

## **01014 Builder's Use of the Premises**

### PART 1 – GENERAL

#### 1.1 RELATED SECTIONS

- A. Documents affecting the work of this Section include other elements of the Contract for Construction, including the Owner/Builder Agreement or Owner/Design-Builder Agreement, the General Terms & Conditions, other sections of the Division 0 and Division 1 non-technical specifications, and the technical plans and specifications.
- B. Refer to section 01016 for information regarding utility outages and dig permits.
- C. Refer to section 01310 for requirements regarding the coordination of work with the University of Florida Schedule.
- D. Refer to section 01500 for requirements related to Temporary Facilities & Controls.

#### 1.2 DESCRIPTION OF WORK INCLUDED

This Section applies to situations in which the Builder or his representatives including, but not necessarily limited to, suppliers, subcontractors, employees, and field engineers, enter upon the Owner's property.

#### 1.3 QUALITY ASSURANCE

- A. Promptly upon award of the Contract, notify all pertinent personnel regarding requirements of this Section.
- B. Require that all personnel who will enter upon the University's property certify their awareness of and familiarity with the requirements of this Section.
- C. Builder shall strictly enforce a **No Smoking** policy within 50 feet of all University of Florida buildings on the Gainesville campus.

#### 1.4 TRANSPORTATION FACILITIES

- A. See section 01500 for information on the maintenance of safe and accessible paths of travel in and around the job site.
- B. Builder's Vehicles:
  - 1. Require Builder's vehicles, vehicles belonging to employees of the Builder, and all other vehicles entering upon the Owner's property in performance of the Work of the Contract, to use only agreed upon Access Route.

2. All vehicles parked on campus (including construction sites) must have a valid parking permit issued through Transportation and Parking Services in accordance with University of Florida Police Department (UFPD) requirements. Permits – both for offsite and approved onsite parking – shall be requested through the University Project Manager.
3. Within the University approved fenced-in construction site area, the Builder shall manage all site use, including approved parking by construction staff and employees. Do not permit vehicles to park on any street or other area of the Owner's property except in areas designated by the University.
4. Outside the designated construction site area, all University regulations regarding parking and accommodations for pedestrian use shall be strictly enforced.
5. Exceptions for temporary parking for construction delivery and construction access on curb side, walkways, vehicular parking, roadways and service drives that restricts or impedes normal traffic flow or use must be obtained from UF Transportation & Parking Services through the University Project Manager. This exception is granted only for construction vehicles, not for private passenger vehicles. Any temporary use of pedestrian pathways that exceeds 24 hours duration will require provision for equal alternate pathways around the impediments and UFPD review. In addition, any temporary use of the site (exceeding 24 hours duration) that impedes building occupant egress must be reviewed by UF Environmental Health & Safety (EH&S).
6. The University Project Managers shall not seek waivers of any sort for ticketed and towed vehicles in violation of the University parking regulations. Knowledge of the University Parking Regulations is the personal responsibility every individual who commutes to and works on campus.
7. Provide adequate protection for curbs and sidewalks over which trucks and equipment must pass to reach the job site.

#### 1.5 INSPECTIONS and TESTS

- A. Physical Plant Division (PPD) inspections shall be requested 48 hours in advance through PPD Operations Engineering. The inspection request form and supporting checklists can be found on the “Forms & Standards” page of the Facilities Planning & Construction website ([www.facilities.ufl.edu](http://www.facilities.ufl.edu)). Inspection checklists shall be tailored by the Owner and Builder to the specific requirements of the project.
- B. Environmental Health & Safety (EH&S) inspections shall be requested 24 hours in advance. Also see section 01060.

- C. Office of Information Technology (OIT): Contact Telecommunications and Infrastructure (TNI) 24-48 hours in advance to request inspections for all telecom, cabling, and network infrastructure work. The inspection checklist – with notification timeframes and contact information – can be found on the “Forms & Standards” page of the Facilities Planning & Construction website ([www.facilities.ufl.edu](http://www.facilities.ufl.edu)).
- D. Office of Academic Technology (OAT): Where applicable, contact OAT 48 hours or more in advance to request inspections for all work related to classroom audio/visual systems. The inspection checklist – with notification timeframes and contact information – can be found on the “Forms & Standards” page of the Facilities Planning & Construction website ([www.facilities.ufl.edu](http://www.facilities.ufl.edu)).
- E. University of Florida Police Department (UPD): UPD must verify construction fencing, exterior lighting, landscaping, and other items during construction and closeout. The UPD checklist – with notification timeframes and contact information – can be found on the “Forms & Standards” page of the Facilities Planning & Construction website ([www.facilities.ufl.edu](http://www.facilities.ufl.edu)).
- F. State Fire Marshal inspections – see section 01060.
- G. State Elevator Inspector inspections – see technical specification ([insert 14xxx section number](#)).
- H. Architect / Engineer inspections – ([to be completed by A/E](#))
- I. Tests
  1. The Builder shall notify PPD and EH&S of all scheduled tests at least 48 hours in advance.
  2. Properly completed test reports shall be provided at the conclusion of each test. It is the responsibility of the Builder to maintain such reports through Final Completion, at which point they shall be submitted with other closeout materials, such as Operation & Maintenance manuals.

## 1.6 SECURITY

- A. Restrict the access of all persons entering upon the Owner's property in connection with the Work to the access route and to the actual site of the Work.
- B. Restrict activities of employees to authorized areas. Employees shall not be allowed to mingle in student or public areas.
- C. The Builder shall at all times guard against damage or loss to the property of the University or other vendors or contractors and shall be held responsible for replacing or repairing any such loss or damage. The University may withhold

payment or make such deductions as deemed necessary to insure reimbursement or replacement for loss or damaged property through negligence of the successful bidder or his agents. Replace any trees, shrubs, lawns, or plantings damaged by Builder or its subcontractors or vendors during work of this project within two (2) weeks of occurrence. Grassed areas generally have irrigation systems below grade; verify location of these systems and all underground utilities in work or staging areas prior to start of construction. Repair utilities damaged by work of this project.

- D. For renovations or additions to existing buildings, the Builder shall provide identification tags with photos for all personnel working on the site and shall require continuous use (wearing) of same at all times.

PM: Consider badging for stand-alone new construction projects in certain instances or locations (P.K. Yonge, e.g.)

#### 1.7 UNIVERSITY of FLORIDA POLICE DEPARTMENT (UFPD) REQUIREMENTS

The following requirements are to be met by Builders and their subcontractors and vendors while engaged in construction projects at the University of Florida. Any construction site located on the University of Florida campus comes under the jurisdiction of the UFPD. Any incident requiring police service should be reported to the UFPD immediately (352-392-1111).

- A. All employers are prohibited from allowing employees to work on campus who have been convicted of violent crimes.
- B. Construction employers are required to take adequate measures to ensure that the employees they send to work on campus are not wanted for criminal offenses.
- C. All Builders who employ Work Release Program employees shall be listed with the UFPD.
- D. All Builders are to provide the UFPD with a list of the names and telephone numbers of supervisors in charge of construction at the site.
- E. Construction firms and employees are to park their business and personal vehicles in authorized areas only.
- F. Parking permits are required for all personal and business vehicles.
- G. When Builders are fencing allotted compounds the responsible person should contact the UFPD for special requirements prior to fencing completion. See Section 01500 for specific requirements related to signage and fencing.

- H. Employees are not permitted to enter University buildings unless it is directly related to their job duties and must remain on job sites.
- I. Builders and employees are to obey all laws as well as rules of the University of Florida when they are on University property.
- J. Students, Faculty, and Staff of the University of Florida are not to be disturbed or in anyway disrupted in their lawful pursuits. Construction employees are to refrain from any unsavory or unwanted comments towards students, particularly female students.
- K. Builders and employees are requested to secure all property as much as feasible to reduce theft or damage to equipment or property. Builders are expected to work with the UFPD and participate in Crime Prevention efforts.
- L. Each Builder is to advise the UFPD if they cater food to be delivered to the construction site for employees. A copy of the contract shall be provided to the UFPD.
- M. Construction companies are required to submit the names and dates of birth of all employees – **including temporary “day laborers”** – to the University of Florida Police Department (c/o Special Events Coordinator), Building 27, UFPD, Museum Road, Gainesville, FL 32611 (fax 352-392-0539). Periodic updates are required as employees are employed or terminated.

## 1.8 WORK HOURS

- A. Regular work hours shall be between 7:00 AM and 5:00 PM, Monday through Friday, excluding holidays.
- B. Work outside these hours must be requested in writing and approved by the Owner.
- C. [other project-specific direction on work hours](#)

## 1.9 HOME FOOTBALL GAME WEEKENDS

- A. Approximately 100,000 people converge upon the campus on each of 6-7 Fall weekends for Gator football games. To safeguard both the public and the Work, jobsites on campus shall be secured, left clean, and free of safety hazards by 4:00 PM Friday on such weekends, with no work taking place on or around the site until Monday morning.

- B. See [www.gatorzone.com](http://www.gatorzone.com) for the football game schedule and incorporate these dates into the construction schedule.
- C. The Builder may request special exceptions to this policy with written justification at least one week in advance, but the Owner is under no obligation to approve such requests.

#### 1.10 PRE-CONSTRUCTION MEETING

- A. Prior to commencing Work at the site, the Builder shall attend a pre-construction conference with the University Project Manager, the Design Professional(s), other UF officials, and external agency representatives, if applicable (such the District Engineer on a Federally-funded project).
- B. Builder attendees shall include all field staff (project manager, superintendent(s), project engineer(s), and clerical assistants), plus major trade subcontractors as directed by the University Project Manager.
- C. The parties will discuss the administrative, logistic, fiscal, and procedural requirements for the Work, and for work in general at the University of Florida.
- D. The template agenda for the meeting shall be provided by the University Project Manager, who shall also arrange for attendance by other UF officials and outside agencies, if any. The Builder shall record and distribute minutes.

**END OF SECTION**

## 01016 Utilities Outages and Dig Permits

### PART 1 – GENERAL

#### 1.1 RELATED SECTIONS

- A. Documents affecting the work of this Section include other elements of the Contract for Construction, including the Owner/Builder Agreement or Owner/Design-Builder Agreement, the General Terms & Conditions, other sections of the Division 0 and Division 1 non-technical specifications, and the technical plans and specifications.
- B. Refer to Section 01310, Construction Schedule for related requirements regarding the coordination of utility outages with the University of Florida Schedule.

#### 1.2 UTILITIES OUTAGES

- A. Planned utility outages are occasionally required for repairs, maintenance or construction. In order to avoid unexpected inconveniences, property damage, safety hazards, or loss of information or research, the Physical Plant Division (PPD) has instituted a utility outage notification system.
- B. When the Work requires an outage, the Builder shall submit – at least five (5) work days in advance – a written request to PPD via the University Project Manager on an Owner-furnished form. Outages shall not proceed until authorized by PPD.
- C. Utility outages will be performed by PPD Systems personnel, at no cost to the Builder. The project will pay the applicable costs. However, the costs associated with an outage that becomes necessary to correct deficient work performed during a previous outage will be back-charged to the Builder. Contact PPD Operations Engineering (Telephone: 392-5050) as necessary to determine these costs.
- D. Unplanned utility outages occur on occasion as the unwelcome result of repair, maintenance, or construction activities. Report all unplanned utility outages immediately to the PPD Work Management Center (Telephone: 392-1121) and to the University Project Manager.
- E. Advance notification of between 14 and 30 calendar days must be provided to the Health Science Center, Department of Housing, and IFAS for significant outages effecting facilities operated by those entities.

#### 1.3 DIG PERMITS

- A. All trenching, excavation, digging operations, or other penetration of the ground within the confines of the University campus or in any area for which the

University has responsibility, requires the Builder to obtain a Dig Permit, PPD Form 611, which can be retrieved from the PPD website at [www.ppd.ufl.edu](http://www.ppd.ufl.edu).

- B. The person, Builder, agency, or organization that will be performing the trenching, excavation, digging, or other ground-penetrating activity is responsible for requesting and obtaining permission to perform that activity.
- C. All Dig Permits shall be applied for 72 hours prior to the start of any work that penetrates the ground. Dig Permit applications shall be completed at PPD, Building 702.
- D. Sunshine State One-Call (800-432-4770) shall be utilized for utilities owned by others, including BellSouth, Cox Cable, and Gainesville Regional Utilities (GRU).

**END OF SECTION**

## 01060 Regulatory Requirements

### PART 1 – GENERAL

#### 1.1 RELATED SECTIONS

- A. Documents affecting the work of this Section include other elements of the Contract for Construction, including the Owner/Builder Agreement or Owner/Design-Builder Agreement, the General Terms & Conditions, other sections of the Division 0 and Division 1 non-technical specifications, and the technical plans and specifications.

#### 1.2 BUILDING CODE ENFORCEMENT PROGRAM

- A. Florida statutes (240.209 and 553.80(6) F.S.) and associated regulations (Rule 6C-14020(2) F.A.C.) assign responsibility to the State University System for building code enforcement during building construction and renovation at State universities. At the University of Florida, the Environmental Health and Safety Division (EH&S) has been assigned the responsibility to implement and administer the Building Code Permit and Inspection Program. Program compliance requires that construction plans and specifications be submitted for review by the Building Code Administrator (EH&S) and that construction not begin on the project until a building permit has been issued.
- B. A more complete description of the University of Florida's Building Code Enforcement Program may be obtained from the University's Building Code Administrator.

EH&S Building Code Enforcement  
Building 179, P.O. Box 112200, Gainesville, FL, 32611-2200  
Phone: (352) 392-1904; Fax (352) 392-6367  
Internet: [www.ehs.ufl.edu](http://www.ehs.ufl.edu)

#### C. RESPONSIBILITIES

1. The Builder shall apply to the UF Division of Environmental Health & Safety for a building permit. At the time of application for a permit, the Builder shall provide two sets of signed and sealed construction documents and specifications, a list of all subcontractors with appropriate license numbers, and the "letter of code compliance" indicating the plans have been reviewed by EH&S and all outstanding items have been resolved. If a "letter of code compliance" has not been issued by EH&S, two copies of the final bid construction documents and specifications must accompany the application. A building permit will be issued after these items have been reviewed and approved by the Building Code Administrator. One of the submitted sets of plans and specifications will be returned with the building permit and shall be

stamped by EH&S stating "Reviewed for Code Compliance." This set of documents shall be kept on site for use by the inspectors.

2. When the Builder believes the project is complete, the Builder shall request that a certificate of completion or certificate of occupancy be issued.

### 1.3 STATE FIRE MARSHAL (SFM) INSPECTIONS

- A. In keeping State law (F.S. 633.085), the Division of State Fire Marshal will inspect UF projects during construction, renovation, or alteration – and prior to occupancy – to ascertain compliance with the uniform fire-safety standards.
- B. **Underground Fire Main Visit.** If applicable, this site visit is required before backfilling the open trench and covering the supply piping. The inspector will verify the underground installation is in compliance and witness the required pressure and flush test(s). Requests for these inspections go directly from the Builder to the onsite SFM inspector at least two work days prior to the desired date of inspection.
- C. Most projects will require two major SFM inspections, each of which shall be requested by the Builder at least two weeks prior to the desired date of inspection. The Builder shall make such request to the University Project Manager, who coordinates with EH&S to schedule the SFM inspections.
- D. The first inspection shall occur prior to the placement of any hard surface finishes, such as drywall, plaster, or hard ceilings, which would obscure any fire sprinkler piping and related products.
- E. A final inspection is required prior to building occupancy. In order for a final inspection to occur the following items must be complete:
  1. The fire alarm system is completely installed, tested, tagged, and certified in accordance with NFPA 72 requirements.
  2. The fire sprinkler system is complete and has been hydrostatically tested, flushed and tagged in accordance with NFPA 13.
  3. The fire pump installation is complete and the pump has been certified in accordance with NFPA 20 requirements.
  4. All emergency and exit lights have been installed and tested.
  5. All fire doors, required exit hardware, magnetic door locks, and latching hardware has been installed and is in proper working order.
  6. All required emergency signage shall be installed.

7. All portable fire extinguishers, pre-engineered fire suppression systems, and kitchen hoods have been installed and inspected by the installing subcontractor.

F. See the **State Fire Marshal Services Guide** under “Forms & Standards” on the Facilities Planning & Construction website ([www.facilities.ufl.edu](http://www.facilities.ufl.edu)) for more information.

#### 1.4 FLORIDA PRODUCT APPROVAL

As required by Florida Statutes, the Builder shall provide information on certain structural and building envelope products and components. See “Florida Product Approval Info Sheet” on the “Forms” page of the EH&S Building Code Enforcement website ([www.ehs.ufl.edu/buildcode](http://www.ehs.ufl.edu/buildcode)).

**END OF SECTION**

## 01310 Construction Schedules

### PART 1 – GENERAL

#### 1.1 RELATED SECTIONS

- A. Documents affecting the work of this Section include other elements of the Contract for Construction, including the Owner/Builder Agreement or Owner/Design-Builder Agreement, the General Terms & Conditions, other sections of the Division 0 and Division 1 non-technical specifications, and the technical plans and specifications.
- B. Refer to Section 01016, Utility Outages, for related requirements regarding the pre-planning of utility outages.
- C. Comply with pertinent provisions of Section (insert Submittals spec section #).

#### 1.2 QUALITY ASSURANCE

- A. Employ, if necessary, a scheduler who is thoroughly trained and experienced in compiling construction schedules, and in preparing and issuing periodic reports as required.

### PART 2 – PRODUCTS

#### 2.1 CONSTRUCTION ANALYSIS

- A. Graphically show by bar chart the order and interdependence of all activities necessary to complete the Work, and the sequence in which each activity is to be accomplished, as planned by the Builder in coordination with all subcontractors whose work is shown on the diagram.
- B. Highlight the “critical path” through the schedule to illustrate those inter-dependent activities that cannot be delayed without impacting the overall completion time.
- C. Builder shall coordinate the Work with the University of Florida schedule. The Work shall be scheduled and carried out such that the normal operations of the University are given first priority. This applies particularly to outages of utilities and restrictions of access. The University may require such construction operations to be executed outside of normal working hours and by overtime, weekend, and holiday working. It shall be the Builder's responsibility to provide for this in the Cost of Work.
- D. See Section 01014 for information on home football game restrictions, and account for same in the construction schedule.

- E. Incorporate commissioning requirements and milestones.
- F. Provide amplifying information as needed, such as reports on “float,” or as requested by the Owner or Professional.
- G. Project-specific schedule requirements: [\(insert as needed or state NONE\)](#)

**END OF SECTION**

## 01352 LEED Requirements

### PART 1 – GENERAL

#### 1.1 RELATED SECTIONS

- A. Documents affecting the work of this Section include other elements of the Contract for Construction, including the Owner/Builder Agreement or Owner/Design-Builder Agreement, the General Terms & Conditions, other sections of the Division 0 and Division 1 non-technical specifications, and the technical plans and specifications.
- B. Divisions 1 through 16 Sections for LEED requirements specific to the work of each of these Sections. Requirements may or may not include reference to LEED.

#### 1.2 SUMMARY

- A. Seeking high performance, energy-efficient, and sustainable buildings, the University of Florida utilizes Leadership in Energy and Environmental Design (LEED) criteria as developed by the U.S. Green Building Council (USGBC) for the design and construction of all major construction and renovation projects.
- B. The LEED program provides a complete framework for assessing building performance and meeting sustainability goals, with a specific focus on strategies for site development, water savings, energy efficiency, material selections, and indoor environmental quality.
- C. This section includes general requirements and procedures for compliance with certain LEED prerequisites and credits needed for Project to obtain LEED **GOLD** certification based on LEED-NC, Version 2009 or the LEED-NC Application Guide for Multiple Buildings and On-Campus Building Projects.
  - 1. Prerequisites and credits needed to obtain LEED certification depend on material selections and may not be specifically identified as LEED requirements. Compliance with requirements needed to obtain LEED prerequisites and credits may be used as one criterion to evaluate substitution requests and comparable product requests.
  - 2. Prerequisites and credits needed to obtain the indicated LEED certification depend on Architect's design and other aspects of Project that are not part of the Work.
  - 3. Owner shall register the project with, apply for certification to, and pay all registration and certification fees owed to, the USGBC.

4. Builder shall assign a representative – preferably a LEED-Accredited Professional – to serve as the primary point of contact, “champion,” and coordinator of all construction-phase LEED certification efforts by the builder and its subs.
5. Builder shall participate in LEED coordination meetings with the Owner and design professional(s) monthly during construction, or as needed.
6. Builder shall review LEED requirements, milestones, and action items with its sub-contractors during the weekly sub-contractors meeting.
7. Failure to provide timely submittals related to LEED certification may result in additional retainage being withheld.
8. Builder shall compile, document, calculate, and otherwise complete all construction-related LEED documentation prior to Owner’s determination of project Final Completion. This includes providing (uploading) electronic copies of LEED-related submittals, reports, and other documents via the USGBC website as needed to certify construction-phase credits.

### 1.3 DEFINITIONS

- A. Chain-of-Custody Certificates: Certificates signed by manufacturers certifying that wood used to make products was obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship." Certificates shall include evidence that manufacturer is certified for chain of custody by an FSC-accredited certification body.
- B. Forest Stewardship Council (FSC – [www.fscus.org](http://www.fscus.org)): Non-profit organization devoted to encouraging the responsible management of the world’s forests.
- C. LEED: Leadership in Energy & Environmental Design. [www.usgbc.org](http://www.usgbc.org)
- D. Rapidly Renewable Materials: Materials made from plants that are typically harvested within a 10-year or shorter cycle. Rapidly renewable materials include products made from bamboo, cotton, flax, jute, straw, sunflower seed hulls, vegetable oils, or wool.
- E. Regional Materials: Materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles (800 km) of Project site. If only a fraction of a product or material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value.

- F. Regionally Manufactured Materials: Materials that are manufactured within a radius of 500 miles (800 km) from Project site. Manufacturing refers to the final assembly of components into the building product that is installed at Project site.
- G. Regionally Extracted and Manufactured Materials: Regionally manufactured materials made from raw materials that are extracted, harvested, or recovered within a radius of 500 miles (800 km) from Project site.
- H. Recycled Content: The percentage by weight of constituents that have been recovered or otherwise diverted from the solid waste stream, either during the manufacturing process (pre-consumer), or after consumer use (post-consumer).
  - 1. "Post-consumer" material is defined as waste material generated by households or by commercial, industrial, and institutional facilities in their role as end users of the product, which can no longer be used for its intended purpose.
  - 2. "Pre-consumer" material is defined as material diverted from the waste stream during the manufacturing process. Specifically, discarded materials from one manufacturing process that are used as constituents in another manufacturing process. Excluded is reutilization of materials such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it.
  - 3. Spills and scraps from the original manufacturing process that are combined with other constituents after a minimal amount of reprocessing for use in further production of the same product are not recycled materials.
  - 4. Recycled content value is determined by multiplying the recycled fraction of the assembly (by weight) by the cost of assembly.

#### 1.4 SUBMITTALS

- A. General: Submit additional LEED submittals required by other Specification Sections.
- B. LEED submittals are in addition to other submittals. If submitted item is identical to that submitted to comply with other requirements, provide duplicate copies as a separate submittal to verify compliance with indicated LEED requirements.
- C. Material Safety Data Sheets:
  - 1. Provide MSDS data where indicated and when requested by the Architect.

- D. Project Materials Cost Data: Provide statement indicating total cost for materials used for Project. Costs exclude labor, overhead, and profit. Include breakout of costs for the following categories of items:
1. Fixed/permanent furnishings
  2. Plumbing
  3. Mechanical
  4. Electrical
  5. Specialty items such as elevators and equipment
  6. Wood-based construction materials
- E. LEED Action Plans: Provide preliminary submittals within 30 days of date established for the Notice to Proceed indicating how the following requirements will be met:
1. Credit MR 2.1 and Credit MR 2.2: Waste management plan complying with Division 1 Section "Construction Waste Management."
  2. Credit MR 4.1 and Credit MR 4.2: List of proposed materials with recycled content. Indicate cost, post-consumer recycled content, and pre-consumer recycled content for each product having recycled content.
  3. Credit MR 5.1 and Credit MR 5.2: List of proposed regional materials. Identify each regional material, including its source, cost, and the fraction by weight that is considered regional.
  4. Credit MR 5.1 and Credit MR 5.2: List of proposed regionally manufactured materials and regionally extracted and manufactured materials.
    - (a) Identify each regionally manufactured material, including its source and cost
    - (b) Identify each regionally extracted and manufactured material, including its source and cost
  5. Credit MR 6 and MR 7: List of proposed certified wood products. Indicate each product containing certified wood, including its source and cost of certified wood products.
  6. Credit EQ 3 and EQ 3.1: Construction indoor-air-quality management plan. See section 3.3 and Division 15 spec [15xxx](#).
- F. LEED Progress Reports: Concurrent with each Application for Payment, submit reports comparing actual construction and purchasing activities with LEED action plans for the following:
1. Credit MR 2.1 and Credit MR 2.2: Waste management/reduction

2. Credit MR 4.1 and Credit MR 4.2: Recycled content
3. Credit MR 5.1 and Credit MR 5.2: Regional materials
4. Credit MR 5.1 and Credit MR 5.2: Regionally manufactured materials and regionally extracted and manufactured materials
5. Credit MR 6 and MR 7: Certified wood products

G. LEED Documentation Submittals:

1. Credit MR 2.1 and Credit MR 2.2: Comply with Section 01505.
2. Credit MR 4.1 and Credit MR 4.2: Product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content. Include statement indicating costs for each product having recycled content.
3. Credit MR 5.1 and Credit MR 5.2: Product data for regional materials indicating location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement indicating cost for each regional material and the fraction by weight that is considered regional.
4. Credit MR 5.1 and Credit MR 5.2: Product data indicating location of material manufacturer for regionally manufactured materials. Include statement indicating cost for each regionally manufactured material and for each regionally extracted and manufactured material.
  - (a) Include statement indicating distance from manufacturer to Project for each regionally manufactured material.
  - (b) Include statement indicating location of and distance from Project to point of extraction, harvest, or recovery for each raw material used in regionally extracted and manufactured materials.
5. Credit MR 6 and MR 7: Product data and chain-of-custody certificates for products containing certified wood. Include statement indicating cost for each certified wood product.
6. Credit EQ 3 and EQ 3.1:
  - (a) Construction indoor-air-quality management plan.
  - (b) Product data for temporary filtration media.

- (c) Product data for filtration media used during occupancy.
  - (d) Construction Documentation: Provide 18 photographs – six photographs taken on three different occasions during construction – along with a brief description of the SMACNA approach employed, documenting implementation of the indoor-air-quality management measures, such as protection of ducts and on-site stored or installed absorptive materials.
7. Credit EQ 4.1: Product MSDS data for adhesives and sealants used inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L calculated according to the current LEED-NC reference guide.
  8. Credit EQ 4.2: Product MSDS data for paints and coatings used inside the weatherproofing system indicating chemical composition and VOC content of each product used. Indicate VOC content in g/L calculated according to the current LEED-NC reference guide.
  9. Credit EQ 4.4: Product MSDS data for products containing composite wood or agrifiber products or wood glues indicating that they do not contain urea-formaldehyde resin.
  10. Credit MR 6 and MR 7: Certified wood products.

## PART 2 – PRODUCTS

### 2.1 RECYCLED CONTENT OF MATERIALS

- A. Credit MR 4.1 and Credit MR 4.2: Provide building materials with recycled content such that post-consumer recycled content plus one-half of pre-consumer recycled content constitutes a minimum of 20 percent of cost of materials used for Project.
  1. Cost of post-consumer recycled content of an item shall be determined by dividing weight of post-consumer recycled content in the item by total weight of the item and multiplying by cost of the item.
  2. Cost of pre-consumer recycled content of an item shall be determined by dividing weight of pre-consumer recycled content in the item by total weight of the item and multiplying by cost of the item.
  3. Do not include furniture, plumbing, mechanical and electrical components, and specialty items such as elevators and equipment in the calculation.

## 2.2 REGIONAL MATERIALS

- A. Credit MR 5.1 and Credit MR 5.2: Provide a minimum of 20 percent of building materials (by cost) that are regional materials.
- B. Credit MR 5.1: Provide a minimum of 10 percent of materials (by cost) that are regionally manufactured materials.
- C. Credit MR 5.2: Provide a minimum of 20 percent of materials (by cost) that are regionally extracted and manufactured materials.

## 2.3 CERTIFIED WOOD

- A. Credit MR 6 and MR 7: Provide a minimum of 50 percent (by cost) of wood-based materials that are produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."

- 1. Wood-based materials include, but are not limited to, the following materials when made from wood, engineered wood products, or wood-based panel products:

- (a) Rough carpentry
- (b) Miscellaneous carpentry
- (c) Metal-plate-connected wood trusses
- (d) Finish carpentry
- (e) Architectural woodwork
- (f) Wood lockers
- (g) Wood cabinets

## 2.4 LOW-EMITTING MATERIALS

- A. Credit EQ 4.1: For field applications that are inside the weatherproofing system, use adhesives and sealants that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D:

- 1. Wood Glues: 30 g/L.
- 2. Metal to Metal Adhesives: 30 g/L.
- 3. Adhesives for Porous Materials (Except Wood): 50 g/L.
- 4. Subfloor Adhesives: 50 g/L.

5. Plastic Foam Adhesives: 50 g/L.
6. Carpet Adhesives: 50 g/L.
7. Carpet Pad Adhesives: 50 g/L.
8. VCT and Asphalt Tile Adhesives: 50 g/L.
9. Cove Base Adhesives: 50 g/L.
10. Gypsum Board and Panel Adhesives: 50 g/L.
11. Rubber Floor Adhesives: 60 g/L.
12. Ceramic Tile Adhesives: 65 g/L.
13. Multipurpose Construction Adhesives: 70 g/L.
14. Fiberglass Adhesives: 80 g/L.
15. Contact Adhesive: 80 g/L.
16. Structural Glazing Adhesives: 100 g/L.
17. Wood Flooring Adhesive: 100 g/L.
18. Structural Wood Member Adhesive: 140 g/L.
19. Special Purpose Contact Adhesive (contact adhesive that is used to bond melamine covered board, metal, unsupported vinyl, Teflon, ultra-high molecular weight polyethylene, rubber or wood veneer 1/16 inch or less in thickness to any surface): 250 g/L.
20. Top and Trim Adhesive: 250 g/L.
21. Plastic Cement Welding Compounds: 250 g/L.
22. ABS Welding Compounds: 325 g/L.
23. CPVC Welding Compounds: 490 g/L.
24. PVC Welding Compounds: 510 g/L.
25. Adhesive Primer for Plastic: 550 g/L.
26. Plastic Cement Welding Compounds: 350 g/L.
27. ABS Welding Compounds: 400 g/L.
28. CPVC Welding Compounds: 490 g/L.
29. PVC Welding Compounds: 510 g/L.
30. Adhesive Primer for Plastic: 650 g/L.
31. Sheet Applied Rubber Lining Adhesive: 850 g/L.
32. Aerosol Adhesive, General Purpose Mist Spray: 65 percent by weight.
33. Aerosol Adhesive, General Purpose Web Spray: 55 percent by weight.
34. Special Purpose Aerosol Adhesive (All Types): 70 percent by weight.
35. Other Adhesives: 250 g/L.
36. Architectural Sealants: 250 g/L.
37. Nonmembrane Roof Sealants: 300 g/L.
38. Single-Ply Roof Membrane Sealants: 450 g/L.
39. Other Sealants: 420 g/L.
40. Sealant Primers for Nonporous Substrates: 250 g/L.
41. Sealant Primers for Porous Substrates: 775 g/L.
42. Modified Bituminous Sealant Primers: 500 g/L.
43. Other Sealant Primers: 750 g/L.

- B. Credit EQ 4.2: For field applications that are inside the weatherproofing system, use paints and coatings that comply with the following limits for VOC content

when calculated according to 40 CFR 59, Subpart D and the following chemical restrictions:

1. Flat Paints, Coatings, and Primers: VOC not more than 50 g/L.
2. Nonflat Paints, Coatings, and Primers: VOC not more than 150 g/L.
3. Anticorrosive and Antirust Paints Applied to Ferrous Metals: VOC not more than 250 g/L.
4. Clear Wood Finishes, Varnishes: VOC not more than 350 g/L.
5. Clear Wood Finishes, Lacquers: VOC not more than 550 g/L.
6. Floor Coatings: VOC not more than 100 g/L.
7. Shellacs, Clear: VOC not more than 730 g/L.
8. Shellacs, Pigmented: VOC not more than 550 g/L.
9. Stains: VOC not more than 250 g/L.
10. Flat Interior Topcoat Paints: VOC not more than 50 g/L.
11. Nonflat Interior Topcoat Paints: VOC not more than 150 g/L.
12. Anticorrosive and Antirust Paints Applied to Ferrous Metals: VOC not more than 250 g/L.
13. Clear Wood Finishes, Varnishes and Sanding Sealers: VOC not more than 350 g/L.
14. Clear Wood Finishes, Lacquers: VOC not more than 550 g/L.
15. Floor Coatings: VOC not more than 100 g/L.
16. Shellacs, Clear: VOC not more than 730 g/L.
17. Shellacs, Pigmented: VOC not more than 550 g/L.
18. Stains: VOC not more than 250 g/L.
19. Primers, Sealers, and Undercoaters: VOC not more than 200 g/L.
20. Dry-Fog Coatings: VOC not more than 400 g/L.
21. Zinc-Rich Industrial Maintenance Primers: VOC not more than 340 g/L.
22. Pretreatment Wash Primers: VOC not more than 420 g/L.
23. Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
24. Restricted Components: Paints and coatings shall not contain any of the following:
  - (a) Acrolein
  - (b) Acrylonitrile
  - (c) Antimony
  - (d) Benzene
  - (e) Butyl benzyl phthalate
  - (f) Cadmium
  - (g) Di (2-ethylhexyl) phthalate
  - (h) Di-n-butyl phthalate
  - (i) Di-n-octyl phthalate
  - (j) 1,2-dichlorobenzene
  - (k) Diethyl phthalate
  - (l) Dimethyl phthalate
  - (m) Ethylbenzene

- (n) Formaldehyde
- (o) Hexavalent chromium
- (p) Isophorone
- (q) Lead
- (r) Mercury
- (s) Methyl ethyl ketone
- (t) Methyl isobutyl ketone
- (u) Methylene chloride
- (v) Naphthalene
- (w) Toluene (methylbenzene)
- (x) 1,1,1-trichloroethane
- (y) Vinyl chloride

- C. Credit EQ 4.4: Do not use composite wood or agrifiber products or adhesives that contain urea-formaldehyde resin.

## PART 3 – EXECUTION

### 3.1 CONSTRUCTION WASTE MANAGEMENT

- A. Credit MR 2.1 and Credit MR 2.2: Recycle and/or salvage at least 50% of construction, demolition, and land-clearing waste (75% is preferred). Track and record waste streams by weight, and otherwise comply with Section 01505.

### 3.2 SITE DISTURBANCE

- A. Limit site disturbance – including earthwork and clearing of vegetation – to 40 feet beyond the building perimeter, 5 feet beyond primary roadway curbs, walkways and main utility branch trenches, and 25 feet beyond constructed areas with permeable surfaces.

### 3.3 INDOOR-AIR-QUALITY MANAGEMENT DURING CONSTRUCTION

- A. Credit EQ 3 and EQ 3.1: Develop and implement an Indoor Air Quality (IAQ) Management Plan to protect the HVAC system, control pollutant sources, and interrupt contamination pathways for the construction and pre-occupancy phases of the building.
  1. Meet or exceed the recommended approaches of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guideline for Occupied Buildings under Construction, 1995, Chapter 3.
  2. Sequence the installation of materials to avoid contamination of absorptive materials such as insulation, carpeting, ceiling tile and gypsum wall board.

3. Protect stored on-site or installed absorptive materials from moisture damage.
4. Control and remove contaminants on the work site, including dust, dirt, spills, and other accumulated moisture.
5. If air handlers must be used during construction, filtration media with a Minimum Efficiency Reporting Value (MERV) of 8 shall be used at each return air grill, as determined by ASHRAE 52.2-1999.
6. Replace all filtration media immediately prior to occupancy. Filtration media shall have a Minimum Efficiency Reporting Value (MERV) of 13, as determined by ASHRAE 52.2-1999 for media installed at the end of construction.
7. Provide 18 photographs (six photographs taken on three different occasions during construction), along with identification of the SMACNA approach featured by each photograph, in order to show consistent adherence to the protection requirements.

**END OF SECTION**

## **01500 Temporary Facilities and Controls**

### **PART 1 – GENERAL**

#### **1.1 RELATED SECTIONS**

- A. Documents affecting the work of this Section include other elements of the Contract for Construction, including the Owner/Builder Agreement or Owner/Design-Builder Agreement, the General Terms & Conditions, other sections of the Division 0 and Division 1 non-technical specifications, and the technical plans and specifications.
- B. Utility outages and dig permits are covered in Section 01016. Permanent installation and hookup of the utility lines are described in other sections.

#### **1.2 DESCRIPTION**

##### **A. WORK INCLUDED**

Provide temporary facilities and controls needed for the Work, including, but not necessarily limited to:

1. Temporary utilities such as water, electricity, and telephone;
2. Field offices and sanitary facilities for the Builder's personnel;
3. Enclosures such as tarpaulins, barricades, and canopies; traffic control and pedestrian control devices;
4. Erosion control measures; and
5. Directional and informational signage.

##### **B. WORK NOT INCLUDED**

1. Except for the requirement that equipment furnished by subcontractors shall comply with pertinent safety regulations, such equipment as normally furnished by the individual trades in execution of their own portions of the Work, is not part of this Section.
2. The permanent installation and hookup of utility lines are described in other sections and are not part of this Section except as related to the metered cost of such utilities once established.

#### **1.3 PRODUCT HANDLING**

Maintain temporary facilities and controls in proper and safe condition throughout progress of the Work.

#### 1.4 SUBMITTALS

- A. The Builder shall present a jobsite management plan in the form of a scaled, marked-up site plan for the Owner's review at or prior to the Pre-Construction Conference. This drawing shall identify, at a minimum:
1. Temporary fencing with gated point(s) of access
  2. Materials delivery & storage areas
  3. Field office or storage trailers
  4. Temporary accessibility features including paved or unpaved roads, sidewalks, bicycle paths, ramps, curb cuts, canopies, barricades, or other means of maintaining safe and ADA-accessible routes through or around the site
  5. Waste collection (dumpsters)
  6. Signage and striping
  7. Paths for emergency egress
  8. Onsite staff parking
  9. Tree protection
  10. Restricted access routes for vehicles and equipment belonging to the Builder and its subcontractors, vendors, and employees entering upon the UF Campus
- B. As construction progresses, the Builder shall identify any required disruptions or restrictions of roads, sidewalks, bicycle lanes, or other means of access. Approval for such disruptions shall be secured prior to scheduling related work by submitting a written request to the University project manager. This request shall be accompanied by a site sketch, start and end dates, an explanation of the reasons(s) for the request, and an illustration or description of the temporary controls to be used to maintain safe access. **THE FULL CLOSING OF VEHICULAR ROADS (i.e., all lanes) ON THE UF CAMPUS SHALL NOT BE PERMITTED.**
- C. A formal traffic control plan – including credentials of plan developer – shall be submitted for review when lane closures are anticipated. See paragraph 3.1 of this section.

### PART 2 – PRODUCTS

#### 2.1 TEMPORARY UTILITIES

##### **A. USAGE, ESTABLISHMENT, and COST**

1. **The Builder shall include in the Cost of Work both the installation of any temporary utilities and the (monthly) usage fees for same. This includes, but**

is not limited to: potable water for drinking and/or construction trailers; water for cleaning, construction, flushing, commissioning, and testing of plumbing and mechanical systems; convenience power for tools, lighting, and/or construction trailers; temporary power for construction and testing; telecommunications lines for phone, fax, or Internet service. Current PPD utility rates can be viewed at [www.ppd.ufl.edu/currentrates.htm](http://www.ppd.ufl.edu/currentrates.htm).

2. For use of University-owned utilities, the Builder shall establish a work order with billing account information, with PPD Work Management (392-1121).
3. Prior to beginning work that involves connections to the University's utilities systems, the Builder shall notify the PPD Utility Administration Department (392-1424) and coordinate with same to ensure a Meter Data Sheet is completed and submitted within 2 business days of the installation or removal of meter.

#### B. WATER

1. The point(s) of connection shall be designated by PPD.
2. A temporary potable water meter will be furnished by the PPD Utility Administration Department and installed by the Builder. Allow 14 days lead time for the Owner-furnished meter. The Builder shall furnish and install all necessary related accessories (CTs, compatible meter socket/can, etc.).
3. Furnish and install all necessary temporary piping and water supply and, upon completion of the Work, remove same.

#### C. ELECTRICITY

1. The point(s) of connection shall be designated by PPD.
2. A temporary electric meter will be furnished by the PPD Utility Administration Department and installed by the Builder. Allow 14 days lead time for the Owner-furnished meter. The Builder shall furnish and install all necessary related accessories (CTs, compatible meter socket/can, etc.).
3. Furnish and install all necessary temporary wiring and, upon completion of the Work, remove same.
  - (a) All temporary wiring provided by the Builder must conform to the requirements of the National Electric Code (NEC), the Industrial Safety Commission, and local requirements. In addition, all wire used shall be fused to adequately protect that wire according to the NEC.

- (b) The Builder shall have an adequate number of outlets and each outlet shall be properly and clearly labeled with the maximum voltage and fuse protection.
  - (c) Where temporary lighting is used, outlets shall consist of a weatherproof socket properly insulated and provided with a locking type wire guard.
  - (d) All devices shall be properly grounded.
4. Provide area distribution boxes located such that the individual trades may furnish and use extension cords 100 feet in length (maximum) to obtain power and lighting at points where needed for work, inspection, and safety.
  5. Temporary electric facilities shall be inspected and approved by PPD and EH&S prior to energizing.

D. TELEPHONE and INTERNET

1. The Builder shall make arrangements with the Office of Information Technology (OIT) or HealthNet – as applicable – or the local utility for temporary phone, fax, and/or Internet service lines.

E. SANITARY FACILITIES

1. Furnish and install temporary sanitary facilities for use by all construction personnel.
2. The Builder shall provide and maintain in a neat and sanitary condition such accommodations for the use of employees and subcontractors as may be necessary to comply with the regulations of the State Board of Health.
3. Unless expressly allowed by the Owner, existing sanitary facilities may not be used by construction personnel, subcontractors, or vendors.

2.2 PERMANENT (BUILDING) UTILITIES

Once permanent power, chilled water, and other permanent metered utilities are established, the cost of such utilities shall be borne by the Builder as a cost of the Work.

Utility services will not be provided until new meters are installed, certified to be operating properly by PPD, and accompanied by Meter Data Sheets.

2.3 FIELD OFFICES AND SHEDS

A. TRAILERS – Office and Storage

1. Provide stairs and railings as required by OSHA.

## 2.4 ENCLOSURES

- A. **GENERAL:** Provide and maintain for the duration of construction all scaffolds, tarpaulins, canopies, steps, platforms, bridges, and other temporary construction necessary for proper completion of the Work in compliance with pertinent safety and other regulations.
- B. **DUMPSTER ENCLOSURES:** For all projects requiring dumpsters, where the dumpster is located within the geographical area of campus bounded by SW 13th Street, West University Avenue, Gale Lemerand Drive, and Stadium Road, the dumpster shall be enclosed by a solid wooden fence installed around the entire perimeter. This fence shall be a minimum of 6' high and shall be constructed of vertical 1 x 6's on a 2 x 4 frame. Pre-fabricated sections are acceptable.
- C. **TREE PROTECTION:** See tree protection guidelines, Appendix I, University of Florida Construction Standards, Volume 1.

## 2.5 TEMPORARY FENCING

- A. Provide and maintain for the duration of construction a temporary fence to prevent entry of the public into the jobsite. Fencing shall be six-foot high sealed wood or chain link fencing with dark-colored inlaid fabric mounted on fixed posts of metal or wood for temporary parking and work area. Open trenches and other hazards shall be enclosed in a fixed wire fence or wooden barricades with flashing lights.
- B. Maintain the security and appearance of fencing throughout construction.

## 2.6 EROSION and SEDIMENTATION CONTROL

- A. The Builder shall develop a "Sedimentation and Erosion Control Plan" per the UF Design & Construction Standards (Appendix C).
- B. This plan shall be submitted for review and approval prior to beginning any onsite work or applying for dig permits.
- C. The Builder shall erect and maintain control measures as outlined in the plan throughout construction. Such measures may include gravel "wash-down stations" at jobsite entry and exit points, silt fencing, and temporary grass seeding.
- D. See Section [\(insert applicable Div. 2 spec section #\)](#) for more information.

## 2.7 SIGNAGE

- A. Install and maintain the appearance of the standard University of Florida Board of Trustees Project Sign in a location directed by the University Project Manager.
- B. Florida Statutes 812.014 and 810.09 require that construction fences be adorned with the following sign: "**WARNING** (*red on white*) - **This area is a designated construction site. Anyone trespassing on this property shall, upon conviction, be guilty of a felony.**" (*black on white*) Signs shall be approximately 14" x 18".
- C. The University of Florida Police Department (UFPD) requires the following anti-harassment notification be posted on each leg of the construction fence: **"In case of harassment from anyone at this construction site, telephone 392-1111 to notify the University of Florida Police Department."**
- D. Provide way-finding, directional, and other informational signage as needed to safely accommodate the public's need to pass around or through the Work. This shall include, as needed, directional assistance for ADA-compliant paths of travel throughout the duration of construction.
- E. No other signs or advertisements are permitted.

## 2.8 CLEANLINESS

The Builder shall keep the premises free from accumulation of waste material and rubbish, and shall remove from the premises all rubbish, implements, surplus materials, and temporary facilities provided during the course of the Work, leaving spaces broom clean.

## 2.9 OTHER

- A. Erect and maintain erosion control measures throughout construction.
- B. (add project-specific requirements as needed)
- C. (add project-specific requirements as needed)

## PART 3 – EXECUTION

### 3.1 INSTALLATION

- A. The Builder shall not mobilize and/or erect temporary facilities until the jobsite management plan has been reviewed and approved by the Owner.
- B. Prior to erection of fencing, the Builder shall review the proposed fencing plan onsite with the University Project Manager and representatives of EH&S, UFPD, and the Americans with Disabilities Act Office.

- C. Directional signage shall be installed simultaneously with fencing and/or temporary roads or paths.
- D. Traffic maintenance devices and procedures (signage, barricades and cones, flagmen, etc.) shall be per Florida Department of Transportation (FDOT) standards (2003 Edition, Manual on Uniform Traffic Control Devices (MUTCD), with Revision No. 1 Incorporated, dated November 2004). Work zone traffic control schemes and devices shall only be implemented or installed in the field by or under the direct supervision of a person who has satisfactorily completed the training requirements prescribed by FDOT Topic No: 625-010-010-f, "MAINTENANCE OF TRAFFIC TRAINING," Work Zone Traffic Control and Maintenance of Traffic Intermediate or Advanced Level as appropriate for the project. All flagmen shall have successfully completed the Work Zone Traffic Control and Maintenance of Traffic - Basic Level.

### 3.2 WEATHER PROTECTION

- A. Take necessary precautions to ensure that roof openings and other critical openings in the building are secured. Take immediate actions required to seal off such openings when rain or other detrimental weather is imminent, and at the end of each workday. Ensure that the openings are completely sealed off to protect materials and equipment in the building from damage.
- B. When a warning of gale force (or higher) winds is issued, take precautions to minimize danger to persons, and protect the work and nearby Owner property. Precautions shall include, but are not limited to, closing openings; removing loose materials, tools, and equipment from exposed locations; removing or securing scaffolding and other temporary work; and arranging for all dumpsters to be emptied.

### 3.3 MAINTENANCE AND REMOVAL

- A. Maintain temporary facilities and controls as long as needed for safe, compliant, and proper completion of the Work.
- B. Remove temporary facilities and controls as rapidly as progress of the Work will permit, or as directed by the Owner.

**END OF SECTION**

## 01505 Construction Waste Management

### PART 1 – GENERAL

#### 1.1 RELATED SECTIONS:

- A. Documents affecting the work of this Section include other elements of the Contract for Construction, including the Owner/Builder Agreement or Owner/Design-Builder Agreement, the General Terms & Conditions, other sections of the Division 0 and Division 1 non-technical specifications, and the technical plans and specifications.
- B. Comply with LEED requirements, if applicable. See specification section 01352.
- C. See the Physical Plant Division Solid Waste Management website at [www.ppd.ufl.edu/grounds-refuse.html](http://www.ppd.ufl.edu/grounds-refuse.html).

#### 1.2 HAZARDOUS SUBSTANCES

- A. The builder is responsible for proper management of hazardous substances used, stored, handled, generated, or disposed of by his own construction activities (e.g., excess or unwanted hazardous construction-related materials, including, but not limited to: equipment lubricants, used oil filters, aerosols, paints, activators, adhesives, caulks, and other hazardous wastes). In no case shall such construction hazardous waste be commingled with demolition hazardous waste. In no case shall such construction hazardous waste be commingled with non-hazardous construction or demolition waste.
- B. For renovation or demolition projects, hazardous wastes shall be segregated, collected, labeled, and disposed of via UF Environmental Health & Safety (EH&S). These include light fixture ballasts (PCB and non-PCB), mercury thermostats, and batteries. See [www.ehs.ufl.edu/HMM](http://www.ehs.ufl.edu/HMM).
- C. Evaluation, on-site storage, transportation, disposal and other aspects of Hazardous Waste Management shall comply with applicable Federal, State, and local laws.
- D. Refer to the General Terms & Conditions for requirements related to the discovery of environmental contamination, including, but not limited to, Hazardous Substances.

#### 1.3 SOLID WASTE MANAGEMENT PLAN, REPORTS, and LOGS

The University of Florida requires that its builders limit, to the extent practical, the disposal of construction site waste in landfills. Beyond the provisions for such work in

either the basic scope of work or bid alternates, the builder shall salvage materials for reuse, resale, or recycling to the maximum extent possible. Faculty and students from the UF School of Building Construction and the College of Design, Construction, and Planning may interact with the builder to facilitate, coordinate, and document such efforts and/or to conduct research. Additionally, each builder will:

- A. Provide for the management of construction and demolition waste through reuse, recycling and reduction methods. Typical designated waste streams include land clearing debris, concrete and masonry, metals and appliances, dimensional wood & lumber, wooden pallets, gypsum wallboard (unpainted), paper and cardboard, packaging, and asphalt roofing shingles. Depending on the project, other large volume wastes may be included (e.g., bricks, asphalt, carpeting and pad, plastic, glass, beverage containers).
- B. In accordance with LEED Credits MR 2.1 and MR 2.2, establish goals for the percentage of waste to be specially collected, segregated and sent for recycling or reuse. A minimum of 50% is required; greater than 75% is encouraged.
- C. Builder shall designate an on-site party responsible for implementing the plan and instructing workers, distributing plan to site foremen and each subcontractor, including the plan in worker orientation and safety meetings, and providing site instruction and supervision on separation, handling, and recovery methods.
- D. Builder shall submit a Construction Solid Waste Management Plan to the University Project Manager prior to mobilization. The plan shall be reviewed by the University Solid Waste Coordinator and shall include the following elements:
  - 1. Whether construction waste will be recycled or reused by source separation, time-based separation, or commingled for delivery to an off-site separation facility.
  - 2. The types of materials to be targeted for recycling and reuse, the projected volumes and fate of the materials. Identify materials that are recyclable or otherwise recoverable that must be disposed of in a landfill.
  - 3. The diversion goal indicating the percentage of waste to be diverted from land-filling or incineration.
  - 4. The facilities to be used, both landfills and recycling facilities, indicating which of the targeted wastes are to be received, projected volumes, and documentation of their permit status.
  - 5. Maintenance of a Construction Waste Log (dates, facility, transporter, weights) and a file of waste receipts for all wastes shipped off-site.

- E. Submit monthly progress reports that quantify the amount of material landfilled, the location/identity of the landfill, the amount of recycled and salvaged material, the date(s) removed from the job site, receiving party, cost, and final disposition of the material. Materials may be quantified by weight (tons) or volume (cubic feet), but quantification and reporting shall remain consistent throughout construction.
  
- F. Maintain onsite logs, including manifests, weight tickets, and receipts. Manifests shall be from recycling and disposal site operators who can legally accept the materials for the purpose of reuse, recycling, or disposal.

**END OF SECTION**

## **01700 Project Closeout**

### **PART 1 – GENERAL**

#### **1.1 RELATED SECTIONS:**

Documents affecting the work of this Section include other elements of the Contract for Construction, including the Owner/Builder Agreement or Owner/Design-Builder Agreement, the General Terms & Conditions, other sections of the Division 0 and Division 1 non-technical specifications, and the technical plans and specifications.

#### **1.2 CERTIFICATE OF OCCUPANCY**

Prior to occupancy of a new building, the Division of Environmental Health & Safety (EH&S) shall issue a Certificate of Occupancy. The certificate of occupancy will state the building is complete, constructed in accordance with the plans and specifications, and meets the minimum code requirements at the time of issuance of the building permit. The State Fire Marshal and other University entities must inspect and certify the building is substantially complete prior to occupancy of the structure.

#### **1.3 SUBSTANTIAL COMPLETION**

Separate and distinct from completion requirements related to life safety and building codes is the contractual obligation to achieve Substantial Completion on or before the specified date. Refer to the “Construction Inspection and Closeout” link under “Forms & Standards” on the Facilities Planning & Construction website ([www.facilities.ufl.edu](http://www.facilities.ufl.edu)). Checklists and forms related to closeout shall be tailored by the Owner and design professional (A/E) to the specific needs of the project.

#### **1.4 O&M MANUALS**

Operation & Maintenance (O&M) manuals shall be provided in (draft) hard copy form to the Owner, design professionals (A/E), and commissioning consultant(s) for review and approval prior to Owner training. Final and complete versions of the O&M manuals shall be provided in electronic (searchable PDF) format to the Owner prior to Final Completion.

#### **1.5 OWNER TRAINING**

Training on building systems, as outlined in the technical specifications, shall be completed prior to Substantial Completion, at which point the Owner assumes the responsibility for operation and maintenance. Such training shall be conducted with the (draft) O&M manuals in hand – preferably in conjunction with commissioning activities – and shall be videotaped and turned over to the Owner in MPEG format.

1.6 ATTIC STOCK

Coordination of the physical storage location of “attic stock” items shall be made with PPD Facilities prior to Substantial Completion, and the items and quantities of same (as outlined in the technical specifications) shall be on hand as a requirement of Substantial Completion.

1.7 PROJECT-SPECIFIC CLOSEOUT REQUIREMENTS

(insert project-specific closeout requirements or write NONE)

**END OF SECTION**

## 01800 General Commissioning Requirements

*Notes to PM, Professional, and Cx Consultant:*

- 1. This template shall be tailored by the Commissioning Consultant as needed for the specific project, particularly those passages written in blue font.*
- 2. Delete this "text box" and any other prompts or notes-to-author prior to finalization of this specification.*

### PART 1 – GENERAL

#### 1.1 RELATED SECTIONS and DOCUMENTS

- A. Documents affecting the work of this Section include other elements of the Contract for Construction, including the Owner/Builder Agreement or Owner/Design-Builder Agreement, the General Terms & Conditions, other sections of the Division 0 and Division 1 non-technical specifications, and the following technical plans and specifications:
- Division 3 – Concrete
  - Division 4 – Masonry
  - Division 7 – Thermal and Moisture Protection
  - Division 8 – Doors and Windows
  - Division 9 – Finishes
  - Division 15 – Plumbing
  - Division 15 – Mechanical
  - Division 16 – Electrical
  - Division 17 – Telecommunications
  - Division 18 – Building Automation, Audio/Visual (A/V), Security, Access Control
- B. A project-specific Commissioning Plan is typically developed upon completion of the submittal and shop drawing process, but a template/example Commissioning Plan may be made available to bidders upon request.

#### 1.2 DEFINITIONS

- A. **Acceptance Phase:** Phase of construction after startup and initial checkout when FPT, O&M documentation review, and facility and user training occurs.
- B. **Basis of Design (BOD):** Documentation of the primary assumptions and rationale behind design decisions that are made to meet the Owner's intent and project requirements. The BOD describes the assumptions used for sizing and selecting systems and components; site and environmental conditions or constraints; and other factors that led to decisions (e.g., codes, standards, operating conditions, functional goals, interior environmental criteria).

- C. **Building Envelope:** The assembly of floor, wall/skin, and roof system components that are designed and intended to reduce the transfer of thermal energy and water vapor and to help eliminate water intrusion.
- D. **Commissioning (Cx):** (*per the National Conference on Building Commissioning*) A systematic process of assuring by verification and documentation, from the design stage to a minimum of one year after construction, that facility systems perform interactively in accordance with the design documentation and intent, and in accordance with the owner's operational needs, including preparation of operation personnel.
- E. **Commissioning Consultant (CC):** The professional consultant responsible to UF for facilitating the Cx program, directing/coordinating day-to-day Cx activities, and verifying that the design intent of the facility is satisfactorily achieved.
- F. **Commissioning Plan (CP):** The project-specific document prepared by the CC that describes all aspects of the commissioning process including roles & responsibilities, documentation requirements, and communication structures. At least two CPs shall be developed – one for building envelope systems and one for MEP systems.
- G. **Deferred FPT:** FPT performed after Substantial Completion due to conditions that preclude the test from being performed in normal sequential order of project delivery.
- H. **Design Professional (A/E):** The team of design professionals responsible to the Owner for creating the Basis of Design and translating it into Construction Documents.
- I. **Functional Performance Test (FPT):** System-level test to verify integration, functionality, and/or operation using direct observation or other monitoring methods to assess system performance in comparison with the Basis of Design. The CC develops FPT procedures and coordinates, witnesses, and documents the testing, which is typically performed by the installing subcontractor or vendor after pre-functional checklists and start-ups are complete. *NOTE: FPTs are tailored to the actual equipment and products to be installed, so their development is contingent upon completion of the submittal review process.*
- J. **Construction Checklist (CL):** List of tasks and elementary component tests that must be completed to ensure proper installation of products and equipment. CLs – which are prepared by the CC, completed by the installing subcontractor or vendor, verified by the Builder, and reviewed by the CC – are primarily static inspections and procedures to prepare equipment or systems for initial operation, coordinated to represent the efforts of the Builder and all subcontractors. CLs shall include manufacturer startup checklists where applicable.

- K. **Systems Manual:** The Systems Manual provides operating staff information needed to understand and optimally operate commissioned MEPF (Mechanical, Electrical, Plumbing, Fire Protection) systems. The Systems Manual focuses on operation, rather than maintenance, at a systems level – particularly the interactions between equipment.

### 1.3 SUMMARY and DESCRIPTION OF WORK INCLUDED

- A. The University of Florida's use of commissioning recognizes the integrated nature of building systems and the importance of a waterproof building envelope in today's complex facilities. The performance of these systems impacts operating cost, efficiency and sustainability, indoor air quality, comfort and productivity in the workplace or classroom/lab, and security. The goal of commissioning is to help deliver facilities that meet or exceed expectations for these factors. Strategies include periodic direct observation of envelope system construction and operation of dynamic building systems through their full range of intended and failure-mode operation.
- B. The specific building systems to be commissioned on this project are:
- (1) BUILDING ENVELOPE (including masonry, curtainwall/storefront and glazing, exterior walls & cladding, flashings & sealants, exterior drainage systems, and roofing)
  - (2) PLUMBING (including domestic water, drainage systems, specialty gases)
  - (3) HVAC (including building entrance of distributed utilities, air handling units, terminal devices, general and hazardous exhaust systems, laboratory fume hoods, return air system, chillers, pumps, VFDs, cooling towers, boilers, heat exchangers, associated or supporting equipment, and TAB)
  - (4) ELECTRICAL (including motors, grounding, lighting controls, emergency power supply system, lighting protection system)
  - (5) LOW VOLTAGE (including DDC Building Automation System, security and access control, audio/visual)
  - (6) (other system to be commissioned, such as process utilities or house gases)
  - (7) (other system to be commissioned)

### 1.4 SUBMITTALS

- A. The CC shall be provided with one copy of all submittals, shop drawings, operation and maintenance (O&M) manuals, Test Adjust & Balance (TAB) reports, other tests conducted outside of the Cx process, and Owner training plans related to the systems being commissioned for review concurrent with the design professionals (A/E).
- B. The Builder shall provide documentation required for Cx activities to CC at least two work days in advance of scheduled Cx activity and include same in O&M manuals. Such project-specific documentation shall include manufacturer and model number of all equipment and components, manufacturer's printed

installation and detailed start-up procedures, full sequences of operation, O&M data, performance data, any performance test procedures, control drawings, startup plan(s), installation & checkout materials shipped inside equipment, and checkout forms used by factory or field technicians.

- C. See specification [01300](#) and the technical specifications for other submittal requirements.

## PART 2 – PRODUCTS

### 2.1 TEST EQUIPMENT

- A. The Builder or its subcontractors shall provide all specialized tools, test equipment, and instruments required to execute startup, checkout, and FPT of systems and equipment.
- B. Test equipment shall be of sufficient quality and accuracy to test and/or measure system performance according to specified tolerances.
  - (1) Test instruments shall bear a valid NIST-traceable calibration stamp.
  - (2) Frequency of calibration shall be in accordance with applicable NEBB or AABC requirements.
  - (3) See the technical specifications for amplifying information.

### 2.2 [\(other Part 2 Cx requirements\)](#)

## PART 3 – EXECUTION

### 3.1 ROLES and RESPONSIBILITIES

- A. The CC shall:
  - (1) develop the CP(s);
  - (2) develop a spreadsheet-form itemized list of all products and equipment comprising the systems to be commissioned;
  - (3) review and respond to Cx-related Requests For Information concurrently with the A/E design professionals;
  - (4) review completed CLs, perform random verification of checklist items, and make recommendation to Owner to proceed with FPT;
  - (5) write, oversee execution of, and document FPTs;
  - (6) recommend acceptance of performance and functionality or remedial action and retesting;
  - (7) maintain and distribute lists of deficiencies and/or action items related to Cx activities;
  - (8) produce draft and final Cx reports;

- (9) plan, coordinate, and oversee periodic post-construction Cx testing, inspection, and troubleshooting – typically on a quarterly basis – during the 12-month “warranty” period following Substantial Completion; and
- (10) produce the Systems Manual.

B. The Builder and its subcontractors shall:

- (1) provide submittals and other documents as outlined below;
- (2) provide samples and/or mockups as required by the technical specifications;
- (3) verify installation, documenting via CLs as construction progresses;
- (4) perform equipment start-up;
- (5) verify the functional readiness of systems to be tested prior to scheduling FPTs;
- (6) schedule FPTs by submitting completed CLs;
- (7) conduct FPT in the presence of the CC;
- (8) troubleshoot and correct deficiencies;
- (9) perform FPT retests as needed (note: the costs for such retests, including those incurred by the CC, design A/E, and Owner, shall be borne by the Builder and not charged to the Owner);
- (10) coordinate Cx activities with Building Automation System work and/or other tests related to the systems being commissioned, such as HVAC Test & Balance, tests by factory representatives, or envelope-related tests;
- (11) finalize the products/equipment list drafted by the CC, augmenting the spreadsheet to indicate each component’s manufacturer and model/type, dates for submittal approval and startup, and other relevant information;
- (12) conduct Owner training.; and
- (13) participate in the post-construction Cx activities outlined above and perform corrective measures as required.

### 3.2 MEETINGS

- A. At least (two) onsite Cx kickoff meetings – one for building envelope systems and one for MEP systems – shall be conducted by the CC and Builder for the purpose of reviewing the purpose, extent, and procedures for commissioning with the Builder, its subcontractors, the design professionals (A/E), and the Owner. These kickoff meetings shall be held upon completion of the submittal review process.
- B. Other Cx meetings for coordination, clarification of requirements & procedures, or problem resolution shall be chaired by the CC and held periodically as determined by the CC. Attendance by the Builder and its subcontractors is mandatory.
- C. (insert other meeting requirements as needed)

### 3.3 SCHEDULE

- A. The Builder and its subcontractors shall account for startup, Cx activities, testing, and training in the schedule.
- B. As per the UF General Terms & Conditions, satisfactory completion of commissioning and training activities is a pre-requisite for overall project Substantial Completion.
- C. (insert other schedule notes or requirements as needed)

### 3.4 CONSTRUCTION CHECKLISTS (CLs)

- A. Pre-functional checklists provide a means to confirm that equipment and systems are completely installed, integrated with other building components and systems, and operational. They ensure that functional performance testing may proceed without unnecessary delays. Pre-functional testing for a given system must be successfully completed prior to functional performance testing of the equipment or subsystems of that given system.
- B. CC-specific or project-specific requirements or procedures
- C. CC-specific or project-specific requirements or procedures

### 3.5 FUNCTIONAL PERFORMANCE TESTS (FPTs)

- A. CC-specific or project-specific requirements or procedures
- B. CC-specific or project-specific requirements or procedures
- C. CC-specific or project-specific requirements or procedures

### 3.6 O&M MANUALS

- A. CC Review and Approval: Prior to Owner training and Substantial Completion, the CC will review the Operation and Maintenance (O&M) manuals, documentation, “redline” as-builts, and warranty information for all commissioned systems. Deficiencies will be communicated to UF and the A/E for consolidation with other review comments and resolution/correction by the Builder.
- B. CC-specific or project-specific requirements or procedures
- C. CC-specific or project-specific requirements or procedures

### 3.7 SYSTEMS MANUAL

- A. The CC facilitates and coordinates the development of the Systems Manual and its contents, but the A/E, Owner, Builder, and subcontractors shall actively participate in the development of this manual. Specific Builder and subcontractor deliverables and responsibilities include, but are not limited to:
  - (1) Equipment start-up, shutdown, and restarting instructions (*mechanical, BAS, and electrical subcontractors*).

- (2) As-built single-line diagrams for all commissioned systems (*mechanical, BAS, and electrical subcontractors*).
- (3) Record documents of Building Automation System, including Sequences of Operation, a list of as-built set points, descriptions of set point purpose(s), recommended adjustable ranges, and reset schedules (*BAS subcontractor*)
- (4) Building automation logic flow diagram or code flow diagram (*BAS subcontractor*).
- (5) Trending checklist with a list of all points trended, including sample rates (*BAS subcontractor*).
- (6) Recommended re-commissioning interval, including set-points assessment, operational schedule assessments, and testing schedules (*BAS subcontractor*).
- (7) Equipment manufacturer's recommended schedule and instructions for recalibration of sensors, transmitters, and actuators (*mechanical, BAS, and electrical subcontractors*).
- (8) List of diagnostic tools for systems commissioned to maintain efficient operation of the equipment and system (*mechanical, BAS, and electrical subcontractors*).

- B. CC-specific or project-specific requirements or procedures
- C. CC-specific or project-specific requirements or procedures

3.8 (other Part 3 Cx requirements ... if any)

- A. CC-specific or project-specific requirements or procedures
- B. CC-specific or project-specific requirements or procedures
- C. CC-specific or project-specific requirements or procedures

**END OF SECTION**