

DIVISION 01 - GENERAL REQUIREMENTS

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01 11 00 Summary of Work

01 11 13 Work Covered by Contract Documents

Scope of Services

The contract between the Architect/Engineer and Clemson University specifies the scope of services to be provided and the procedures to be followed.

1. Adequately describe the extent and scope of the work covered by the design documents, and confirm that the descriptions are clear, consistent and agree regardless of authorship.
2. Describe any extraordinary conditions that exist.

01 11 16 Work by Owner

1. The University retains the ability to self-perform or independently contract any work it deems necessary within the scope defined by the A/E Agreement.
2. Clearly describe any work that is planned to be done by the Owner's forces or by other contractors that the Owner has retained.
3. Itemize any work performed or independently contracted by the University that could affect the work of contractors or construction management firms or the completion of work detailed in the A/E Agreement.

01 11 19 Purchase Contracts by Owner

1. The University retains the ability to pre-purchase any equipment it deems necessary for the contractor to install.
2. Itemize all purchases described above and specify how equipment is to be handled, including unloading and storage responsibilities.

01 14 00 Work Restrictions

01 14 13 Access to Site

Many projects at Clemson University will require restrictions that will affect construction operations. These include limited physical access to the project site; partial occupation of buildings under construction, surrounding buildings that are in use, pedestrian and vehicle traffic near the project site, and other restrictions due to the nature of construction on a university campus. To accommodate these, the following will be required:

- Clearly specify in construction documents all site access restrictions.
- No construction activity shall take place on football game days.
- If special conditions exist concerning actual routing of traffic and delivery to site, please indicate such on drawings and in specifications.

- Specify that sight distances for intersections and driveways are not impeded by fencing.
- Specify that fencing with banners are restrained from toppling without the use of stanchions or sandbags.

01 14 19 Use of Site

1. Provide all necessary details in construction documents needed to install and maintain all site use features.
2. The A/E shall make every effort to minimize the risk of injury to students and personnel and the consequent liability to the University and their agents. The construction site is only intended for use by the contractor for the construction of the facility. It is required to be secured with an approved barrier for the entire project.
3. Specify that any use of the site will comply with the [Urban Forest and Landscape Management Policy](#).
4. All construction operations shall be in compliance with all OSHA regulations for operations involving respirable silica dust and asbestos.
5. Specify that Clemson University is a tobacco-free institution. No smoking or other use of Tobacco Products is permitted on University Property pursuant to [Clemson's Tobacco-Free Policy](#).
6. Minimize noise vibration and dust impacts to nearby buildings and areas. At a minimum the following shall be done:
 - Construction operations on campus during exam week are prohibited.
 - Noisy operations are defined as over 60 dbA in the adjacent interior spaces and 90 dbA at 100 feet from the building exterior and shall not be performed near occupied residence halls prior to 10:00AM.
 - The playing of radios or other such audio devices shall be strictly prohibited.
7. Entrances and exits for public use must be provided to meet code requirements for buildings occupied during construction. At least one path of travel that is accessible to individuals with disabilities must be maintained to all user occupied portions of the building. Signage must meet all applicable ADA requirements.
8. Show all necessary requirements in construction documents regarding access routes, parking, construction fences, temporary utilities, etc. in construction documents.
9. Clearly specify in construction documents any construction job signage, including the project identification signs, as well as other information that may be unique to a particular project.
10. Specify areas of the jobsite that will require dust and or noise control and indicate the methods that will be used to do so.
11. All construction barriers and entrances are required to be approved by the [Fire Code Official](#).

01 20 00 Price and Payment Procedures

1. Price and payment procedures are covered in the requirements as itemized in the [OSE Manual](#), including contract modification procedures

01 31 00 Project Management and Coordination

1. Project management and coordination procedures and responsibilities of the contractor are addressed in the contract documents and as prescribed by the [OSE Manual](#).

01 31 13 Project Coordination

Communication with the Owner's Representative

1. Unless otherwise directed, the Project Manager will be the designated Owner's Representative and first Clemson University contact for all matters. The A/E shall maintain adequate communication with the Owner's Representative throughout the project.
2. Do not take direct instruction from individual user groups unless authorized by the Owner's Representative.
3. Specify that the successful contractor will be required to submit a listing of both their Project Manager and their Field Superintendent to the Owner for approval.

01 32 00 Construction Progress Documentation

01 32 16 Construction Progress Schedule

1. Every University project shall have and maintain an up-to-date construction schedule. The type and detail will be dictated by the type of project and requirements set forth in the [OSE Manual](#) and contract documents.
2. Construction schedules shall, at a minimum, properly describe the progression of work to be completed, account for all working restrictions deemed necessary, plan for any needed inspections, estimate and document unsuitable workdays due to weather conditions, and any other factors found to affect the timely prosecution of work.

01 32 33 Photographic Documentation

Photographic documentation shall be performed on all project types contained within the Scope of Work section of the University's [Construction Photo Documentation Standards](#)

01 33 00 Submittal Procedures

Drawings

1. Submit Schematic Design and Construction Documents for Review in accordance with the [OSE Manual](#). Design drawings shall be complete, unambiguous, and readable. Legible font size and clarity of layout promotes faster review. For example, the minimum font height of 1/8" may need to be increased for reduced (11x17) paper printing. Do not colorize or texture spaces (such as occupancy type) if that feature hides details.
2. Drawing scales shall be given by both listing the scale (i.e. 1:20 or 1"=10') and providing a scale ruler on each page of plans with scaled information.
3. Show the gross and net assignable square footage of the building.
4. List the applicable Codes and Standards for the project including the edition as well as the version of this document. Vesting is based upon the date of the first submittal.

CAD Formatting and Modeling Requirements

1. All construction and record documents shall include the following:
 - A complete plan set in AutoCAD
 - A complete plan set in .pdf form with at least 400 dpi resolution.
 - BIM Models capable of completely describing the building in 2 and 3 dimensions. These models shall adhere to the following standards:
 - BIM models for new construction and renovations shall have a minimum of AIA LOD 400.
 - Existing BIM models effected by new construction or renovation shall be updated to the AIA LOD of the existing model or AIA LOD 400, whichever is greater, as part of the A/E's scope of work.
 - These minimums and any additional requirements deemed necessary will become part of the A/E Agreement with the Owner.
2. All civil designs are to be produced in Auto CAD Civil 3D (version within one edition of current). All C3D designs are to include the following models:
 - Existing Surface, Storm Sewer, and Sanitary Sewer
 - Proposed Surface, Storm Sewer, and Sanitary Sewer
 - As-Built Surface, Storm Sewer, and Sanitary Sewer
3. All Operation & Maintenance and specification manuals shall be in .pdf format.

Technical Specifications

1. The technical specifications shall be developed in a form consistent with the most recent numbering system of the Construction Specification Institute (CSI) this document.

2. Page numbering shall be consistent throughout the specification booklet, including specifications prepared by design consultants for the lead design group.
3. Specifications shall be produced on 8-1/2" x 11" size media. Adhere to the requirements of the A/E Agreement for submission of specifications in the appropriate electronic media.
4. Provide CSI MasterFormat section number and page number in the header or footer of each page.

01 33 16 Design Data

Room Numbering

1. Set room numbering at design development phase and shall follow the [Clemson Room and Door Numbering Standards](#) and is subject to the approval of [Campus Planning](#).
2. Coordinate room numbering with all trades such as fire alarms and elevators so that space naming is consistent between building signage and all building systems.

Space and Access Requirements

1. Provide ample headroom at all points where people stand or walk, including over and under stairways and landings. The minimum ceiling heights must be 9'-0" for classrooms, 9'-6" for labs, 8'-0" for corridors, but in no case less than applicable code requirements.
2. All sleeping spaces shall be designed for use by a single gender.
3. Provide separate space for departmental program equipment. Do not locate program equipment in the building mechanical room.
1. Design shall be in accordance with South Carolina Commission on Higher Education's [Space Planning Manual for Public Colleges and Universities](#) and [Facilities Space Standards and Definitions](#).
2. Each floor level shall have at least one Inclusive and accessible single occupant restroom centrally located alongside gender specific restroom facilities. These facilities will conform to Clemson's [Inclusive Facilities Policy](#). Each room shall be served by a lockable door and contain a wall-mounted baby changing station. These restrooms shall be identified as Restroom in text and braille and display the universal symbol of accessibility.
3. For projects incorporating bathing facilities and/or changing areas, construct at least one lockable and accessible single occupant facility to be included and centrally located, so the user need not leave the area to use the changing room. These facilities will conform to Clemson's [Inclusive Facilities Policy](#).
4. Specify that a minimum 6' x8' Lactation Room be included that is fully accessible and complying with the University-wide [Lactation Room Guidelines](#). These rooms shall include the following features:

- Lockable Door Hardware with single motion egress and integral in-use indicator.
 - At least one electrical receptacle
 - Sink with manual faucet
 - Table or counterspace usable when seated
 - Comfortable chair upholstered with non-woven medical grade material that is impervious to liquid and easily cleaned.
 - Soap Dispenser
 - Mirror
 - Paper Towel Dispenser
 - Waste Receptacle
 - Small Refrigerator
 - Water resistant, non-carpeted flooring that is easily cleaned.
5. Include a Medical Wellness room that is similarly equipped to Lactation Rooms.
6. Provide at least one accessible break area with a refrigerator, sink, microwave, table(s) and chairs that is centrally located, designed for use by all building occupants, and accessed directly from a main corridor or passageway.
7. For new construction, provide access to the roof and any roof-mounted equipment from the inside of the building via stairs or penthouse. Renovations will be considered on a case-by-case basis. Ladders mounted to the building exterior are strictly prohibited.
8. At a minimum, provide one 8'x12' custodial closet per floor. Each custodial closet shall have the following:
- A floor mounted, low curb mop basin with waterproof backsplash extending to the faucet height. Mop basin faucets shall be mounted at 4' above finished floor, be threaded for a standard ¾" garden hose, and have a 3' hose extension installed.
 - A wall hung vitreous china lavatory.
 - A handheld emergency eye wash that can also serve as an emergency drench hose.
 - A personal storage locker system with two lockers that can be secured with a common padlock.
 - A floor drain connected to the building's sanitary sewer system.
9. Provide a minimum 8'x12' recycling room with a floor drain near the loading dock or service entrance.
10. Provide a minimum 8'x12' Maintenance Storage Room for keeping building specific attic stock and building specific maintenance equipment.
11. Provide a Fire Command Room that meets the following conditions unless greater is required by any governing code as adopted in [Chapter 5](#) the [OSE Manual](#).
- Minimum 100 sqft. in size
 - Temperature controlled
 - Has card access

- Contains any Emergency Responder Radio Equipment in the building
- Access to any two-way communication systems within the building
- Hardwired connection to Campus network
- Contains everything required in Section 508.1.6 of the IFC as adopted in [Chapter 5](#) the [OSE Manual](#).

The location of the Fire Command Room shall be approved by the Fire Code Official.

12. Attic spaces and penthouses containing mechanical, electrical and/or plumbing equipment shall have access via stairs or elevator and shall be considered an equipment room.
13. Design all electrical rooms such that there is at least 20% of the wall space free for the addition of new panels and/or electrical equipment.
14. All wet and chemical laboratories shall conform to the requirements in Section 428 of the IBC as adopted by [Chapter 5](#) of the [OSE Manual](#) unless technically infeasible or the building elements requiring alterations to comply with this section are to remain unaltered and not included within the scope of work in any way. The designer shall make the Project Manager aware of any laboratory not complying with this section as early as possible in the design phase.

01 33 29 Sustainable Design

1. Clemson is committed to being a leader in sustainable design and construction. Because of this sustainability is a fundamental part of building design and shall be incorporated into all projects in accordance with the following:
 1. The University's [Sustainability Action Plan](#)
 2. The International Energy Conservation Code as adopted in [Chapter 5](#) the [OSE Manual](#)
 3. Achievement of either Silver Level of [LEED v4 for BD+C: New Construction and Major Renovation](#) or two [Green Globes](#) from the Green Building Initiative.

01 35 00 Special Procedures

01 35 03 Conservation Treatment Procedures

All work on buildings that are included in the [National Register of Historic Places](#) shall be done in accordance with Clemson University's [Preservation Master Plan](#) and all applicable [National Park Service Preservation Briefs](#).

01 35 53 Security Procedures

1. Specify the following worksite decorum and background check policy:

All companies, including but not limited to, design professionals, vendors, suppliers, consultants, general contractors of any trade, and their subcontractors, that bring one or more of its employees on to the Clemson University Campus or other University property in order to fulfill the terms of this agreement, must conduct a

criminal background check on said employee(s) prior to bringing or sending the employee(s) to the Clemson University campus or other University property. Any contractors retained by Clemson shall agree that any employee with a criminal history that the contractor reasonably believes poses a threat to property or persons will not be brought or sent to the Clemson University campus or other University property. The Contractor agrees to impose this same criminal background check requirement on all subcontractors, vendors, suppliers, or consultants, used to fulfill its responsibilities under this agreement. The Contractor shall be responsible for all costs associated with these requirements. Clemson University reserves the right to verify compliance by contractor upon request. Information collected for verification is controlled by the federal Fair Credit Reporting Act. Individuals believed by Clemson University to pose a threat must leave the campus or University property immediately and the Contractor may be prohibited from future awards without permission of the Procurement Officer.

2. In addition to specifying the policy above, all personnel working on University property shall be required to adhere to the following rules:
 - All workers shall always wear a visible identification badge or uniform with photo ID that contains their name and the name of their employer.
 - Possession of alcohol or controlled substances, or presence onsite of personnel who are under the influence of alcohol or controlled substances, is forbidden.
 - Workers' conduct shall be controlled by the Contractor to require adherence to all relevant university policies (tobacco use, safety, etc.), prevent any unprofessional or unsafe behavior and unwanted interaction such as whistling, profanity, and initiating conversations with passersby, students, staff, or other individuals, adjacent to the Project Site.

01 40 00 Quality Requirements

01 41 13 Codes and Standards

1. In [Chapter 13](#) of the [OSE Manual](#), the duties and authorities of the AHJ are delegated to University Facilities if the project value falls with University's [Level of Certification](#). The [University Building Official](#) shall be the Authority Having Jurisdiction (AHJ) as defined by Chapter 1 of the International Building Code as adopted by [Chapter 5](#) of the [OSE Manual](#) and will issue the required permitting, perform or request all compliance reviews, perform or oversee all construction inspections and issue necessary Certificates of Occupancy.
2. AHJ duties and authorities, as described above shall remain with the [OSE](#) for projects that exceed the University's [Level of Certification](#). Its assigned representative shall issue the required permitting, perform or request all compliance reviews, perform or oversee all construction inspections, and issue necessary Certificates of Occupancy.
3. All construction, renovation, demolition and permanent improvement projects are subject to Clemson's policy on [Alterations or Improvements to University Facilities](#). As such, any work that is considered a Level 2 Alteration or greater in accordance

with the International Existing Building Code (IEBC) shall be required to have a construction permit and be subject to review by the appropriate AHJ.

4. All design and construction work shall be done in such a manner that the completion of project is in compliance with this document and the codes and standards found in [Chapter 5](#) the [OSE Manual](#). In the event there is a conflict between any of these codes and standards, the most restrictive code shall apply.
5. Accurate life safety drawings shall be provided for all projects, regardless of occupancy or project size. Mechanical, Electrical and Plumbing projects may not need architectural drawings but must still reference building Construction type, Occupancy/Use, and Sprinkler status with code listing. Special consideration for existing structures is facilitated by use of the IEBC. Use [OSE Manual](#) Table 3E on such projects.
6. Life safety drawings shall emphasize the following as applicable:
 - A legend clearly identifying life safety features
 - The code approach for mixed occupancies
 - All use groups and occupant loads
 - Location of the public way, exits from each floor, exit access and common path of travel distances, dead end length, and diagonal separation of exits.
 - Locations of all hazardous storage areas, materials, chemical Safety Data Sheets and quantities , or equipment that pose a particular safety hazard.
 - Control area (and/or laboratory unit) boundaries.
 - Locations of all rated assemblies and any required HVAC damper or firestopping methods.
 - Provide a description of any special mechanical systems such as compressed air, hydraulic, nitrogen, etc., including an explanation of the medium source.
 - Compliance with IEBC Chapter 3. Provide justification if Accessibility compliance is technically unfeasible.
 - Provide door and access hardware details early in the design process. These must meet standards for egress, accessibility, and security.
 - Show scope of demolition or renovation work including impacted areas on the floor below or above the construction site with a plan to minimize disruption and maintain functional occupancy of the effected space.

01 41 19 Rules

Campus Master Plan

All designs shall comply with the most current edition of the [Long-Range Framework Plan](#) and [Site Design Guidelines](#) as published by [University Planning](#). The information, instructions, and standards presented in this document shall be applied in coordination with these guidelines.

Design within the Historic District

Clemson University is committed to the preservation and protection of the historical aspects of its architecture and landscape. Information and guidelines to assist the designer in achieving this goal is available from [University Planning](#) and specifically found in their

publication [Clemson University Preservation Master Plan](#).

01 41 26 Permitting Requirements

1. The consulting A/E, construction manager and/or contractor and shall acquire all required permits outside of the construction/renovation permit issued by the appropriate AHJ and any permits legally required to be held by the University.
2. The University personnel responsible for the project shall apply for the construction/renovation permit and shall facilitate the application for any permits required to be applied for and held directly by Clemson.

01 45 00 Quality Control

01 45 23 Testing and Inspecting Services

1. All projects shall follow the OSE [Guidelines for Inspections and Material Testing](#).
2. Specify the appropriate instructions regarding Special Inspections and Tests that are required during the construction of the project. These instructions must be consistent with the requirements indicated in the [OSE Manual](#), all codes adopted through [Chapter 5](#) therein, and approved by the appropriate AHJ.
3. The A/E, Contractor, and/or Construction Manager shall be responsible for requesting, from the project manager, all inspections required to be performed by the AHJ directly and for coordinating any third-party inspections and documentation thereof within the scope of work as defined by the agreement between A/E, Contractor or CM.

01 45 29 Testing Laboratory Services

1. All projects shall follow the OSE [Guidelines for Inspections and Material Testing](#).
2. Provide for a testing laboratory to perform any testing for individual material installation as deemed necessary.
3. Specify that copies of all subsequent test reports be provided to the Owner, the A/E, and the Contractor in a timely manner. Specify that the scheduling of these tests shall be the responsibility of the Contractor and that any requirements for the storing of test cylinders or other applicable test samples shall be the responsibility of the Contractor.
4. Specify that the cost associated with the retesting of any material shall be borne by the Contractor.

01 50 00 New Utility Locations

1. When installing University maintained utilities, specify that the contractor be required to notify the University [Surveyor](#) at least 24 hours prior to covering or backfilling any underground utility, including PVC sprinkler lines, associated wiring and valves, so that they can record the location and other information on their mapping data base.



This requirement is in addition to any other requirement for special code inspections or testing. Failure to comply with survey notification will require uncovering.

2. Specify the University [Surveyor](#) will not mark any existing utility in the field because State law requires Contractor to call PUPS (811) for all existing underground utility locates.

01 51 00 Temporary Utilities

1. Contract documents shall indicate whether temporary utilities for the project during construction are to be furnished by the University at no cost to the contractor, or to be furnished by the contractor as part of his cost.
2. If temporary utilities are to be furnished by the contractor, the project drawings shall indicate the points of delivery of these utilities to the project where the University will install the appropriate service.
3. Utilities that may be charged to the contractor include electricity, steam, chilled water, and sewer. Charge rates for these utilities at the time of the project can be obtained from the Project Manager.

01 51 36 Temporary Water

1. All temporary water connections are required to be metered. Consumption reporting to University Utilities shall be the responsibility of the contractor and Project Manager.
2. Meters for construction water from fire hydrants shall be provided by the Contractor on a hydrant approved by [University Utilities](#).
3. Meters for temporary taps shall be supplied by the contractor and approved by the University Utilities Maintenance Shop prior to installation
4. Prior to the performance of any work requiring the use of water from the University's water distribution system, a meeting with [University Utilities](#) is required.

01 55 00 Vehicular Access and Parking

1. Project Manager must approve parking locations for Contractor's vehicles.
2. All personnel shall comply with [University Parking and Transportation Services](#) regulations, including permitting requirements.
3. Cost for construction related parking is to be included in the Contract Sum.
4. Minimize impact within work areas by providing off-site parking and storage for ancillary workers and materials.
5. Fenced or barricaded on-site parking spaces must be designated on drawings when appropriate.

6. On-site parking must comply with emergency vehicle access requirements, ADA regulations and shall minimize impact on Owner operations and other projects.

01 55 29 Staging Areas

1. Indicate exterior staging area or point of access to building on drawings.
2. Provide fencing around staging areas and dumpsters when appropriate. Indicate location of dumpster and route for debris removal through occupied buildings.
3. Review vertical access within building, including use of stairs and elevator with the Project Manager.

01 90 00 Life Cycle Activities

01 91 13 General Commissioning Requirements

1. For new construction or renovation projects affecting over 50% of the building floor area, the University requires both Fundamental and Enhanced Commissioning on the total building.
2. The University retains the option to contract this service directly with a commissioning agent or firm outside of the A/E agreement and contract documents.
3. Refer to later Divisions for the specific requirements of individual building systems.