shall coordinate in conjunction with the University PM all testing in the field.

1. The above ceiling systems will be conducted by the University after above ceiling systems have been completed and verified by the Designer. The following guidelines shall apply to this inspection: All above ceiling systems will be completed including, but not limited to, controls, insulation, labeling of systems, wiring, light fixtures, diffusers, ductwork, piping, fire proofing and sealing of wall penetrations through fire walls.
 - a. Framing for hard ceiling will be completed and access door locations will be framed to assure accessibility to control valves, equipment requiring maintenance, etc. Ceiling grid will be in place and equipment will be place in the grid.
 - b. No ceilings will be covered up until this inspection is complete by the owner. Contractor shall give the Designer and the University two weeks' notice to assure owner personnel are available for the inspection.
2. Fire Protection Systems:
 - a. The installation contractor shall conduct a 100% performance test, which shall be ensured by the designer/engineer. When test is complete and deficiencies are corrected, the contractor shall perform a 100% retest with the University and the Durham Fire Department present. Three days prior to the final testing for acceptance the contractor shall furnish the completed NFPA Record of Completion with all printouts.

H. Shop Drawings, Cuts and Literature Submittals:

1. Submittal Requirements:
 - a. In addition to the above-referenced concurrent review copies submitted to the Owner, the Contractor shall submit for review by the Project Architect a minimum of six (6) sets of manufacturer's literature/product data, shop/coordination drawings, samples, certifications, design calculations, test reports, etc. relative to all materials and/or equipment items, fixture items, etc. proposed for incorporation into the Work. (Note that, of these, only three (3) reviewed sets will be returned to the Contractor, as described below. If the Contractor requires additional reviewed sets, the Contractor shall increase the original quantity submitted accordingly.)
 - b. If so requested by the Architect for any shop drawings larger than 11"x17," furnish three (3) prints and one (1) reproducible transparency in lieu of eight (6) prints. The reproducible transparency will be returned to the Contractor for copying and distribution, as described below.
 - c. Submittals that are facsimile (FAX) produced, or are photocopies of faxed documents will not be considered or reviewed.
 - d. The Contractor shall check and correct submittals for compliance with the Contract Documents before submitting them to the Architect for review. Submittals shall be marked to show which products and options are applicable and annotated with the Contractor's corrections, field dimensions, etc. Deviations from the Contract Documents shall be clearly identified. The Contractor shall sign and stamp all submittals prior to delivery to the Architect. The submittal stamp shall state that the Contractor has reviewed the submittals and that the work shown is in

accordance with the Contract requirements and has been checked for dimension, quantity, and relationship with work of all trades involved. Submittals will be returned to the Contractor without review if it is apparent that the Contractor has failed to properly review and/or stamp them prior to submittal.

- e. **Completeness of Submittals:** All shop drawings, brochures, cuts and manufacturer's literature relative to each material/item/product proposed for incorporation into the Work shall be compiled into a single submittal package. This applies also to resubmittals. That is, resubmittals shall include all documentation included in the initial submission, except as required to bring the submittal into compliance with contract requirements and/or to be responsive to the Architect's prior review comments. Piecemeal or incomplete submittals and partial resubmittals will not be reviewed.
- f. The Contractor shall coordinate preparation and processing of submittals with performance of construction activities. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

2. **Architect's Review:**

- a. In general, the Architect will strive to complete his/her review of submittals/resubmittals and return them to the Contractor within two (2) weeks following receipt thereof. Additional time may be required if large volumes of submittals are simultaneously delivered to the Architect for review.
- b. Review of submittals by the Architect shall not relieve the Contractor of responsibility for compliance with the Contract Documents (unless specifically proposed as a Substitution in accordance with the General Conditions) and relative to verification of measurements and existing conditions, trade coordination, etc.
- c. Among other limitations, the Architect's review shall not include the calculation, coordination or verification of dimensions or quantities, all of which is the sole responsibility of the Contractor.

3. **Distribution:**

- a. Following review of submittals, the Architect will forward one (2) copies of the reviewed submittal to the Owner, one (1) to the respective subconsultant, and keep one (1).
- b. The three (2) remaining reviewed copies will be returned to the Contractor, who shall maintain one (1) for record submission at project closeout and duplicate (if necessary) and distribute the others, as appropriate, to manufacturers, subcontractors, suppliers, fabricators, installers, authorities

- having jurisdiction, the Contractor's home and field offices, and others as necessary for performance of construction activities.
- c. Returned submittals stamped "revise and resubmit" or "rejected" shall not be sent to the Project Site.
4. Submittal Requirements for Environmental Impact and LEED:
 - a. For Environmental Impact and LEED compliance, minimally include the information on the Manufacturer Certification for LEED Credit form attached to Chapter 5, Division 01, Section 018113 – Attachment C, based on LEED 3.0 Version 9.
 5. Electronic Files: Following the receipt of a written request from the Contractor, the Architect will furnish electronic files for architectural, structural, mechanical and/or electrical drawings. As a prerequisite for the release of electronic files, the following disclaimer must be included in said written request:
 - a. "The file recipient agrees to accept computer CDs/DVDs and electronic files without any warranties, guarantees and/or representations of any nature whatsoever regarding the correctness, accuracy and/or completeness of any information contained therein. The recipient acknowledges that the use of any such diskettes and electronic files is entirely at its own risk with respect to any claims, costs, losses, damages and/or liabilities arising out of or relating to the use, misuse, modification, interpretation, misinterpretation and/or misrepresentation of any such information."
- I. Test Reports: Prepare and submit certified written reports that include the following:
 1. Date of issue.
 2. Project title and number.
 3. Name, address, and telephone number of testing agency.
 4. Dates and locations of samples and tests or inspections.
 5. Names of individuals making tests and inspections.
 6. Description of the Work and test and inspection method.
 7. Identification of product and Specification Section.
 8. Complete test or inspection data.
 9. Test and inspection results and an interpretation of test results.
 10. Ambient conditions at time of sample taking and testing and inspecting.
 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 12. Name and signature of laboratory inspector.
 13. Recommendations on retesting and reinspecting.
 14. Follow up report for each item identified during the process which failed/and or required additional follow-up work with date of completion and reinspection.
 - J. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar

documents, established for compliance with standards and regulations bearing on performance of the Work.

- K. Daily Reports: Prepare a daily construction report recording the following information concerning events at the site, at a minimum. Submit one copy each to the Architect and the Owner at weekly intervals:
1. List of subcontractors at the site and number of workers on-site for each.
 2. List of separate contractors at the site.
 3. High and low temperatures, general weather conditions.
 4. Meetings and significant decisions.
 5. Accidents, emergencies and other unusual events.
 6. Stoppages, delays, shortages, and losses.
 7. Orders and requests of governing authorities.
 8. Services connected, disconnected.
 9. Meter readings and similar recordings.
 10. Equipment or system tests and startups.
 11. Partial completions, occupancies.
 12. Material deliveries.
 13. Items identified that require corrective work and items on which corrective work was performed.

1.7 QUALITY REQUIREMENTS

- A. Owner Testing: The Owner shall employ an independent testing laboratory for the purpose of testing and inspecting portions of the Work in progress. These services will be paid for by the Owner.
1. The inspection, sampling and testing provided by the Owner shall include, but may not be limited to:
 - a. Soil Compaction.
 - b. Soils Sieve Analysis.
 - c. Waterline Disinfection.
 - d. Bituminous Pavement.
 - e. Cast-in Place Concrete.
 - f. Precast Concrete.
 - g. Piles.
 - h. Structural Steel.
 2. The Employment of a testing laboratory shall in no way relieve the Contractor of its obligation to perform all Work in accordance with Contract requirements.
 3. All inspection, sampling and testing shall be completed prior to the commencement of any work that would alter or cover work to be inspected.
- B. Contractor's Responsibilities relative to Owner-provided testing:
1. Schedule and coordinate all testing and inspections through the Owner's Representative. Testing and inspections shall be performed as required by

applicable Specifications and as otherwise agreed upon by the Contractor and Architect.

2. Cooperate with testing personnel and provide access to the Work.
3. Provide representative samples of materials to be tested, in required quantities.
4. Furnish casual labor and facilities:
 - a. To provide access to Work to be tested.
 - b. To obtain and handle samples at the site.
 - c. To facilitate inspections and tests.
5. Notify Owner's Representative sufficiently in advance of operations (48 hours minimum) to allow for the proper assignment of personnel and scheduling of tests.
6. Relative to waterline disinfection testing, the Contractor shall be responsible for the installation and subsequent removal and plugging of all necessary flushing and sampling ports and the performance of all waterline flushing and chlorinating necessary for sampled water to comply with applicable health and safety standards.

C. Contractor Testing and Inspection Responsibilities:

1. The Contractor shall provide inspections, sampling and testing required for determining the suitability of materials prior to delivery to the site (such as analysis of off-site borrow, mortar, grout, and concrete mix designs, etc.).
2. The Contractor shall provide all specified testing and inspections, unless indicated above as being provided by the Owner. Such testing includes but may not be limited to leakage testing of underground utilities and structures, pressure/leakage testing of all piping and duct systems, electrical testing, start-up and operational testing, etc. All such testing and inspections shall be witnessed by the Owner's Representative. Accordingly, the Contractor shall coordinate with and provide timely notice to the Owner's Representative.
3. All Contractor-provided testing and inspections shall be performed by appropriately qualified and certified testing agencies. Formal typed reports shall be prepared for all testing and inspections performed. Copies of all such reports shall be provided in duplicate to both the Owner and the Project Architect within seven (7) calendar days of the performance of the testing/inspection or as otherwise required, whichever is more stringent.

D. Conflicting Requirements:

1. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
2. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numerical values are minimum or maximum, as

appropriate, for the context of requirements. Refer uncertainties to Owner for a decision before proceeding.

1.8 TEMPORARY FACILITIES AND CONTROLS

- A. Construction Equipment: The Contractor shall furnish and maintain all equipment as required for the proper execution of the Work, unless specifically included under the Work of other trades.
1. All such apparatus, equipment, and construction shall meet all requirements of applicable laws, regulations, and standards of safety and good practice.
 2. All hoisting equipment and machinery required for the proper and expeditious prosecution and progress of the Work shall be furnished, installed, operated and maintained in safe condition by the Contractor.
- B. Utilities: The Contractor may use on-premises utilities and services without charge for any consumption thereof, except with regard to long distance telephone charges.
- C. Construction Office Trailer and Associated Equipment: Upon commencement of the project, the Contractor shall provide and maintain throughout the life of the project a separate and securable, heated and air-conditioned field office (GE sngl-820, or Owner-approved equal) dedicated for use by the Owner, Project Architect, and Owner-hired testing/inspection personnel. In addition to the standard built-in plan table and desk, the office trailer shall be furnished with one desk, two new desk chairs; two 4-drawer lockable file cabinets (one letter size, one legal size) with appropriately-sized pendaflex racks in all drawers; two spare folding chairs; two cantilever style plan racks with print clamps; ten knob-adjustable white hard-hats; two high-low outdoor type thermometers with reset capability; hot and cold potable water dispenser, with integral or separate refrigerator, supplied with water and cups throughout the life of the project; one broom and dust pan; two trash cans; interior lighting; electrical outlets throughout; multi-function office machine with all necessary supplies and service throughout the life of the project; and telephone and broadband internet services (including installation/removal and recurring charges). Of the above items, the hard hats, and thermometers shall become the property of the Owner upon delivery, and shall remain the property of the Owner following completion of the project.
- D. Toilets: The Contractor shall provide and maintain in a sanitary condition enclosed weather tight chemical toilets for the use of all construction personnel at locations acceptable to the Owner and governing authorities. Installation of toilets shall be in accordance with all applicable codes and regulations. The number of toilets required shall be in accordance with USA Standard Safety Code for Building Construction or other local requirements, except that there shall be at least two. Maintenance of the toilets shall occur twice weekly, or more frequently if needed to maintain sanitary conditions.
- E. Clean-Up: The Contractor shall at all times keep the site and structures or facilities thereon, free from accumulations of waste materials, debris, or rubbish. Upon the completion of each workday, the Contractor shall remove all tools, surplus materials, debris, and shall leave the Work "broom clean" or its equivalent.

- F. Shipping and Storage of Materials: The Contractor shall be responsible for the proper protection from damage, theft and loss of all materials and equipment prior to and following the incorporation thereof into the Work.
1. Materials and equipment shall be inspected by the Contractor and if found to be damaged or otherwise unsuitable shall be promptly replaced.
 2. Deliveries of materials and/or equipment to the site shall be scheduled so as not to allow the storage of materials or equipment on the site for more than ten (10) days prior to their incorporation into the Work, without prior written approval of the Architect.
 3. The Contractor shall exercise caution in temporarily loading materials on floors, decks, roofs, etc. It shall be the Contractor's responsibility to determine the size of loads to be imposed and the adequacy of the affected structure to support such loads. The Contractor shall correct, at no additional cost to the Owner, any resultant damages.
- G. Clean-Up: The Contractor shall at all times keep the site and structures or facilities thereon, free from accumulations of waste materials, debris, or rubbish. Upon the completion of each workday, the Contractor shall remove all tools, surplus materials, debris, and shall leave the Work "broom clean" or its equivalent. All trash and rubbish shall be removed and legally disposed of off-site, by the Contractor and at the Contractor's expense.
1. No rubbish shall be allowed to accumulate or be allowed to remain on the premises or job site beyond three (3) days. Trash (glass, paper and plastic waste etc.) shall be removed daily.
 2. Care shall be taken by all workers not to mark, soil or otherwise deface finishes. In the event that any finishes become defaced in any way, the Contractor shall clean and restore such surfaces to their original condition, or replace them if so required by the Architect.

1.9 PROJECT RECORD DOCUMENTS

- A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to project Record Documents for Owner's and Architect's reference during normal working hours.
- B. Record Drawings: Maintain and submit one set of blue- or black-line white prints of Contract Drawings and Shop Drawings.
1. Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
 - b. Accurately record information in an understandable drawing technique.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

- d. Mark Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings.
 2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
 3. Mark important additional information that was either shown schematically or omitted from original Drawings.
 4. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
 5. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.
- C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Note related Change Orders, Record Drawings, and Product Data, where applicable.
- D. Record Product Data: Submit one copy of each Product Data submittal. Mark one set to indicate the actual product installation where installation varies substantially from that indicated in Product Data.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 3. Note related Change Orders, Record Drawings where applicable.
- E. Miscellaneous Record Submittals: Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- F. Refer to Chapter 5, Division 01, Section 017700 for additional information.
- 1.10 OPERATION AND MAINTENANCE DATA
- A. Operation and Maintenance Documentation Directory
1. Organization: Include a section in the directory for each of the following:

- a. List of documents.
 - b. List of systems.
 - c. List of equipments.
 - d. Table of Contents.
2. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
 3. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
 4. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.
 5. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."
- B. Requirements for Emergency, Operation, and Maintenance Manuals
1. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 - a. Title page.
 - b. Table of contents.
 - c. Manual contents.
 2. Title Page: Include the following information:
 - a. Subject matter included in manual.
 - b. Name and address of Project.
 - c. Name and address of Owner.
 - d. Date of submittal.
 - e. Name and contact information for Contractor.
 - f. Name and contact information for Construction Manager.
 - g. Name and contact information for Architect.
 - h. Name and contact information for Commissioning Agent.
 - i. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
 - j. Cross-reference to related systems in other operation and maintenance manuals.
 3. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

- a. If operation and maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
4. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- C. Operation and Maintenance Manuals: Assemble three complete sets of operation and maintenance data indicating the operation and maintenance of each system, subsystem, and piece of equipment not part of a system. Include operation and maintenance data required in individual Specification Sections and as follows:
 1. Operation Data:
 - a. Emergency instructions and procedures.
 - b. System, subsystem, and equipment descriptions, including operating standards.
 - c. Operating procedures, including startup, shutdown, seasonal, and weekend operations.
 - d. Description of controls and sequence of operations.
 - e. Piping diagrams.
 2. Maintenance Data:
 - a. Manufacturer's information, including list of spare parts.
 - b. Name, address, and telephone number of supplier and installer.
 - c. Maintenance procedures.
 - d. Maintenance and service schedules for preventive and routine maintenance.
 - e. Maintenance record forms.
 - f. Sources of spare parts and maintenance materials.
 - g. Copies of maintenance service agreements.
 - h. Copies of warranties and bonds.
 3. Organize operation and maintenance manuals into suitable sets of manageable size and in an orderly sequence based on the table of contents of the Project Manual. Bind and index data in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders in thickness necessary to accommodate contents, with clear overlay for front and spine inserts, and with pockets inside the covers to receive folded oversized sheets. Identify each binder on front and spine with inserts printed with "OPERATION AND MAINTENANCE MANUAL," project name, and subject matter of contents. Include in each volume a general table of contents for the entire set and a detailed table of contents for the individual volume. Provide tabs indexed to the table of contents for the individual volume.
- D. Refer to Chapter 5, Division 01, Section 017700 for additional information.

1.11 WARRANTIES

A. Guarantees and Warranties:

1. In accordance with the General Conditions, the Contractor shall guarantee the entire Work to be free from defective or improper work or materials, and shall make good any damage due to such work or materials for a term of one year from the date of the satisfactory completion and acceptance of the Work.
2. The commencement date for warranties and guarantees shall be established as indicated in the General Conditions. In addition, under no circumstances shall any warranty or guarantee for any individual or collective materials or items of equipment be established based upon shipment or delivery dates.
3. Extended guarantees or warranties shall be provided as specified elsewhere.
4. Submit warranty and guarantee documents organized in an orderly sequence based on the table of contents of the Project Manual.
 - a. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, with clear overlay for front and spine inserts, and sized to receive 8-1/2-by-11-inch (115-by-280-mm) paper. Identify binder on front and spine with inserts printed with "GUARANTEES AND WARRANTIES," project name, and Contractor's name and contact information.
 - b. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - c. Provide additional copies of each warranty to include in operation and maintenance manuals.
 - d. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

B. Refer to Chapter 5, Division 01, Section 017700 for additional information.

1.12 DEMONSTRATION AND TRAINING

A. Demonstration and Owner-Training: Instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.

1. Provide instructors experienced in operation and maintenance procedures.
2. Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.
3. Schedule training with Owner with at least seven days' advance notice.
4. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.
5. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections. For each training module, develop a learning objective and teaching outline. Include instruction for the following:
 - a. System design and operational philosophy.

- b. Review of documentation.
- c. Operations.
- d. Adjustments.
- e. Troubleshooting.
- f. Maintenance.
- g. Repair.

1.13 FINAL CLEANING

- A. Final Cleaning: Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions. Complete the following cleaning operations, as applicable depending on Project scope, before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
1. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 2. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 3. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 4. Remove tools, construction equipment, machinery, and surplus material from Project site.
 5. Remove snow and ice to provide safe access to building.
 6. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 7. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 8. Sweep concrete floors broom clean in unoccupied spaces.
 9. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 10. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 11. Remove labels that are not permanent.
 12. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 13. Clean and ensure full legibility of "UL" and similar labels, including mechanical and electrical nameplates.

14. Wipe surfaces of mechanical and electrical equipment, elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
15. Replace parts subject to unusual operating conditions.
16. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
17. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
18. Clean ducts, blowers, and coils if units were operated without filters during construction.
19. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
20. Leave Project clean and ready for occupancy.
21. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.
22. Construction Waste Disposal: Comply with waste disposal requirements in Chapter 5, Division 01, Section 01 7419.

1.14 CERTIFICATES AND INSPECTION REPORTS

- A. Prior to final inspection and final payment the contractor shall furnish and provide all necessary inspections and operating certificates required for each system and for the building in general. Certificates and inspection reports, along with engineer affidavits and architect's letter of substantial completion shall be bound in three loose leaf binders for presentation to the Authority Having Jurisdiction (AHJ) and the University prior to final walkthrough for the Certificate of Occupancy (CO).
- B. Certificate of Occupancy.
 1. Contractor is responsible for coordinating all inspections and final walkthrough for Certificate of Occupancy with the New Hampshire State Fire Marshal's Office.

END OF SECTION 01 1000

ATTACHMENTS:

Attachment A: Dig Safe – Utility Damage Prevention Program