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Division 1

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# SECTION 01 00 00 - GENERAL REQUIREMENTS

## 1.1 RELATED DOCUMENTS

The University of Virginia (University and UVA) and the associated Project team and stakeholders shall use this Division 1 with the General Conditions **(*HECO-7/ CO-7 or HECO-7DB/ CO-7DB*)**, Supplemental General Conditions, and other Contract Documents.

## 1.2 UNIVERSITY'S REPRESENTATIVES

A. University will assign a Project Manager(s) and a Construction Administration Manager(s) based on the size, complexity, and needs of the individual project. Where reasonable to do so, the University may designate a single individual to fulfill both Project Manager (PM) and Construction Administration Manager (CAM) roles.

B. The responsibilities of the PM are to:

1. Oversee the Project design team and consultants to ensure compliance with applicable regulations, standards, and requirements of the University and the Commonwealth of Virginia.
2. Provide final review and approval of any issues regarding University, Architect/Engineer (A/E), or Construction Manager/ General Contractor (CM/GC) initiated changes to scope, schedule or budget.
3. Serve as primary contact for coordination with end users.

C. The responsibilities of the CAM are to:

1. Serve as the University’s on-site representative for the construction phase.
2. Coordinate all construction phase Consultants.
3. Coordinate other Consultants, the A/E, and the CM/GC communications.
4. Expedite resolution of all conflicts.
5. Perform additional quality assurance oversight (such as inspection, verification, acceptance, rejection) and other administrative oversight.

The Project team shall provide the CAM with copies of all written decisions and notices to the CM/GC and information and notices from the CM/GC. All activities not specifically required to be performed by the A/E may be performed by the CAM or by the University’s other Consultants.

D. University may also remove/ reassign from the A/E to any selected Consultants certain inspection, verification, acceptance, rejection, and administrative duties and authority. The University shall provide the CM/GC and the A/E information in writing defining the limits of the selected Consultants’ authority.

## 1.3 GOVERNING AUTHORITY AND APPLICABILITY OF PROVISIONS

The CM/GC shall abide by all University regulations and amendments and all other applicable laws and regulations of the Commonwealth, including those that may be issued during the Contract. This governing authority applies to all employees of the CM/GC and all Subcontractors. In particular, the CM/GC should note regulations pertaining to sexual harassment, drug and alcohol use, abusive and offensive language, and smoking.

***When the CM/GC performs Work in, around and/or for UVA Health, the CM/GC shall also abide by all applicable UVA Health Policies, including but not limited to, policies addressing identification, access, and behavior. The CAM shall provide copies of all current policies at (or prior to) the Preconstruction Meeting.***

## 1.4 RESUMES FOR CM/GC’S PERSONNEL

A. CM/GC shall submit to the University, at least one week prior to the Preconstruction Meeting, a resume for each principal staff member who will work on the Project, including PM, Superintendent, Foreman, and Quality Control Representative.

B. Resumes shall include, at a minimum, educational background, length of time with the company, and past work experience, with an outline of responsible positions held. ***When the CM/GC performs Work in, around, and/or for the UVA Health, it shall identify a staff member designated for oversight of Infection Control and Interim Life Safety Measures (ILSM) and demonstrate appropriate qualifications.***

C. University reserves the right to interview and reject any staff member for specific reasons and request new resume submissions.

## 1.5 PARTNERING

***(Optional - confirm with University PM if construction cost exceeds $5M.)***

The University intends to encourage the foundation of a cohesive partnership between the University, A/E, CM/GC, Suppliers, and Subcontractors. UVA will structure this partnership to draw on the strengths of each organization to identify and achieve reciprocal goals. The objectives of this partnership are effective and efficient contract performance intended to achieve completion within budget, on schedule, and satisfactory to all partners.

This partnership will be multi-party in makeup and agreements developed will be non-binding. Any costs to each partner associated with the partnering process will be the responsibility of each partner. To implement this partnership initiative, the University anticipates that within 60 days of the Notice to Proceed, all partners will attend a team-building workshop of one to two days duration. The University will provide a formal Facilitator for the workshop to help develop non-binding goals of the partnership and non-binding special procedures to enhance the partnership. The Project team will hold follow-up workshops periodically throughout the duration of the contract as agreed to by all partners.

An integral part of the non-binding special procedures will be the resolution of disputes in a timely, professional, and non-adversarial manner.

## 1.6 SWaM FIRM UTILIZATION

It is the policy of the Commonwealth of Virginia and the University to contribute to the establishment, preservation, and strengthening of SWaM firms as further defined in the General Conditions of the Construction Contract for Capital Outlay Projects (HECO-7). Towards that end, the University encourages CM/GCs to provide for the participation of SWaM firms through partnerships, joint ventures, subcontracts, and other contractual opportunities. The State has a 50% target goal for subcontracting to small business for all new capital outlay construction and the University has a SWaM firm overall participation aspirational goal of 27% for procurement opportunities. Where it is practicable for the CM/GC to subcontract any portion of the awarded contracts to other firms, the University encourages the use of SWaM firms.

CM/GCs may obtain names of SWaM firms currently registered with, and certified by, the Virginia Department of Small Business and Supplier Diversity (SBSD) and desiring to work at the University from the Procurement & Supplier Diversity Services Department at the University. See <http://www.procurement.virginia.edu/pagediversity> for additional information.

If the total amount of a contract exceeds $100,000, the CM/GC/ Subcontractor shall complete and submit quarterly reports, on forms provided by the Procurement & Supplier Diversity Services Department in accordance with the University’s SWaM plan, to document Subcontractor and Supplier expenditures to SWaM firms in connection with the Project. The successful firm shall provide the University SWaM Contract Administrator with the name of the responsible person within their organization who will be the SWaM contact and who will be responsible for reporting verifiable SWaM expenditures resulting from this contract.

## 1.7 LEED CERTIFICATION

LEED certification requirements apply to this contract. See the contract documents for detailed requirements.

## 1.8 SECURITY AND PERSONNEL IDENTIFICATION

***(Include for all UVA Health areas and any other controlled areas; if not applicable so note.)***

A. All CM/GCs/ Subcontractors are required to wear University approved numbered identification badges on outer garments above elbow level while on University premises.

B. University will deny access to any personnel not complying with this requirement or University security personnel will escort them off the premises.

C. CM/GC is required to provide the University a complete list of workers that will be on the job site five working days prior to the start of Work. The CM/GC must report any changes in site personnel to the University in writing immediately. To be included on the list of workers are the names and badge numbers for each worker on site.

## 1.9 BUILDING INFORMATION MODELING (BIM)

See §8.19 in HECOM and BIM Execution Plan if University/ A/E has provided.

## 1.10 INFECTIOUS CONTROL RISK ASSESSMENT

***A. When CM/GCs perform work in, around and/or for UVA Health, the CM/GC shall also abide by all applicable Infection Controls Policies. CM/GC shall designate a responsible person for oversight of Infection Control and ILSM. The University reserves the right to interview the proposed responsible person and to reject for failure to demonstrate qualification and/or failure to provide adequate oversight.***

***B. The CAM is responsible for providing CM/GC with all current Infection Control policies including any updates/ revisions that UVA Health may issue during the construction contract period.***

***See*** [***https://www.fm.virginia.edu/docs/fpc/healthsystem/ICRAPolicyProcedures.pdf***](https://www.fm.virginia.edu/docs/fpc/healthsystem/ICRAPolicyProcedures.pdf)

# SECTION 01 11 00 - SUMMARY OF WORK

## 1.1 WORK COVERED UNDER THE CONTRACT DOCUMENTS

A. Project Name: ***A/E to complete***

B. Owner: The Commonwealth of Virginia and The Rector and Visitors of the University of Virginia (collectively referred to as the “University”)

C. A/E of Record: ***A/E to complete***

D. Work consists of the following but is not limited to: ***[Describe essential Work covered under the Contract Documents (activities).]***

## 1.2 UNIVERSITY FURNISHED PRODUCTS

The University will furnish the products listed below. The Work for this Project includes supplying the labor, material, coordination, and supervision to install these products as per the Contract Documents and General Conditions.

1. ***Permanent hardware lock cores.***
2. ***Permanent signage.***
3. ***Data cabling. Infrastructure to be included in CM/GC scope of work per Contract Documents.***
4. ***Security cabling and installation. Infrastructure to be included in CM/GC scope of work per Contract Documents.***
5. ***Testing and Balancing.***

## 1.3 ASSIGNED WORK

***(Include and list as applicable; if none so note.)***

A. Building Automation Systems (BAS): The University may select a Subcontractor for BAS and may assign that Subcontractor and the Subcontractor’s proposal to the CM/GC in the Price Proposal/ Bid Form. The CM/GC will subcontract with the BAS Subcontractor and will be responsible for the assigned BAS Subcontractor and all the Work, including scheduling for the BAS.

***(The above assigned Subcontractors should be included along with their prices on the Price Proposal/ Bid Form.)***

***(Any separate concurrent contracts should be listed in the RFP/IFB in accordance with General Condition §10.)***

## 1.4 WORK SEQUENCE

CM/GC shall construct Work in ***(stages/ phases to accommodate University's occupancy requirements)***during the construction period. Coordinate construction schedule and operations with the ***(University, A/E)*.**

***(Be very clear about dates; coordinate with Price Proposal/ Bid Form. Discuss relationships/ interface of contracts, if any.)***

# SECTION 01 14 00 – WORK RESTRICTIONS

## 1.1 CONCURRENT UNIVERSITY OCCUPANCY

***(Include as applicable, if none so note.)***

A. Partial Occupancy

1. The University intends to occupy the portions of the Project on the dates shown in the Contract Documents.
2. CM/GC shall schedule and substantially complete designated portions of Work for occupancy prior to Substantial Completion of entire Work. Cooperate with University to minimize conflict and to facilitate University’s operations.

3. CM/GC shall execute Certificate of Substantial Completion, HECO-13.2a, for each designated portion of Work prior to its occupancy. Arrange and provide the following:

a. Proper operation of fire alarm and personnel safety systems enough for University Building Official approval in coordination with the State Fire Marshal.

b. Access for University’s personnel.

c. Operation of heating, ventilating, air conditioning, and electrical systems until Substantial Completion of entire Project or until otherwise designated by University.

d. Temporary partitions as necessary to separate occupied areas from remainder of Project.

4. Upon occupancy, University will provide for occupied areas:

a. Pro-rated cost of utilities for operation of heating, ventilating, air conditioning, and electrical systems, if applicable.

b. Maintenance.

c. Security.

d. Custodial services.

e. Insurance - ***only if approved by the University Office of Risk Management***. See HECO-7/ HECO-7DB modifications to §12. The University CAM and/or PM should coordinate with Risk Management well in advance, so it can know when to initiate University property coverage for any completed/ occupied portion of the Project. The PM/CAM can accomplish formal notification by copying Risk Management on the completed HECO-13.3. Risk Management is then responsible for placing the new building on the **University Master Insurance Policies** or, in the case of renovations, adjusting the value of the space. **If the PM/CAM receives approval from Risk Management,** University property insurance may apply to occupied areas and CM/GC Builder’s Risk Insurance shall continue, at a minimum, on those portions of the construction that the CM/GC is completing and that the University is not occupying.

5. See [§01 14 00.1.3D](#_1.6_OPERATIONS_OUTSIDE) for smoking restrictions.

B. Continued Occupancy – Adjacent Areas

1. University will occupy certain areas during entire construction period for conduct of normal operations.

2. CM/GC shall cooperate with University in scheduling operations to minimize conflict and to permit continuous usage. Perform Work so as not to interfere with operations of occupied areas. CM/GC must continuously maintain ingress and egress for patients, staff and support services.

1. CM/GC should conduct all coordination and communication with adjacent occupants and entities through and/or with the approval of the University PM/CAM.

**(*List specific notification requirements, e.g. 15-day notifications for sidewalk/ road/ corridor closures; 7-day notification for access to occupied space; etc.)***

1. The University intends to occupy the following areas during the indicated periods.

**(*List ALL areas above, below, adjacent to and/or sharing services with construction site that construction activity may affect.)***

5. See [§01 14 00.1.3D](#_1.6_OPERATIONS_OUTSIDE) for smoking restrictions.

## 1.2 CM/GC USE OF SITE AND PREMISES

***(Include any additional restrictions as appropriate.)***

A. Access to Site: Limited routes to be coordinated with the University CAM. All construction debris removal and material deliveries must utilize designated elevators.

B. Emergency Building Exits: Maintain existing emergency exits during construction.

C. Construction Operations: Limited to areas shown on drawings.

D. Time Restrictions for Performing Work: ***7 AM - 6 PM, Monday through Friday*.** The CM/GC shall not construe Work outside these times as constituting additional cost to University. Work hours near occupied housing areas are restricted to 8 AM - 6 PM all days. No deliveries or offloading shall occur between ***7 AM - 8:30 AM and 4 PM - 6 PM*.**

E. Night Work Hours: Defined as between ***6 PM and 7 AM, Monday through Friday*.** CM/GC to request permission in writing at least five days in advance for Work at these times. The University must authorize Work at these times in advance in writing before proceeding. The CM/GC shall not construe Work executed during these times as “overtime” and it shall not result in additional cost to University.

F. Weekend Work Hours: Defined as between ***6 PM Friday and 7 AM Monday*.** CM/GC request permission in writing at least five days in advance for Work at these times. The University must authorize Work at these times in advance in writing before proceeding. The CM/GC shall not construe Work executed during these times as “overtime” and it shall not result in additional cost to University.

G. University Exam Periods: During each academic semester at a time the University determines, with 14 days’ notice to the CM/GC, there shall be three days (72 hours) of quiet during which the CM/GC may not conduct any loud or disruptive activities on-site. ***(Delete this paragraph if it is not applicable to project location and/or required.)***

H. University requires Work in the Following Occupied Areas:

***(List – with any specific restrictions.)***

The CM/GC shall schedule Work to avoid interference with normal operations of occupied areas. Submit schedule and summary of applicable Work within occupied areas and obtain University approval not less than seven days prior to commencement of such Work.

I. CM/GC shall coordinate with the University access to and security of existing mechanical/ electrical equipment spaces.

J. Loading Dock Access:

***(Loading dock access is restricted. List docks & restrictions as appropriate. The University Hospital prohibits parking in the loading dock area. The University prohibits parking in UVA service vehicle spots.)***

K. Staging Areas: Limited to the locations as shown on the drawings.

***(Discuss in Pre-bid Meeting & indicate on Drawings.)***

## 1.3 OPERATIONS OUTSIDE CONSTRUCTION LIMITS

A. University will grant use of certain passageways and other areas, outside of defined limits of operation on an as needed basis. CM/GC must make requests in writing to the University CAM at least seven days in advance.

B. CM/GC shall comply with designated travel paths, staging areas, dumpster locations, and other restricted items indicated on Drawings.

C. Occupied University buildings and grounds, including the construction limits, are a non-smoking environment. UVA Health does not allow smoking. The University allows smoking only in designated areas.

## 1.4 WORK SITE PROTECTION

Provided by CM/GC as follows:

A. Padding or other protection in elevators and at corridor walls when there is a possibility of damage.

B. Minimum 1/4-inch-thick hardboard protection at flooring areas when they will be subject to heavy rolling loads.

C. No traffic on lawn and landscaped areas.

## 1.5 HOT WORKS OPERATIONS

The CM/GC shall follow all Virginia Occupational Safety and Health Administration (VOSHA) standards/ regulations on Hot Works operations and is subject to VOSHA inspections. CM/GCs certify that they have a Hot Works program in place with proper oversight that includes recognition of the risk of after-hours ignition from Hot Work and the requirement for a fire watch. CM/GCs shall provide documentation of program upon request and notify the University at least one day prior to any planned Hot Work.

## 1.6 SAFETY PROCEDURES

1. Project Safety Plan: The CM/GC shall develop and implement a written Project specific Safety Plan. At a minimum, the Project Safety Plan shall consist of the following components:
2. Index of contents contained in CM/GC’s company safety program.
3. A Project-specific Job Hazards Analysis and Job Safety Analysis (JHA/JSA) that identifies job steps, hazards, and actions to eliminate or minimize hazards, for the work required by the contract.
4. Identification and contact information for the person(s) designated as Competent Person(s) at the Project site. Submit training certificates and similar documentation confirming that the person(s) received training adequate for UVA to deem them Competent.
5. The CM/GC shall provide the Project Safety Plan to the UVA PM and the Facilities Management Safety Director at least 10 days prior to the Preconstruction Meeting. Discussion of the plan will be an agenda item for the Preconstruction Meeting.
6. The Project Safety Plan shall always be available at the Project site.
7. Review and comments on the Project Safety Plan, including modifications discussed or requested, shall not relieve the CM/GC of its sole responsibility for health and safety programs for workers and others in connection with the work. Refer to the General Conditions, Section 18. (a) ¶2.
8. For the University’s Contractor Safety Guidelines, please see the following link: <http://www.fm.virginia.edu/depts/ohs/constructionsafety.html>

1. Area of Work is subject to ILSM as per JCAHO requirements. The CM/GC shall always complete an ILSM Matrix for each phase of the Project and keep a copy on-site.
2. Use of **UVA Department of Risk Management Incident Report Form** is required on all projects. Please also confirm with the UVA PM/CAM that there are no other required forms/notifications. Please note the notification requirements and time durations to the Risk Management notification. See link below: [UVA Risk Management Incident Report Form](http://riskmanagement.virginia.edu/sites/riskmanagement.virginia.edu/files/IncidentRptForm.pdf)

## 1.7 BLASTING

The University strictly prohibits blasting on University Grounds. Exceptions require the approval of the University Associate Vice President and Chief Facilities Officer.

## 1.8 RAILROAD RIGHT-OF-WAYS

All CM/GCs working for the University performing Work adjacent to railroad tracks leased by the Buckingham Branch Railroad Company (BBRC) shall enter into an Agreement with BBRC governing the CM/GC’s duties and liabilities as to such Work. Contact the University PM/CAM for more information and a copy of a draft agreement.

# SECTION 01 18 00 – PROJECT UTILITY SOURCES

## 1.1 IDENTITY OF UTILITY COMPANIES

Identity of utility companies providing permanent services to the Project.

***University? Dominion Energy?***

***Charlottesville Water?***

# SECTION 01 26 00 – CONTRACT MODIFICATION PROCEDURES

## REQUESTS FOR INFORMATION

A. CM/GC shall use the RFI process provided in the University’s electronic project management software, e-Builder, or an alternate form acceptable to the University.

B. CM/GC shall carefully study and compare Contract Documents before proceeding with fabrication and installation of Work and shall promptly advise the A/E of any error, inconsistency, omission, or apparent discrepancy discovered.

C. CM/GC shall allot time in construction scheduling for liaison with A/E for handling queries and clarifications.

D. University reserves the right to require the CM/GC to reimburse the University for Additional Fees from the A/E and A/E’s Consultants for performing review services for the CM/GC if A/E is able to respond to a RFI by making specific reference to a Drawing Sheet or Specification Section.

E. CM/GC shall maintain in the field office a copy of an RFI Log indicating status of each item.

## CONSTRUCTION CHANGE ORDER PROPOSAL

1. CM/GC shall provide back-up documentation supporting a proposed change as an attachment to the e-Builder Construction Change Order Proposal (CCOP) process. This backup shall include the itemized breakdown of quantities and prices used in computing a proposed change in contract price (e-Builder H11 process) and the CM/GC shall provide it on forms HECO-GC-1, HECO-SC-1, and HECO-SS-1.
2. CM/GC is to track all potential changes to the Contract on an issues log and should include cost information in a timely manner. The Project Team will review this log at Project meetings or as requested by the University.

## CHANGE ORDERS

After the University agrees to CCOPs via the process in e-Builder, e-Builder will bundle them into a formal Change Order for University processing and adjustment of the Contract as applicable.

# SECTION 01 29 00 - PAYMENT PROCEDURES

## 1.1 INVOICING

Unless otherwise directed by the University representative:

* University’s Project team, including PM and CAM, are responsible for processing of CM/GC’s invoices. They will provide detailed steps to assure that the Project team processes your invoices in a timely manner. The Project team will discuss these steps at your Project Preconstruction Meetings.
* Invoice review process (monthly pay meetings prior to official submission):

* University and A/E, along with appropriate representatives from the CM/GC team, will review a draft of the Schedule of Values and develop a final approved version.
* At the conclusion of the invoice review process and as instructed by the Project team, the CM/GC will enter their final agreed upon Schedule of Values and attach a copy of the Schedule of Values (excel spreadsheet) via the e-Builder process.
* The most recent version of the Schedule of Values form is in the e-Builder invoice submission process.
* No other method of invoice submission, unless otherwise directed is acceptable.
* By utilizing and approving the appropriate steps in the e-Builder invoice process, all required signatures (contractors and University representatives), along with the A/E’s certification signature are now electronic (this replaces the previously required original signatures).
* University may return incorrect and/or nonconforming Schedule of Values for correction, thus delaying payment.

Schedule of Values Training Video:

<https://app.e-builder.net/public/publicLanding.aspx?QS=7b31d0dbd75741ae821e172282ee241e>

CM/GC Pay App Training Video:

<https://app.e-builder.net/public/publicLanding.aspx?QS=d08ac192efc04c0ea14fb34c0ebd5be0>

Vendors can now access invoice payment as far back as 90 days by using the Taxpayer Identification # on the Vendor Invoice/ Payment Status Lookup page:

<https://www.procurement.virginia.edu/pagevendorinvlookup>

The CM/GC may direct additional questions regarding payment status to the Financial Services Team at [fm-invoice@virginia.edu](mailto:fm-invoice@virginia.edu).

## 1.2 INVOICING FOR ASBESTOS REMOVAL

***(Include in all contracts with specifications for selected asbestos-containing materials.)***

The University shall make no payments for asbestos disposal until the applicable Certificate(s) of Disposal, specified in the Attachment to the specifications "Specifications for Asbestos Containing Materials Abatement", is/are delivered to the University.

# SECTION 01 31 00 – PROJECT MANAGEMENT AND COORDINATION

***(All projects using the CM at Risk contracting option should refer to their RFP’s CM Services sections for this information. Verify RFP’s have CM leading all pre-installation and preconstruction Meetings. All other contracting options should refer to the information below incorporated in §§10.8 - 10.10 of HECOM.)***

## 1.1 PROGRESS MEETINGS

A. Scheduling: CM/GC is required to schedule Progress Meetings throughout progress of the Work at regular intervals, and at a minimum of two per month. The monthly pay meeting, required by the General Conditions, may serve as a Progress Meeting. The CM/GC is also required to coordinate scheduled meeting dates with the University and A/E.

B. Brief Progress Summary & Work Projection: CM/GC is required to provide a brief summary, in narrative form, of progress since the previous meeting and report on projected Work for a minimum of the next two weeks.

C. Required Attendance: Project Superintendent, major Subcontractors, and Suppliers, representatives of the University and the A/E, as appropriate to agenda topics for each meeting.

D. Agenda: Review and correct or approve minutes of the previous Progress Meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the status of the Project that may include:

1. Safety, Security, and Conduct
2. Schedule

2. Issues

3. Requests for Information

4. Requests for Proposal

5. Estimated Change Orders

6. Change Orders

7. Submittals

8. Applications for Payment

9. University Coordination

E. CM/GC will record minutes and distribute copies to participants.

## 1.2 PRE-INSTALLATION MEETINGS

***(Include in technical Specifications appropriate reference by system to this clause.)***

A. CM/GC to schedule Pre-installation Meetings for all HVAC systems/ components and any other systems as required by the Project Specifications. Such meetings should include the A/E, the Project Engineer for the discipline, the CAM, a University Facility Operator, any Commissioning Agent, the CM/GC’s PM and Superintendent, the Mechanical Subcontractor’s PM and Superintendent, and a representative of the major Supplier/ Manufacturer as applicable.

B. CM/GC shall require attendance of parties directly affecting, or affected by, Work of the specific section.

C. CM/GC to notify A/E and University at least four working days in advance of meeting date.

D. CM/GC to prepare agenda and summary to facilitate review of:

1. All required submittal approvals.

2. Conditions of installation, preparation, and installation procedures.

3. Coordination with related Work.

4. All required tests and reports.

E. CM/GC to record minutes and distribute copies within three days after meeting to participants, with copies to those affected by decisions made.

## 1.3 PRECONSTRUCTION MEETINGS

***(If all information is in the General Conditions just refer to section.)***

The University will schedule these meeting as required by the General Conditions. The CM/GC will record minutes and distribute copies to the participants.

## 1.4 MONTHLY PAY MEETINGS

***(If all information is in the General Conditions just refer to section.)***

The CM/GC will schedule this meeting as required by the General Conditions. The CM/GC will record minutes and distribute copies to the participants.

# SECTION 01 32 00 – CONSTRUCTION PROGRESS DOCUMENTATION

***Optional - modify as required according to scope of Project***

***Consider “Multivista” Type Construction Documentation***

## 1.1 PHOTOGRAPHY

A. Provide photographs of site and construction throughout progress of Work produced by a photographer acceptable to University. The CM/GC will provide the photographs to the University without copyright limitations and the University may use them at their discretion in any publication, website, or other medium.

B. Take photographs at a maximum of three days prior to each application for a payment and as follows:

1. Site Clearing

2. Excavations

3. Foundations

4. Structural Framing

5. Enclosure of Building

6. Final Completion

C. Take photographs as evidence of existing Project conditions as follows:

1. Interior Views

1. Exterior Views

## 1.2 DIGITAL MEDIA

Deliver digital media to the University via e-Builder.

# SECTION 01 33 00 – SUBMITTAL PROCEDURES

***Reference General Conditions §24.***

## 

## 1.1 DEFINITIONS

***See HECOM Definitions §2.2.***

## 1.2 SUBMITTAL FORM AND LOG

A. CM/GC shall use either the **Submittal Register** at:

<https://dgs.virginia.gov/globalassets/business-units/bcom/documents/forms/dgs-30-364_02-01_submittal_register.xls> or one of its own making acceptable to the University.

B. If e-Builder is not used, CM/GC shall maintain in the field office a copy of the Submittal Log/ Schedule indicating the status of each item.

C. CM/GC shall allot time in the construction scheduling for liaison with the A/E for review of Submittals. Except for special Submittals, such as those with design calculations and/or detailed Shop Drawings, the A/E will review Submittals in an average time of *(****enter number of days****)* working days. The CM/GC should submit inter-related Submittal items at the same time.

D. Schedule finish sample Submittals for approval of color, texture, graining, or other finish at least 30 days before purchase, assembly, or fabrication.

## 1.3 SUBMITTALS, GENERAL

A. CM/GC shall process Submittals electronically through the University’s electronic project management software, e-Builder, or an alternate process acceptable to the University. If e-Builder is not used, the A/E shall be responsible for filing all closed submittals in e-Builder as part of the closeout procedures.

B. A/E will return Submittals without processing if they do not contain the CM/GC’s stamp, if an authorized person did not initial or sign them, if they are not dated, and/or if it becomes evident that the CM/GC did not properly review them. Resultant delays are the responsibility of the CM/GC.

C. CM/GC shall submit electronic Submittals in a manner suitable for 8-1/2 x 11-inch file-folder-storage, except where doing so is not workable.

**D. Schedule finish sample Submittals for approval of color, texture, graining, or other finish, at least 10 days PRIOR to purchase, assembly, or fabrication.**

## 1.4 SHOP DRAWINGS

A. CM/GC shall submit electronically in complete sets and provide hard copies if requested by the A/E or University.

B. CM/GC shall allot time in construction scheduling for liaison with A/E for review of Shop Drawings. Except for special Shop Drawings, such as those with design calculations and/or extensive detail, the A/E will review Shop Drawings in an average time of *(****enter number of days****)* working days.

C. CM/GC shall present all drawings in a clear and consistent manner. Each drawing shall contain the Project name and number and identify each element of the drawings by reference to sheet number and detail, schedule, or room number of the Contract Documents.

D. CM/GC shall show detail, materials, dimensions, thickness, methods of assembly, attachments, relation to adjoining Work, and other pertinent data and information.

E. CM/GC shall verify dimensions and field conditions and clearly indicate both.

F. CM/GC shall not use Contract Drawings for Shop Drawings and shall provide original Shop Drawings with changes from Contract Drawings clearly indicated.

G. No item shall be marked as “By Others” or similarly.

H. Sprinkler shop submittals must include pipe sizes entering Project spaces, types of heads for the sprinkler Subcontractor to install, and locations indicating Relocated or Added heads. After the engineer stamps the submittal, it must go to the Office of the University Building Official (OUBO) who may take up to three weeks to review so plan accordingly.

## 1.5 PARTIAL SUBMITTALS

A/E will not review partial or incomplete Submittals. Complete Submittals for each item are required. The University will not consider a Submittal official until it is complete in every respect. Delays resulting from partial Submittals are the responsibility of the CM/GC.

## 1.6 RESUBMITTALS

A. The resubmittal procedure is the same as that specified for initial Submittals. The CM/GC must identify changes made since the previous Submittal.

B. A/E will record time required to review resubmittals after original Submittal and first resubmittal. University retains the right to require the CM/GC to reimburse University for additional fees from A/E and A/E's Consultants for reviewing Submittal more than two times unless the processing results from approved Change Orders causing revisions to previously approved Submittals.

## 1.7 DISTRIBUTION

A. Duplicate and distribute reproductions of Shop Drawings, product data, samples, and other Submittals which bear A/E's stamp of approval to the Project Record Documents file, the Project site file, Subcontractors, Suppliers, other affected Contractors, and other entities requiring the information.

B. Provide each testing and inspection agency one set of approved Submittals for their exclusive use in providing specified quality control testing and inspection services. See §01 40 00.

C. See HECOM §3.11 for University submittal requirements.

# SECTION 01 35 00 – SPECIAL PROCEDURES

## 1.1 SPECIAL PROCEDURES FOR HEALTHCARE FACILITIES

1. **When CM/GC performs Work in, around, and/or for UVA Health, the CM/GC shall also abide by all applicable UVA Health Policies, including but not limited to policies addressing identification, access, and behavior.** **These can be found at:** [***http://www.healthsystem.virginia.edu/docs/health-system***](http://www.healthsystem.virginia.edu/docs/health-system)***.* Note that UVA Health requires COVID-19 and Flu vaccination for all team members (including contractors and vendors). If your job-related activities require you to be present in a Health System Facility at any time in a given calendar year you must comply with the vaccine requirement.**

A completed **UVA Health Contractor Certification for Vaccination** form is **required** covering all team members related to our contract(s) originating from the **Facilities Management** **(FM), Office of Contract Administration Services (OCAS)**. All certifications related to this requirement for OCAS contracts between firms and the University are being coordinated by:

Alice Scott

Office of Contract Administration Services

University of Virginia

1450 Leake Drive, Charlottesville, VA 22904

Phone: (434) 982-4662    Fax: (434) 982-5108

[ams9xc@virginia.edu](mailto:ams9xc@virginia.edu)

B. When the University modifies applicable provisions and/or policies or implements new policies during the course of the Contract, the Project PM/CAM will notify the CM/GC and, by way of an Owner Field Directive as described in Section 01 26 00, instruct the Project team regarding the direct impact to the Project. The University will process any resulting changes, agreed upon by the CM/GC and PM/CAM to the contract amount or schedule, via a Construction Change Order Proposal (CCOP) as required in Section 01 26 00.

## SPECIAL GENERAL PROCEDURES FOR COVID-19 RESPONSE

1. CM/GC shall ensure that all workers engaged in on-site work are either:
   * 1. Fully vaccinated, or
     2. Required to wear a mask, maintain social distancing, and adhere to all other agency safety protocols while working on-site or engaged in-person with the public.
2. CM/GC shall require all employees/ workers to abide by the UVA policy regarding face coverings and physical distancing (SEC-045:COVID-19 Health & Safety Requirement – Face Masks, Physical Distancing, Events and Gatherings, and Visitors) per <https://uvapolicy.virginia.edu/policy/SEC-045> (which may be updated from time to time).
3. CM/GC shall establish a means for “checking in” workers to the jobsite every day. As part of this check-in, each employee/ worker must confirm, at minimum, they:
   1. Do not have a fever (temperature greater than 100.4), cough, shortness of breath, respiratory symptoms (sneezing, congestion), or other symptoms as listed by the CDC.
   2. Have not tested positive for Coronavirus (COVID-19).
   3. Have not been in contact with anyone who tested positive for Coronavirus (COVID-19).

Anyone not able to meet the screening criteria may not be permitted access to any UVA facilities or project sites. CM/GC shall ensure that daily check-in records are filed and can be produced upon request for the duration of construction activities.

1. CM/GC shall provide qualified personnel and/or a company to thoroughly clean jobsite areas (trailer, meeting rooms, break areas, high touch surfaces such as toolboxes and common tools, etc.) per Centers for Disease Control and Prevention’s recommendations.
2. All coordination with UVA staff should be coordinated through the project PM/CAM or other designated CM/GC essential personnel so as to limit inter-personal exposure.

## 1.3 INFECTION CONTROL PROCEDURES

A.   ***When the CM/GC performs Work in, around, and/or for UVA Health, the CM/GC shall also abide by all applicable Infection Control Risk Assessment Policies.***

1. CM/GC shall designate a CM/GC Representative for oversight of Infection Control and ILSM. The University reserves the right to interview the proposed responsible person, and to reject them for failure to demonstrate qualification and/or failure to provide adequate oversight.
2. The PM/CAM is responsible for providing the CM/GC with all current infection control policies including any updates/ revisions that the University may issue during the construction contract period.

# SECTION 01 41 00 – REGULATORY REQUIREMENTS

## 1.1 UTILITY EXCAVATION

A. All planned excavations on University property require notification by the CM/GC to the CAM within two hours of contacting MISS UTILITY. The notification to the CAM notifies only the University of an excavation planned by the CM/GC and does not result in notification of MISS UTILITY.

B. University is a subscriber to the MISS UTILITY underground utility location and notification system. In addition to University and MISS UTILITY requirements, the City of Charlottesville (434-971-3320) also requires that CM/GC’s submit requests for excavation permits for City maintained streets or sidewalks. Any excavation of state roads requires notification and coordination with the Virginia Department of Transportation (VDOT). All planned excavations require notification of MISS UTILITY per state and federal regulations. It is the responsibility of the CM/GC to notify MISS UTILITY at 1-800-552-7001 of the planned excavation and at 1-800-552-3120 to obtain subsequent verification that utilities have been marked.

C. Excavation shall not proceed without the completion of the above requirements.

## 1.2 STORMWATER PERMITTING & ASSOCIATED REQUIREMENTS

A. The DEQ – approved UVA Annual Standards and Specifications for SWM and E&SC shall bind all projects involving land-disturbing activity subject to Virginia Stormwater Management (SWM) and Erosion and Sediment Control (E&SC) Laws and Regulations. The most current version is available at <https://www.fm.virginia.edu/depts/operations/environmental/erosion.html>. This document includes construction plan content requirements, permitting requirements (initial and termination, including as-built records), construction inspection schedules, and enforcement procedures if the CM/GC does not comply with SWM and E&SC regulations.

B. If applicable, land disturbing operations may not begin unless the University has received approval of the Project’s E&SC plan and/or SWM plan.

C. Additionally, for sites of 1 acre in size or greater, land disturbing operations may not proceed until the CM/GC receives coverage under the General VPDES Permit for Discharges of Stormwater from Construction Activities. To obtain this coverage, the CM/GC must submit a Construction General Permit Application Package to the Virginia Department of Environmental Quality (DEQ) Central Office. The application package is available at: <https://www.deq.virginia.gov/Programs/Water/StormwaterManagement/VSMPPermits/ConstructionGeneralPermit.aspx>. Follow instructions for land disturbing activities where DEQ is the VSMP Authority and entities with approved Annual Standards and Specification.

D. Direct any questions on these procedures to UVA Environmental Resources at: [stormwateradmin@virginia.edu](mailto:stormwateradmin@virginia.edu).

## 1.3 ILLICIT DISCHARGES AND SPILLS

A. University has a permit to operate a Municipal Separate Storm Sewer System (MS4) issued by the Virginia Department of Environmental Quality (DEQ). This permit authorizes the University to discharge stormwater pursuant to the Virginia Stormwater Management Program and the Virginia Stormwater Management Act.

B. Storm drain systems are not connected to a sanitary sewer treatment plant, therefore water traveling through a storm drain system flows directly to local streams and rivers untreated. DEQ generally defines an illicit discharge to the storm system as any discharge that is not composed entirely of stormwater. The University’s MS4 Program “shall include all procedures developed by the operator to detect, identify, and address non-stormwater discharges to the MS4” per General Permit No: VAR040073, General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems.

C. University’s MS4 permit and City of Charlottesville’s Water Protection Ordinance prohibit illicit discharges, including spills that reach a storm drain. The University’s storm sewer system connects directly to the City’s; therefore, any discharge into the University’s storm system may impact the City’s storm sewer system. Illicit discharges may be punishable by civil and criminal penalties as illicit discharges constitute a threat to public health, safety, and welfare, and are deemed public nuisances.

D. It is the responsibility of the CM/GC to prevent illicit discharges to the University’s storm system by following the Project’s Stormwater Pollution Prevention Plan (SWPPP), if applicable, and University Standard Operating Procedures (SOPs) that apply to the Project(s). The University has listed its construction-related SOPs under Section 01 57 19 Temporary Environmental Controls.

E. Contain and stop spills and discharges from entering streams and storm drains, when safe to do so.

F. If a large spill occurs, immediately report to the Office of Environmental Health and Safety (982-4911) with the following information:

* Location of spill or illicit discharge
* Whether the material has entered a stream or storm drain
* Quantity of material (estimate how little or how much)
* A brief description of measures that the CM/GC or others have taken to confine the spilled material and prevent further spillage.

G. CM/GC may also call UVA Environmental Health and Safety for questions regarding spill cleanup.

For full Standard Operating Procedures to prevent pollution, please review: <https://www.fm.virginia.edu/depts/operations/environmental/procedures.html>.

## 1.4 WASTE MANAGEMENT AND DISPOSAL

It is the responsibility of the CM/GC to manage all University project waste in accordance with all local, state, and federal requirements. This includes but is not limited to clean fill hauled off-site, construction and demolition debris, wastewater, and other liquid wastes. More detailed requirements are provided in Section 01 74 19 Construction Waste Management and Disposal.

# SECTION 01 43 00/ 01 45 00 - QUALITY ASSURANCE AND CONTROL

## 1.1 GENERAL

A. This section specifies administrative and procedural requirements for Quality Control (QC) services.

B. QC services include inspections, tests, and related actions including reports performed by independent agencies, governing authorities, and the CM/GC. They do not include Contract enforcement activities performed by the A/E.

C. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve the CM/GC of responsibility for compliance with Contract Document requirements.

D. Requirements of this section relate to fabrication and installation procedures.

1. A/E has specified specific QC requirements for individual construction activities in the sections that specify those activities. Those requirements, including inspections and tests, cover production of standard products as well as customized fabrication and installation procedures.

2. University does not intend for University inspections, tests, and related actions specified to limit the CM/GC’s QC procedures that facilitate compliance with the Contract Document requirements.

3. University does not limit requirements for the CM/GC to provide QC services required by the A/E, University, or authorities having jurisdiction by provisions of this section.

## 1.2 RESPONSIBILITIES

***[Note: it is normally a University responsibility to provide the required independent testing (including roofing and air balancing) and laboratory services and for the A/E to note all such services in the technical specifications. Any deviation from this must be coordinated with the PM.]***

A. University testing and laboratory services: University shall employ and pay for independent testing and laboratory services:

1. As specified in individual Specification sections.
2. As required under Chapter 17 - Structural Tests and Inspections of the current Virginia Uniform Statewide Building Code, and required by the other governing authorities, except where they are specifically indicated to be the CM/GC’s responsibility, or are provided by another identified entity.
3. As required by other governing authorities.

Except where the contract documents specifically indicate them to be CM/GC’s responsibility or another identified entity provides them.

B. CM/GC Responsibilities:

1. CM/GC shall employ and pay an independent agency, to perform inspections, tests, and similar QC services which the A/E has designated in the Specifications as a CM/GC requirement to provide.

2. Where the University has engaged a testing agency or other entity for testing and inspection of a part of the Work and the CM/GC is required to engage an entity for the same or related element, the CM/GC shall not employ the entity engaged by the University unless otherwise agreed in writing with the University.

3. Failure and Re-testing: Regardless of the original assignment of responsibility for inspection, testing, or similar services, the CM/GC shall be responsible for payment for re-testing where results of required inspections, tests, or similar services prove unsatisfactory and do not indicate compliance with Contract Document requirements. Removal and replacement Work necessitated by such noncompliance shall be at the CM/GC's expense. When the Project cannot perform inspections or tests after proper notification and at the fault of the CM/GC, rescheduling costs will be the CM/GC’s responsibility.

4. Coordination: Regardless of the original assignment of responsibility for inspection, testing or similar services, the CM/GC shall coordinate, with each agency engaged to perform inspections, tests and similar services, the sequence of activities to accommodate required services with a minimum of delay. In addition, the CM/GC shall coordinate with each agency’s activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests. The CM/GC is responsible for:

* + - * 1. Scheduling times for inspections, tests, taking samples and similar activities.
        2. Notifying the UVA CAM and testing agency 48 hours in advance of operations requiring testing services.
        3. Providing incidental labor and facilities to facilitate inspections, tests, sample taking and appropriate sample storage.

5. Protection and Repair: Regardless of the original assignment of responsibility for inspection, testing or similar services, repair and protection are the CM/GC’s responsibility. Upon completion of inspection, testing, sample-taking and similar services, repair damaged construction and restore substrates and finishes to eliminate deficiencies, including deficiencies in visual qualities of exposed finishes. Protect construction exposed by or for QC service activities and protect repaired construction.

C. CM/GC’s Quality Control: ***(Optional)***

The CM/GC shall have a designated QC Representative responsible for the overall quality of workmanship and compliance with specifications. The CM/GC shall submit for approval a resume for the QC Representative in accordance with §01000 “Resumes for CM/GC’s Personnel”.

1. The QC Representative shall be responsible for observing and certifying the performance of CM/GC tests and pre-inspections identified on the CM/GC QC Required Certification Log ***(see sample below – define specific log for each project).*** The QC Representative may elect to use an alternate expert to observe / certify performance. The QC Representative shall be qualified to monitor construction quality by experience and training.

2. The CM/GC shall submit for approval a Quality Assurance Plan at the Pre-construction Meeting. The plan shall include identification and resumes of the QC Representative and any subordinate experts to the QC Representative. The plan shall also address the QC Representative’s on-site presence and participation in pre-installation, and Subcontractor meetings. The plan shall include a proposed bi-weekly CM/GC QC report. This report shall include results of CM/GC certifications, University's test results, post installation inspection results, and updated CM/GC QC Required Certification Log.

3. The CM/GC shall use the CM/GC QC Required Certification Log as a guide to track and plan for required certified pre or post application inspections.

4. The QC Representative shall have the authority to stop Work at any time quality problems necessitate. The CM/GC shall delineate this authority in a letter of appointment from a company officer. The letter shall be included in the Quality Assurance Plan.

## 1.3 TEST AND INSPECTION CERTIFIED REPORTS

The CM/GC shall forward a certified written report for CM/GC provided services from the independent agency of each inspection, test, or similar service within one week of the test date via e-Builder. Written reports of each inspection, test or similar service shall include, but not be limited to:

A. Name, address and telephone number of testing agency

B. Dates and locations of samples and tests or inspections

C. Names of individuals making the inspection or test

D. Designation of the Work and test method

E. Identification of product and Specification section

F. Complete inspection or test data

G. Test results and an interpretation of test results

H. Ambient conditions at the time of sample taking and testing

1. Professional opinion as to whether inspected or tested Work complies with Contract Document requirements

J. Name and signature of laboratory inspector

K. Recommendations on retesting

## 1.4 QUALIFICATION AND CERTIFICATION OF SERVICE AGENCIES

A. All testing service agencies, engaging in inspection and testing services, including independent testing laboratories, shall be prequalified as complying with “Recommended Requirements for Independent Laboratory Qualification” by the American Council of Independent Laboratories, and shall specialize in the types of inspections and tests to be performed. The Commonwealth of Virginia shall have authorized each service agency engaged on the Project to operate in Virginia.

B. Additionally, each laboratory shall:

1. Comply with the requirements of ASTM D3740 and E329 (***Verify applicability of these standards****).*

2. Maintain full-time registered engineer on staff to review and supervise services.

3. Calibrate testing equipment at reasonable intervals with devices of accuracy traceable to either the National Institute of Standards and Technology (NIST) or accepted values of natural physical constants.

**CM/GC’s QC REQUIRED CERTIFICATION LOG -** *sample*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Section** | **Paragraph** |  | **Certification Requirement** | **Certification Record** | **Date Completed** |
| 07141 | 3.1 | Cold Fluid-Applied Waterproofing | Pre-application | Bi-weekly CQC report |  |
| 07210 | 3.1 | Building Insulation | Pre-application | Bi-weekly CQC report |  |
| 07270 | 3.1 | Firestopping | Pre-application | Bi-weekly CQC report |  |
| 07532 | 3.1 | (CSPE) Single-ply membrane roofing | Pre-application | Bi-weekly CQC report |  |
|  | 3.2 |  | Pre-application | Bi-weekly CQC report |  |
|  | 3.3 |  | Post application | Bi-weekly CQC report |  |
| 07901 | 3.1 | Joint Sealants | Pre-application | Bi-weekly CQC report |  |
| 08212 | 3.1 | Stile and Rail Wood Doors | Pre-application | Bi-weekly CQC report |  |
| 08462 | 3.1 | Swinging Automatic Entrance Doors | Pre-application | Bi-weekly CQC report |  |
|  | 3.7B |  | Post application | Letter |  |
| 0880 | 3.1 | Glazing | Pre-application | Bi-weekly CQC report |  |
| 09300 | 3.1 | Tile | Pre-application | Bi-weekly CQC report |  |
| 09550 | 3.2 | Wood Flooring | Pre-application | Bi-weekly CQC report |  |
| 09660 | 3.1B | Resilient Tile Flooring | Pre-application | Bi-weekly CQC report |  |
|  | 3.2C |  | Pre-application | Bi-weekly CQC report |  |
|  | 3.2E |  | Pre-application | Bi-weekly CQC report |  |
| 09680 | 3.1 | Carpet | Pre-application | Bi-weekly CQC report |  |
| 09950 | 3.1B | Wall Coverings | Pre-application | Bi-weekly CQC report |  |
| 11132 | 3.1B | Projection Screens | Post application | Bi-weekly CQC report |  |
| 14100 | 3.1B | Dumbwaiters (if picked up) | Post application | Bi-weekly CQC report |  |
| 16030 | 3.2A | Adjusting, Balancing, and System Testing | Pre-application | Bi-weekly CQC report |  |
|  | 3.2C |  | Post application | Letter |  |
|  | 3.3C |  | Post application | Letter |  |
|  | 3.4G |  | Pre-application | Letter |  |
|  | 3.4H |  | Pre-application | Letter |  |
|  | 3.4I |  | Post application | Letter |  |
| 15050 | 1.4 | Demolition | Pre-application | Letter |  |
| 15060 | 3.1 | Pipe and Pipe Fittings | Pre-application | Bi-weekly CQC report |  |
|  | 3.7 |  | Post application | Letter |  |
| 15210 | 3.1A | Vibration Isolation | Periodic | Bi-weekly CQC report | [Periodic] |
| 15220 | 3.1B | Water Treatment | Post application | Bi-weekly CQC report |  |
| Letter | 3.23 | Plumbing General Provisions | Post application | Letter |  |
| 15761 | 3.1E | Fan Coil Units | Post application | Bi-weekly CQC report |  |
| 15770 | 3.1B | Packaged Air Handling Units | Post application | Bi-weekly CQC report |  |
|  | 3.1E |  | Post application | Bi-weekly CQC report |  |
|  | 3.1F |  | Post application | Bi-weekly CQC report |  |
|  | 3.1I |  | Pre-application | Bi-weekly CQC report |  |
| 15820 | 3.1C | Fans | Post application | Bi-weekly CQC report |  |
| 15846 | 3.1I | Prefabricated Ductwork | Pre-application | Bi-weekly CQC report |  |
|  | 3.2 |  | Post application | Bi-weekly CQC report |  |
| 15899 | 3.1C | Adjustable Frequency Drive Units | Post application | Letter |  |
| 16470 | 3.1 | Panelboards | Post application | Bi-weekly CQC report |  |
| 16623 | 3.1 | Elevator Equipment Wiring | Pre-application | Bi-weekly CQC report |  |
| 16721 | 3.2 | Fire Alarm and Smoke Detection System | Post application | Letter |  |
| 16722 | 3.2 | Intrusion Detection and Security Access System | Post application | Letter |  |
| 25000 | 3.4D | Integrated Automation  Building Automation System | Post application | Letter |  |

## 1.5 MOCKUPS

*The specification writer will populate this section with all technical Specification references. Technical Specification sections will identify detailed criteria as appropriate for each element.*

*Elements to consider:*

* ***Glazing systems***
  + ***typical glass***
  + ***spandrel glass***
  + ***framing***
  + ***flashing***
  + ***anchorage***
  + ***perimeter sealants (for color and adhesion)***
* ***Exterior wall system***
  + ***masonry veneer***
  + ***mortar (for color and strength)***
  + ***backup wall***
  + ***ties and anchors***
  + ***joint reinforcement***
  + ***cavity grout, if applicable***
  + ***cavity insulation***
  + ***lintels***
  + ***weeps***
  + ***flashing***
  + ***damp proofing / air or vapor retarder***
* ***Material transitions that demonstrate interfaces/relationships***
  + ***air and vapor barrier penetrations***
  + ***window flashing***
  + ***foundation waterproofing***
* ***Roof***
  + ***roof system***
  + ***gutters***
  + ***wall transitions***
  + ***penetrations***
  + ***lightning protection***
* ***Metal panels***
* ***Architectural precast concrete/ cast stone***
  + ***include sample repair/ patch***
* ***Interior woodwork***
  + ***Finishes***
  + ***Sample repair/ patch***

## 1.6 EQUALS AND SUBSTITUTES

***(See General Conditions §26 in either the HECO-7/ CO-7 or HECO-7DB/ CO-7DB as applicable.)***

# SECTION 01 50 00 – TEMPORARY FACILITIES AND CONTROLS

## 1.1 TEMPORARY MATERIALS

Temporary materials may be new or used, but must be adequate in capacity for required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.

## 1.2 PROTECTION OF INSTALLED WORK

A. Protect installed Work in a manner to prevent damage from construction operations.

B. Provide special protection as detailed in individual Specification sections.

C. Provide temporary and removable materials for protection of installed products, to control activity in the immediate Work area, and to minimize damage.

D. Protect finished Work from damage, defacement, stains, scratches, and wear.

E. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary upon such surfaces, the CM/GC shall obtain recommendations for protection from the weatherproofing or roofing material manufacturer.

F. Prohibit traffic on lawn and landscaped areas.

## 1.3 TEMPORARY INSTALLATIONS

A. Install, maintain, and operate temporary utilities and services to ensure continuous operation, and modify and extend such temporary systems as Work progresses.

B. Install temporary facilities and controls in a manner that produces a uniform appearance, that is structurally adequate for the required purposes, and that the CM/GC properly maintains.

C. Modify and relocate temporary facilities and controls as necessary to accommodate progress of Work.

## 1.4 CLEANING, REMOVAL, AND RESTORATION

A. Maintain the construction site in a clean and orderly manner; provide for routine removal of trash and construction debris; provide appropriate waste receptacles and containers on site; and remove all such receptacles and containers prior to Substantial Completion inspection. Location and placement of receptacles, including but not limited to dumpsters, must be coordinated with the University CAM in advance.

B. Remove all temporary above grade or buried utilities, equipment, facilities, controls, and materials prior to Substantial Completion inspection.

C. Repair damage caused by installation or use of temporary Work.

D. Restore existing facilities and equipment used during construction to original condition.

# SECTION 01 51 00 – TEMPORARY UTILITIES

## 

## 1.1 GENERAL

**University Supplied Utilities:** ***refer to*** [***Supplemental General Conditions - CM Construction Utilities***](http://www.fm.virginia.edu/fpc/HECOManual/ConstructionUtilitiesSGCsforCMAtRisk.docx)***.***

## 1.2 ELECTRICITY AND LIGHTING

A. ***University Supplied Utilities: University will provide the CM/GC with electricity for construction use. The CM/GC is responsible for coordinating Work related electrical requirements and protecting the building within the limits of available electrical power, without compromising the University’s need for electricity. The CM/GC is responsible for energy conservation and reasonable construction use of electrical power. The CM/GC shall pay for additional power above the reasonable amount if the University determines the CM/GC is using an unreasonable or excessive amount of electricity. If the CM/GC's use of electricity required for Work exceeds the limits of available power in the building, the CM/GC shall reduce power consumed and/or pay for such modifications as required eliminating any electrical need that may compromise the University's system.***

***- OR-***

***CM/GC Supplied Utilities: CM/GC shall provide temporary electrical service required for power and lighting, arrange provisions with utility company or University, and pay costs for service and energy consumed. The service shall be equipped with a meter, main disconnect, and over current protection. The University must approve connections to existing systems. The CM/GC shall pay the costs for service and the energy consumed.***

B. CM/GC shall provide electrical service sized to provide adequate temporary power and lighting.

C. CM/GC shall provide a branch distribution system from the temporary power source with distribution boxes and outlets located so that power and lighting is available throughout active Work areas.

D. CM/GC may utilize permanent receptacles during construction.

E. CM/GC may utilize existing receptacles as a source of temporary electric service for remodeling Work within an existing building.

F. CM/GC shall replace receptacle plates and wiring devices damaged during construction.

G. CM/GC shall provide lighting to ensure safe construction operations and to allow proper finishing operations.

H. CM/GC may utilize permanent lighting systems during construction.

I. CM/GC may utilize existing lighting system for temporary lighting for remodeling Work within an existing building.

J. CM/GC shall restore permanent (***and/or existing***) lighting systems used during construction to new (***and/or original***) condition; replace defective fixtures, controls, and other component parts; and clean fixtures and replace lamps. CM/GC shall not direct lighting skyward.

K. CM/GC shall remove all temporary wiring before completion of Project.

## 1.3 HEATING, COOLING, AND VENTILATING

A. ***University Supplied Utilities: University will provide the CM/GC with existing source(s) of heating and/or cooling for construction use. The CM/GC is responsible for coordinating Work related heating and/or cooling requirements and protecting the building within the limits of available heating and/or cooling resources, without compromising the University’s need for heating and/or cooling and/or the effectiveness of existing building systems to serve existing occupants. The CM/GC is responsible for energy conservation and reasonable construction use of heating and/or cooling systems. The CM/GC shall pay for additional energy consumption above the reasonable amount if the University determines that the CM/GC has used an unreasonable or excessive amount of energy. If the CM/GC's use of additional energy required for Work exceeds the limits of available resources in the building, the CM/GC shall reduce energy consumed and/or pay for such modifications as required eliminating any compromises to the University's system.***

***-OR-***

***CM/GC Supplied Utilities: Prior to Enclosure, CM/GC shall provide heating, cooling, and ventilation as necessary to protect materials, products, and finishes from damage due to temperature or humidity. CM/GC shall provide and pay for costs of supervision, operation, maintenance, fuel, and energy consumed.***

B. If CM/GC meets the following requirements, University will permit CM/GC’s use of the permanent HVAC and associated distribution systems:

1. University has verified CM/GC has lubricated equipment, that filters are in place, and approved the installation for operation.

2. Verification that reasonable closures from the external environment exist.

3. CM/GC has installed the equipment completely – with accessories, started-up, maintained, serviced, and operated in strict accordance with manufacturer’s instructions.

* + 1. Should the above authorization be confirmed, please note the following:

1. CM/GC is responsible for providing and paying for replacement of filters and worn or consumed parts.

2. Operation of permanent systems or any portion thereof to provide temporary heat/ventilation does not constitute acceptance of system or such portion thereof.

3. The time-period contained in warranties for heating/ ventilating systems shall begin on date of Substantial Completion as certified by A/E and shall not begin on date of use, unless A/E certifies such date as date of Substantial Completion.

4. Immediately before Substantial Completion, the CM/GC shall completely clean each permanent unit used, install new filters, and perform service functions required for placing units in use and qualifying for specified warranties.

D. Ventilate enclosed areas to assist in the curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

E. CM/GC shall not operate any permanent HVAC system without the permanent filters and/or strainers in place. Upon Substantial Completion, the CM/GC will replace all filters and/or strainers with new filter/ strainers. The CM/GC shall remove all temporary filters prior to occupancy.

## TELEPHONE

***Optional – Require, if appropriate and after consultation with the University PM/CAM***

***A. Provide and pay for telephone service to the temporary field office at time of Project mobilization.***

***B. Provide and pay for telephone service for use by construction personnel.***

## 1.5 WATER

A. ***University Supplied Utilities: The University will provide the CM/GC with existing source(s) of water for construction use. The CM/GC is responsible for coordinating Work related temporary water requirements without compromising the University’s need for water and protecting the building water supply. The CM/GC shall conserve water to the extent practicable and shall use a reasonable amount of water for construction. The CM/GC shall pay for water usage and related sewer costs above the reasonable amount if the University determines the CM/GC has used an unreasonable or excessive amount of water. Should the CM/GC's use of water required for Work exceed the limits of available water to the building, the CM/GC shall reduce water consumed and/or pay for such modifications as required eliminating any compromises to the University system’s ability to meet water requirements for existing services.***

***-OR-***

***CM/GC Supplied Utilities: Provide and maintain water and related sewer service required for construction operations. The CM/GC shall pay all related expenses.***

B. CM/GC shall furnish and install connection to the system and service point designated by the University Facilities Operations Department.

C. CM/GC shall provide extended branch piping with outlets so located such that they may make water available by hoses with threaded connections and provide temporary pipe insulation to prevent freezing.

* + 1. CM/GC shall remove all temporary service and piping, including protection of potable water systems, before completion of the Project.

## 1.6 UTILITY OUTAGES

A. The following restrictions apply to utility outages.

***(List here any additional restrictions which apply to outages in order to minimize the number and length of required outages and in order to minimize the impact of required outages by restricting the times to occur when critical operations are least impacted and inconveniencing the fewest customers.)***

B. CM/GC must obtain authority to schedule power outages from the University. The University will coordinate the interruption of service with the CM/GC and all University parties affected.

C. In all cases, CM/GC shall keep utility and service outages to a minimum and proceed only after receiving written approval of University.

D. CM/GC requests for outages shall include an identification of all areas that the proposed outage will affect. CAM shall provide information at the Preconstruction Meeting on how to submit a formal outage using the University’s VEOCI system.

E. CM/GC requests for outages shall be submitted a minimum of seven (7) working days [preferred 14 days for extensive outages] in advance of the proposed outage.

# SECTION 01 52 00 – CONSTRUCTION FACILITIES

## 1.1 FIELD OFFICES

***(Coordinate with the University PM.* *Specify size and/or any space required for University use including conference, office, etc. Include and/or modify accordingly.)***

A. ***Use of existing facilities for this Project.***

* + - 1. ***University allows use of existing facilities for temporary field offices (and for storage). The CM/GC may use the following designated existing spaces:***

***a. \_\_\_\_\_\_\_\_\_\_\_\_\_***

***b. \_\_\_\_\_\_\_\_\_\_\_\_\_***

***-OR-***

***2. CM/GC shall not use existing facilities for temporary field offices or for storage. CM/GC shall provide temporary field offices at time of Project mobilization at the location shown in the drawings and maintain during the progress of the Work.***

***a. Construction:***

***(1) Mobile buildings or buildings constructed with floors raised above ground, securely fixed to foundations, with steps and landings at entrance doors. Structurally sound, secure, weather tight enclosures for office and storage spaces are required.***

***(2) Exterior materials shall be weather resistant and finished in a color acceptable to the University.***

***(3) Fill and grade sites for temporary structures to provide drainage away from buildings.***

***b. Removal: At completion of Work, remove buildings, foundations, utility services, and debris. Restore areas.***

***-OR-***

***B. Use of permanent facilities constructed under this Project.***

***1. When the permanent facilities are enclosed and have operable utilities, relocate field offices and storage into building, with written agreement of University, and remove temporary buildings.***

***-OR-***

* + - 1. ***CM/GC shall not use permanent facilities for field offices or for storage.***
  1. SANITARY FACILITIES

Provide and maintain temporary sanitary facilities and enclosures. Existing and new permanent facilities are not available for use. ***(Optional language for projects that cannot provide temporary facilities: Existing sanitary facilities may be used provided that they are maintained in good, clean working condition. UVA may, upon notification of concern regarding condition of facilities, indicate that existing facilities will no longer be available for use and the CM/GC will have to provide temporary sanitary facilities and enclosures.)***

# SECTION 01 54 00 – CONSTRUCTION AIDS

## 1.1 EXISTING ELEVATORS

***(Optional – include any restrictions on use of existing elevators, hoists, or other material lifts. Include following if appropriate.)***

CM/GC must submit requests for use of elevators installed under this Contract to University for approval and certify that during construction the CM/GC will comply with the following:

A. Arrange for, obtain, and pay for necessary approvals, manufacturer’s acceptance forms, inspections, permits and other provisions as necessary for temporary use.

B. Furnish, install, and maintain temporary protection of existing components, including cab and entrances.

C. Remove temporary protection devices after temporary use is no longer required; restore elevator system to original condition; and replace damaged and worn components.

# SECTION 01 55 00 – VEHICULAR ACCESS AND PARKING

## 1.1 TEMPORARY ACCESS ROADS AND APPROACHES

***(Specify any restricted routing and show on Site Drawings if applicable.)***

A. Construct and maintain temporary roads and approaches to serve the construction area. Temporary roads must not interfere with public routes and the CM/GC must maintain so as not to be a source of offsite dirt, debris, and litter.

B. Extend and relocate temporary access roads and approaches, as Work progress requires. Provide detours necessary for unimpeded traffic flow.

C. Provide and maintain access to fire hydrants and keep all hydrants free of obstructions.

D. Consult with authority having jurisdiction in establishing public thoroughfares for CM/GC to use for site access haul routes (*i.e. the University, City of Charlottesville, and/or VDOT*).

E. Keep all public streets, drives, and walks adjacent to site and haul routes clean and free of dirt, debris, and litter caused by construction operations. CM/GC must immediately remove any dirt, debris, and litter caused by construction operations.

F.Install appropriate vehicle/ under carriage washing procedures as detailed in the Specifications.***Include if necessary.***

## 1.2 TEMPORARY PARKING

*A*. ***Specify locations for temporary University parking if available and include any available general parking areas as appropriate (i.e. "Parking permits for on-grounds parking may be purchased by the CM/GC from the University Parking and Transportation Office, 1101 Millmont Street, Charlottesville, VA 22903.”)***

***-OR-***

***Temporary parking areas for construction personnel are not available.***

***B. Construction personnel may not use existing on-site streets and parking facilities.***

***C. CM/GC and delivery trucks may park within the staging areas indicated on the Drawings.***

***(Clearly show with appropriate notes on the Drawings.)***

***D. Parking violators will be subject to towing and fines.***

***-OR (For UVA Health Grounds)-***

***A. Limited contractor parking (approximately two to three spaces per project) is available via permit in the M6 lot located at 10th and Grove St. Preapproval for M6 permit purchase is required by UVA Health Parking & Transportation and must be coordinated with University CAM.***

* + - 1. ***Parking permits may be purchased by the CM/GC from the University Parking and Transportation Office, 1101 Millmont Street, Charlottesville, VA 22903. Monthly permit costs are available at*** [***https://parking.virginia.edu/rates***](https://parking.virginia.edu/rates)***.***
      2. ***Additional permit parking may be purchased in Health System commuter lots (U-Hall or JPJ) without preapproval or limitations.***

***B. Construction personnel may not use existing on-site streets and parking facilities.***

***C. Parking violators will be subject to towing and fines that are not reimbursable by the Project.***

# SECTION 01 56 00 – TEMPORARY BARRIERS AND ENCLOSURES

## 1.1 TEMPORARY BARRIERS AND ENCLOSURES

A. Provide barriers to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.

B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.

C*.* ***(If University to provide fencing material adjust this section accordingly.)***

Provide construction fence around construction site as shown in the Drawings***(show on site drawings)***; equip with gates and locks. ***(See latest Facilities Design Guidelines sketch and specifications.)***

***1. Plywood: exterior type APA C-D Plugged, thickness as appropriate for framing requirements.***

***2. All wood pressure treated.***

***3. Paint: Deluxe Exterior Latex.***

***4. Colors: For all Academic AND UVA Health projects: Match Benjamin Moore “Special Charleston Green”, #0000502 (Coordinate with UVA PM).***

***5. Keep fence in good repair and free of graffiti.***

***6. At Project completion remove fence, deliver to University, and restore area.***

University Architect may allow chain link fencing with approval*.* ***(Insert A/E spec. here.)***

D. Exterior Closures:

1. Provide temporary weather-tight closure at exterior openings to accommodate acceptable working conditions and protection for products, to allow for temporary heating and maintenance of required ambient temperatures, and to prevent entry of unauthorized persons.

2. Provide access doors with appropriate hardware and locks.

E. Interior Closures:

1. Provide temporary barriers to separate construction areas from University occupied areas, to prevent penetration of dust into occupied areas, to prevent entry of unauthorized persons in construction areas, and to prevent damage to existing materials and equipment.

2. Construct of adequate framing and surface with non-combustible materials having closed joints and sealed edges at intersections with existing surfaces.

3. Closures with fire rated corridors shall meet fire-rating equivalents.

4. Paint surfaces exposed to view in occupied areas in colors directed by the Architect.

F. Tree and Plant Protection: ***(Specify special preservation requirements such as watering, etc.)***

1. Preserve and protect existing trees and plants designated to remain post-construction.

2. Provide 4-foot-high barriers around drip line or beyond as approved by the University, with access for maintenance.

3. Consult with University Architect/ Arborist; remove agreed-upon roots and branches that interfere with construction; employ University approved arborist to remove and to treat cuts.

4. Protect areas within barriers from traffic, parking, storage, dumping, chemically injurious materials and liquids, ponding, and continuously running water.

5. Replace trees and plants damaged by construction operation with ones of similar size approved by the University.

## 1.2 SECURITY

* + - 1. Provide security and facilities to protect the worksite and existing premises from unauthorized entry, vandalism, and theft.
         1. University lock shop will provide, via the Project PM/CAM, lock core for use in construction entry/ exit ways. The CM/GC can only use University provided lock cores to secure the construction site to ensure accessibility in the event of an emergency. PM/CAM will also provide associated keys for CM/GC use.
         2. CM/GC is responsible to ensure that they always lock the jobsite when unoccupied and that they always conduct operations in a manner to avoid risk of loss, theft, or damage by vandalism.

## 1.3 NOISE CONTROL

1. Execute Work as quietly as practicable to avoid unnecessary disturbances to occupants within and around the premises.

2. CM/GC must perform high-level-noise-operations in accordance with local regulations and with University approval prior to proceeding.

3. Loud noise and vibrations, which cause disturbance in residential, hospital, and/or laboratory areas, must be controlled and coordinated in advance with the University.

***(A/E should specify here any special noise restrictions for renovations, additions, and Work in certain areas on the University Grounds, such as UVA Health, in scientific research areas, and residential areas. A/E may specify restrictions, such as periods of the day and/or loudness of sound, for the Project team to coordinate. In addition, include here after consultation with the University PM, any required noise plan submittal and approval requirements.)***

# SECTION 01 56 16 - DUST CONTROL

## 1.1 GENERAL

Execute Work by methods to minimize dust rising from construction operations.

Provide positive means to prevent air-borne dust from dispersing into the atmosphere.

***(Include other site-specific dust mitigation requirements. Consider, if appropriate after consultation with the University PM, the submission and University approval of a CM/GC Dust Control Plan.)***

A. CM/GC must conduct construction activities causing disturbance of existing dust, or creating new dust, in tight enclosures cutting off any flow of dust particles into adjacent occupied areas.

B. Pre-demolition:

1. Before any construction on site begins, CM/GC must properly brief all workers on-site to ensure full compliance with the dust control measures in the Construction Documents. Conduct a field review of all dust control policies.
2. Pre-demolition Conference: Conduct a conference at the Project site in accordance with requirements in Specification Section 01 31 00 – Project Management and Coordination to review methods and procedures related to selective demolition including, but not limited to, the following:

a. ***Review dust control barriers and means of infection control to meet requirements of ICRA***.

b. Inspect and discuss condition of construction to be selectively demolished.

c. Coordinate and confirm any required utility outages are in place.

d. Review construction sequencing of work.

C. CM/GC installs temporary construction-dust-control-barriers and closures above ceilings, if required, to prevent the transmission of dust into adjacent occupied areas.

D. CM/GC must not allow dust and debris to accumulate. Remove dust and debris at least daily:

1. Transport all demolished or removed material in tightly sealed, covered, rubber-tired containers.
2. Fit-out containers with clean polyethylene covers.
3. Seal containers completely at perimeters.
4. Before leaving construction areas, wipe clean all containers with a damp sponge to prevent tracking of dust.
5. Place the sponge and pail inside the dust-control-barrier-entrance and keep them clean and changed daily.

E. Provide temporary fans, associated ductwork, and dust control barriers required to maintain a negative pressure in the Work area relative to the surrounding occupied areas. Provide HEPA filtered exhaust fans when utilizing existing exhaust duct system. Submit plan for achieving negative pressure to the CAM for review. Install a visual monitoring system to demonstrate that the area is always under negative pressure until the CM/GC removes the construction barriers.

* + 1. Provide walk off mats at inside of dust control barrier entrances and vacuum or change walk-off mats daily or more often if necessary, to prevent accumulation of dust; provide (sticky) walk-off mats immediately outside dust control barrier entrances. Coordinate locations of mats with CAM.

G. Remove immediately any dust tracked outside a dust control barrier.

H. Replace immediately any ceiling access panels opened for investigation beyond the sealed areas when unattended. If the CM/GC removes a ceiling-tile in any inpatient area, outpatient transplant clinic, or outpatient cancer clinic the University must remove patients from the space until at least one hour after the CM/GC replaces the ceiling tile.

I. Block off existing ventilation ducts within the construction area and cap ducts to be dust tight and to withstand airflow and pressure.

J. Clean renovated areas before removal of dust control barriers by a) wet mopping all vinyl or sheet flooring; b) vacuuming all carpet or soft surfaces with a HEPA filtered vacuum; and/or c) wiping all surfaces with disinfectant. Obtain approval of University CAM before proceeding with removal of barriers and ceiling protection. Carefully remove barriers and ceiling protection to minimize the spread of dirt and debris.

K. Take immediate action to clean deficient areas and cease other construction Work until the CM/GC corrects the deficiencies.

## 1.2 TEMPORARY DUST CONTROL BARRIERS

A. Provide temporary dust control barriers where indicated and where reasonably required to ensure protection from dust. Dust control barriers shall be full height, non-combustible construction, with a minimum 1/2" gypsum board on one side.

1. Dust control barrier doors: 3'-0" minimum width, with frame, hardware, and lockset keyed to University system, and heavy duty closer. Tightly weather-strip door to prevent flow of dust into patient areas. Locate doors as directed and swing into construction areas. Keep barrier doors locked outside of working hours. Precut all material for barriers in unoccupied areas.

2. Dust control barriers may not reduce exit access corridors below the required width of 44 inches. Note that in some areas required widths may be greater than 44 inches. Coordinate with University CAM.

1. Seal all door openings to adjacent areas with tape if not part of scope of Work.
2. CM/GC shall construct dust barriers of fire and smoke resistive material.

B. Use CertainTeed WP225 by Owens Corning, or equivalent rigid non-combustible foil faced insulation board barriers, to seal patient areas from Work areas, at the perimeter of Work areas, and between finish ceiling and upper concrete slab. The CM/GC shall cut the barrier to fit around all existing utilities and seal with tape or foam around all penetrations. (Note – CM/GC may also construct dust barriers as temporary fire/ smoke barriers. As such, the gypsum board should continue to the floor slab above. See Drawings for appropriate wall type.)

C. Schedule with the CAM any Work outside the construction area designated in the Construction Documents, including Work in corridors and lobbies.

D. Store all construction equipment and material inside the construction-dust-control-barrier unless it has the University's written permission to do otherwise.

E. Keep dust control barriers in a neat, clean, and dust tight condition at all times; provide necessary manpower and equipment (e.g. dust and wet mops, brooms, buckets and clean wiping rags, HEPA vacuums) for cleaning fine dust from floors in occupied areas and to keep adjacent occupied areas clean at all times.

F. Provide dust tight polyethylene covering taped in place to seal completely any opening until the CM/GC completes final patching whenever it made openings into walls or ceilings in patient occupied areas. The CM/GC may only do this procedure if it completes the Work in one shift.

G. Keep construction areas swept clean with sweeping compound and keep clear of debris daily throughout the course of construction.

H. Complete and place into operation all the above described items of Work before beginning demolition.

## 1.3 EXECUTION

A. Maintain and operate dust control systems to provide continuous protection to occupied areas of the hospital.

B. Modify and extend dust control systems as required.

C. Remove all temporary services installed as a requirement of the Contract Documents and restore utilities to original condition at the completion of the Work.

D. Legally and properly, dispose of all debris resulting from removal and reconditioning operations.

## 1.4 ENFORCEMENT

A. If violations and/or non-compliance with the provisions of this section occur the University has the right to halt all construction until the CM/GC corrects deficiencies. The CM/GC will bear full responsibility for any delay of Work.

B. CAM will maintain a record of each dust control violation.

C. Failure of the CM/GC to immediately mitigate and promptly correct any deficiency is enough grounds for termination. It will result in the University taking corrective action. All resulting costs will be the responsibility of the CM/GC.

D. Continued violations will be cause to find the CM/GC in non-compliance with Contract Documents and shall be enough grounds for termination.

## 1.5 DUST CONTROL PLAN

***Optional – Require, if appropriate and after consultation with the University PM, the CM/GC to submit for approval by the University a CM/GC Dust Control Plan that includes all requirements listed in this section for each phase of Work.***

# SECTION 01 57 19 - TEMPORARY ENVIRONMENTAL CONTROLS

***Optional – Require the following Standard Operating Procedures be followed if appropriate and after consultation with the University PM. Format as required.***

UVA Environmental Resources developed the following Standard Operating Procedures (SOPs) to prevent the discharge of pollutants into a storm drain or local stream from common construction and maintenance activities. These “illicit discharges” can result in extensive cleanup costs and penalties from regulatory agencies. A full list of all SOPs can be found on the UVA Environmental Resources website:

<https://www.fm.virginia.edu/depts/operations/environmental/procedures.html>.

**STANDARD OPERATING PROCEDURES:**

## 1.1 EXTERIOR SURFACES AND BUILDING WASHING

This proceduredescribes best practices for washing the exterior surfaces of University buildings, windows, loading docks, patios, roads, garages or parking lots. Soaps, degreasers, chemicals, automotive fluids, litter, and a host of other materials either used for or generated from the washing process can pollute local waterways if the CM/GC allows them to enter the University’s storm sewer system.

Project staff must contact UVA Environmental Resources to review and approve washing plans before any outdoor washing takes place. MSDS’s of cleaning products proposed must be included in the washing plans.

## 1.2 WATER DISPOSAL FROM DEWATERING ACTIVITIES

This procedure describes best practices for water removal from maintenance and operational activities to prevent contaminants from reaching local waterways. Depending on the source of the pumped water, it may contain pollutants such as greases, oils, sediments, nutrients, pesticides, cleaning agents, bacteria, metals, and other chemicals.

## 1.3 CONCRETE, MASONRY MATERIALS, & SAW CUTTING POLLUTION CONTROL

This procedure describes best practices for the storage, handling, use, saw cutting and disposal of concrete and other masonry materials. Improper use and handling of these materials could result in exposure to airborne dust or can cause pollutants to leach into the ground or be transported to a storm drain or creek and result in an illicit discharge. The runoff created by exposing these materials to stormwater is contaminated with potential pollutants and can have a pH of approximately 12. This wastewater is toxic to fish, surface waters, and soils and therefore may not be discharged to the storm sewer system or local streams.

## 1.4 GLYCOL MANAGEMENT

This procedure describes the proper means for recovery and reuse, or disposal of, glycol solutions used as heat exchange fluids. UVA Environmental Resources developed this procedure to promote safe work, responsible practices, and to comply with regulatory policies. This procedure includes ethylene and propylene glycol solutions.

## 1.5 BUILDING FIRE SPRINKLER SYSTEM FLUSHING

This procedure describes best practices for flushing fire sprinkler systems to prevent the discharge of contaminated water to the University’s storm sewer system and local waterways. Water that the CM/GC flushes from sprinkler systems may contain high levels of iron, zinc, oils, and biological contaminants.

# SECTION 01 58 00 - PROJECT IDENTIFICATION

***Optional – UVA provides this as a guide document – the A/E must specify all required signage***

## 1.1 PROJECT IDENTIFICATION SIGN

***[UVA PM to evaluate whether this is a required sign.]***

One painted/printed sign, with assembly and construction, design, size, and content as shown on the drawing attached to this section and as follows:

A. Made of new wood or metal and structurally adequate and suitable for the specified finish. The sign surface shall be of exterior grade plywood with medium density overlay, minimum 3/4-inch thick, standard large sizes to minimize joints.

B. The paint and primer/print are to be of exterior quality. The CM/GC shall apply two coats of paint, consisting of an appropriate primer followed by one coat of paint. The CM/GC is to apply both coats to the sign support structure, framing and sign surface. The CM/GC is to use design, sizes, colors, and styles of lettering as shown on the attached drawing. A professional sign painter/printer should do the lettering.

C. Design supports and framing on secure foundation, rigidly braced, and framed to resist winds of 50 miles/hr. Provide detailed structural and mounting specifications for location designated.

## 1.2 PROJECT INFORMATIONAL SIGNS

A. The CM/GC is to paint/print all informational signs with the same colors and lettering as Project Identification Signs above, or standard products.

B. Provide signs to direct traffic into and within the Work site if required.

C. Provide signage at entry to Project that includes at a minimum:

1. Emergency Contact List

2. Building Permit

3. Infectious Control Risk Assessment

4. Interim Life Safety Measures

D. CM/GC must laminate signage or place in a clear plastic sleeve. University does not permit paper signage.

***(Specify additional information signage as required.)***

## 1.3 INSTALLATION

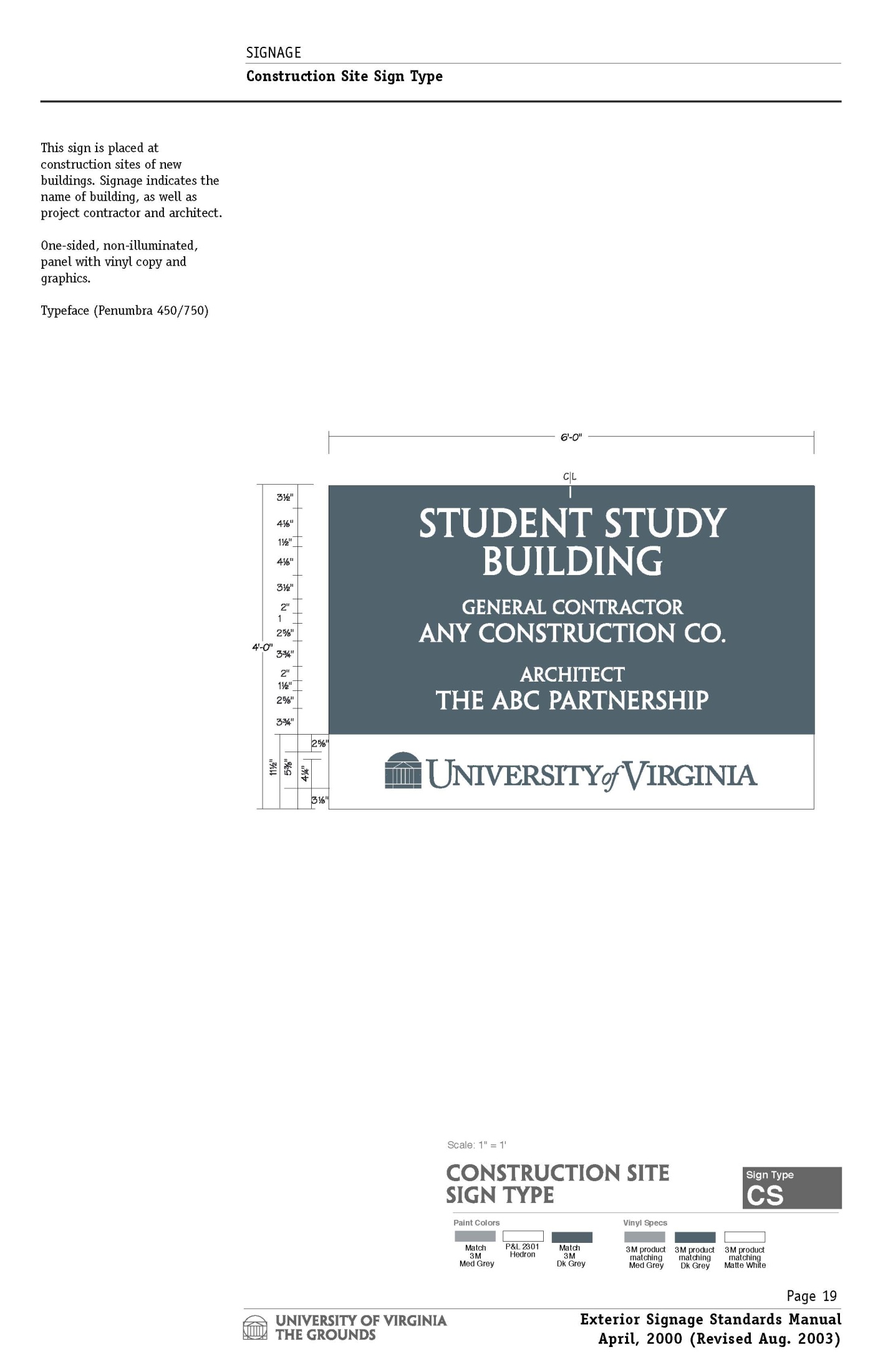
A. Install Project Identification Sign and/or Informational Sign(s) prior to the start of any Work.

B. Place at location(s) as shown on the Site Drawings or as approved by the University.

C. Install sign surfaces plumb and level, with butt joints, and anchor securely.

## 1.4 REMOVAL

Remove signs, framing, supports, and foundations, as applicable, at Substantial Completion of Project and restore the area.



## *1.5 BUILDING DEDICATION PLAQUES*

***(Place this information in specification section 101416.)***

***A. CM/GC shall procure and install the specified Building Dedication Plaque as a part of achieving Beneficial Occupancy.***

***(The A/E shall reference the plans and specifications that contain the plaque details in this section. The A/E shall design plaques in accordance with the University Facilities Design Guidelines.)***

# SECTION 01 61 00 – PRODUCT REQUIREMENTS

## 1.1 LAB CASEWORK

The CM/GC shall procure all Project casework from the University’s Procurement and Supplier Diversity Services Departments’ contracted casework suppliers listed in UVA Marketplace:

<https://solutions.sciquest.com/apps/Router/DashboardUserDetails?Id=345241&tmstmp=1655320999984>

# SECTION 01 70 00 – EXECUTION AND CLOSEOUT REQUIREMENTS

## 1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplemental General Conditions and other Division 1 Specification Sections, apply to this Section.

## 1.2 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout including, but not limited to, the following:

1. Inspection procedures.

2. Submittal of As-Built markup Project documents to A/E.

3. Submittal of Record revision by A/E to University’s PM, CAM, or Geospatial Engineering.

4. Submittal of warranties to University’s PM or CAM.

B. Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions 02 through 48.

## 1.3 SUBSTANTIAL COMPLETION

A. Procedures: Comply with procedures specified in the Commonwealth of Virginia General Conditions for the Contract for Construction. Before submitting the Certificate of Partial or Substantial Completion by the CM/GC (HECO-13.2a), complete the following. List exceptions in the request.

1. All University required inspections, including but not limited to:
   1. Above Ceiling Inspection(s)
   2. In-Wall Inspection(s)
   3. Fire Rated Assemblies
   4. Elevators
   5. Fire Alarm System
   6. Fire Suppression System
      1. Dampers Including Inspection at Time of Installation and to Demonstrate Operation
   7. Generator and Emergency Lighting
   8. Means of Egress
   9. ADA Compliance
2. Provide required test reports and certifications, as applicable including, but not limited to:
   1. CM/GC’s material and test certifications for sprinkler piping per NFPA 13 and 14.
   2. Fire Alarm and Detection Systems Certification per NFPA 72.
   3. Fire Alarm Device List, listing all audio-visual devices with device number and location.
   4. CM/GC’s installation certification for range-hood-fire-suppression-systems.
   5. Certification for new gas piping per USBC and appropriate referenced NFPA standards (purge and pressure tests).
   6. Certification for concrete masonry units used in rated wall assemblies.
   7. Fire pump certification per NFPA 20.
   8. Emergency generator certification and power supply for Fire Protection systems.
   9. Decorations, curtains, and drapes – flame resistance certification.
   10. Certification for textile wall and ceiling finishes.
   11. Certification of flame spread and smoke development ratings for wall and ceiling finishes.
   12. Certification/ Test report for floor finishes.
   13. HVAC Balancing and Test Report approved by Engineer of Record.
3. In the Application for Payment that coincides with, or first follows, the date the CM/GC claims Substantial Completion, show 100 percent completion for the portion of the Work claimed as Substantially Complete.

a. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.

b. If the CM/GC cannot show 100 percent completion, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.

1. Obtain and submit all releases that the University requires in order to occupy lawfully the Work without restriction.
2. Advise the University’s PM or CAM of pending insurance changeover requirements.
3. Submit Commonwealth of Virginia Affidavit of Payment of Claims (CO-13).
4. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents. The CM/GC shall draw all warranties and guarantees in the name of the Commonwealth of Virginia, and Rector and Board of Visitors of the University of Virginia.
5. Submit marked-up Project documents, maintenance manuals, and similar information to A/E of Record. See section 01 72 00 for specific requirements.
6. Deliver extra stock, and similar items
7. Discontinue and remove temporary facilities from the site, along with construction tools and similar elements.
8. Complete repair of all deficient work, including the touch up of all deficient finishes.
   1. The Architect will confirm under no circumstances the Work to be Substantially Complete unless the CM/GC has completely repaired all deficient finish work and all deficient finishes are touched up.
9. Complete Final Cleaning.
   1. The Architect will confirm under no circumstances the Work to be Substantially Complete unless the CM/GC has completely performed Final Cleaning.
10. Remove temporary lock cylinders and cores.
11. Complete all start-up testing of building systems, special testing, and commissioning; deliver reports to University’s representative (PM or CAM).
12. Instruct the University’s representatives in the operation of building systems and deliver Building Automation Systems manuals to University’s representative (PM or CAM).
13. Complete the exterior portions of the Work to the same degree as that of the interior.
14. Exterior lighting must be complete.
15. Construction operations must not impede walkways or driveways.
16. Dumpster and loading dock pads must be clear and in place.
17. Seeding, planting, and initial watering must be complete.

## 1.4 FINAL ACCEPTANCE

A. Procedures: Comply with procedures specified in the Commonwealth of Virginia General Conditions for the Contract for Construction. Before submitting the Certificate of Completion by the CM/GC (HECO-13.2), complete the following:

1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required. List exceptions in the request.

2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.

3. Submit a certified copy of the A/E's final inspection list of items for the CM/GC to complete or correct, endorsed, and dated by the A/E. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.

4. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion or when the University took possession of and assumed responsibility for corresponding elements of the Work.

5. Submit consent of Surety to final payment.

6. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

## 1.5 FINAL CLEANING

A. **Cleaning: This also serves as the pre-barrier removal cleaning included in the ICRA policy if ICRA applies.** Employ a professional cleaning service for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions. Regular construction cleaning is included in Division 1 section "Temporary Facilities and Controls."

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion.

1. Remove all temporary labels. Do not remove labels describing the fire resistance of doors and frames.
2. Clean glass, plastic, and all reflective surfaces, including all glass in doors and windows. Remove glazing compound, and over-paint. Clean all transparent material on both surfaces.
3. Exterior hard surfaces must be free of stains, shavings, films, gum, and other foreign deposits.
4. Interior hard surfaces, including shelves within built-in casework, must be free of cobwebs, dust, stains, shavings, films, and gum.
5. Electrical and mechanical equipment must be free of dust, cobwebs, stains, shavings, films, gum, excess lubricant, and other substances.
6. Interior and exterior lamp lenses, reflectors, and baffles must be free of cobwebs, dust, stains, films, gum, insect droppings and carcasses.
7. Removal of Protection and Facilities: Remove temporary protection and construction facilities installed for the Work, including CM/GC’s office and site fencing, as specified in Division 1 section, “Construction Facilities and Temporary Controls.” Demount, clean, repaint, and stack on site all wood fence materials removed as directed for the University to retrieve. Clean the site, including landscape development areas, of rubbish, litter, and other foreign substances. Sweep paved areas broom clean; remove stains, spills, and other foreign deposits.
8. Rake grounds to a smooth, even-textured surface if they do not have pavement or plantings.

B. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the University's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the site and dispose of lawfully. Where extra materials of value remain after completion of associated Work, they become the University's property. Dispose of these materials as directed by the University’s PM/CAM.

# SECTION 01 74 19 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

## WASTE HANDLING AND STORAGE

The CM/GC is expected to comply with all federal solid waste and hazardous waste management requirements set forth in 40 CFR 239 – 282, VDEQ Solid Waste Management regulations in 9 VAC 20-81, and University policies and procedures. All waste must be properly classified and handled accordingly. Waste minimization measures should be considered whenever possible. Municipal solid waste is not regulated for special disposal and may be placed into general waste containers. Outdoor trash containers must be covered (via lid, door, tarp, etc.) at the end of the day or during precipitation events unless in active use.

The CM/GC may contact UVA Environmental Resources for questions regarding waste management and disposal.

## 1.2 WASTE MANAGEMENT PLAN

A. The CM/GCs must prepare a site-specific Waste Management Plan (WMP) for projects costing over $3 million construction budget or for smaller projects anticipated to generate significant amounts of demolition debris.

B. The WMP must identify each waste stream that will be generated, how each waste stream will be managed on-site, and identify specific facilities the CM/GC intends to use for materials recovery or waste disposal. The Waste Management Plan may be developed based on the University’s template [*request from UVA Environmental Resources*] or, at a minimum, must include the following components:

1. Contact information for the CM/GC and Contractor waste management point of contact.
2. Identify all waste streams that will be generated, how each will be managed on site, and the specific facilities the CM/GC intends to use for materials recovery or disposal.
3. Site map indicating, as applicable, anticipated locations of waste containers, material stockpiles, washout areas, and spill kit.
4. A description of how each employee will be properly trained on waste management practices at the site.
5. Storage location for required records, which include waste determination records (e.g., SDSs, lab reports), truck manifests for each load of waste hauled from the site, waste disposal receipts, and disposal site permits for all landfills, clean fill, and material recovery facilities receiving wastes from the site.

C. If not using the University’s WMP template, refer to the construction waste management standard operating procedures referenced in Section 1.3 below for expectations.

D. The CM/GC shall provide the Waste Management Plan to UVA Environmental Resources for approval at least 7 days prior to the Preconstruction Meeting. Discussion of the plan will be an agenda item for the Preconstruction Meeting.

E. All wastes must be managed in accordance with the approved Waste Management Plan.

F. The plan must be kept up to date. UVA Environmental Resources or the Director of Capital Construction and Renovations must pre-approve significant modifications such as management of any new wastes not previously identified in the plan or if alternative disposal facilities are desired.

G. The WMP shall always be available at the Project site.

H. The WMP may be expanded/ combined with LEED waste diversion tracking requirements.

## STANDARD OPERATING PROCEDURES RELATED TO WASTES

Projects that are not required to create a site-specific Waste Management Plan must follow standard operating procedures related to construction and demolition debris, clean fill, and general construction waste on the Environmental Resources Website:

<https://www.fm.virginia.edu/depts/operations/environmental/procedures.html>.

## 1.4 WASTE CHARACTERIZATION

All waste must be properly characterized and verified that it is not a hazardous waste. Any waste meeting a characteristic in 40 CFR 261 Subpart C or listed in 40 CFR 261 Subpart D is a hazardous waste and must be managed accordingly. If identified, any hazardous waste will be separated, stored, and disposed of according to applicable regulations, 40 CFR 239-282. The CM/GC will notify the University PM/CAM upon discovery of a hazardous waste generated by UVA. The PM/CAM will contact UVA EHS (434-982-4911) for information on proper handling and disposal of the hazardous waste.

## 1.5 LIQUID WASTES

Liquid waste must not be disposed of in general trash, on the ground, or in the storm sewer. Liquid waste may not be disposed of into the sanitary sewer without express permission from the University; these requests can go through the UVA CAM to UVA Environmental Resources and Outside Utilities.

## 1.6 CONSTRUCTION AND DEMOLITION (CDD) WASTE

Construction and Demolition Debris (CDD) waste is generally nonhazardous and may be recycled or disposed of as a solid waste. The University encourages uncontaminated CDD materials to be reused or recycled. In addition, Virginia regulations define beneficial use and establish minimum contaminant concentrations should the CM/GC consider recycling, reuse, or management of materials as clean fill. Clean fill is generally defined as rock, brick, block, dirt, broken concrete, crushed glass, porcelain, and/or road pavement free of any residual solid waste (e.g., paper, plastic, trash, wire, metal, insulation, etc.).

Any off-site disposition of CDD materials for recycle/ reuse shall be managed by a facility having received approval for such operations by the receiving locality or Virginia DEQ as appropriate. The CM/GC must maintain copies of the CDD and/or clean fill hauling tickets for the duration of the Project and provide copies to UVA Environmental Resources at substantial completion, per Section 01 78 00 – Closeout Submittals. Hauling tickets shall be made available for inspection upon request.

## 1.7 CONTAMINATED SOIL MANAGEMENT

In the event any suspect contaminated soil is discovered, the CM/GC must contact the CAM and UVA Environmental Resources immediately. The University will coordinate sampling and laboratory analysis to determine contaminant concentrations (if any). Petroleum contaminated soil with low levels of contamination may be managed for reuse on site. If petroleum contaminated soils cannot be managed on site, the CM/GC must coordinate with UVA Environmental Resources regarding handling, hauling and disposal of such soils in accordance with the Waste Management Plan. If petroleum contaminated soils were not originally included in the Waste Management Plan, the plan must be updated to include these materials and the updated plan must be approved by UVA Environmental Resources. All analytical records and truck manifests associated with hauling of petroleum contaminated soils must be maintained and records provided to UVA Environmental Resources.

# SECTION 01 78 00 CLOSEOUT SUBMITTALS

## 1.1 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplemental General Conditions and other Division 1 Specification sections, apply to this section.

## 1.2 SUMMARY

A. The A/E shall prepare and provide to the University Record Documents that incorporate as-built markups from the CM/GC in both AutoCAD and PDF formats. The A/E should properly annotate the drawings as Record Drawings in the revision block of each sheet. The A/E may indicate record revisions with delta reference marks, but not clouds. The A/E shall submit the specifications in a single consolidated manual(s) in PDF format. The A/E shall also provide the final version of any BIM models, including the Revit or Navisworks file(s) created during the design or construction with the Record Documents. Final calculations (structural, hydraulic/ sprinkler, storm water, mechanical, electrical/ lighting, etc.) shall be submitted with the Record Documents if these changed after the construction issue of the documents. This section includes administrative and procedural requirements for creation of the CM/GC’s As-Built set of Documents.

B. The CM/GC will provide the following Project “As-Built” documents electronically to the A/E for Record Document preparation:

2. Marked-up copies of Contract Drawings

3. Marked-up copies of Shop Drawings, including any applicable Equipment ID (AIM or other) numbers used to identify equipment

4. Newly prepared drawings (as necessary)

5. Marked-up copies of Specifications, Addenda, and Change Orders

6. Marked-up product data Submittals, including any applicable Equipment ID (AIM or other) numbers used to identify equipment

7. Field records for variable and concealed conditions

8. Draw or detail information on Work that the A/E showed only schematically

1. BIM Model information including any Revit or Navisworks file(s)
2. O&M Manuals, including any applicable Equipment ID (AIM or other) numbers used to identify equipment

The CM/GC shall provide a digital copy to the University’s PM/ CAM/ Geospatial Engineering for University O&M use until the A/E prepares the final Record Drawings and Specifications.

C. Related Sections: The following sections contain requirements that relate to this section:

1. Division 1 section "Submittal Procedures" specifies general requirements for preparing and submitting Submittals.

2. Division 1 section "Execution and Closeout Requirements" specifies general closeout requirements.

3. Divisions 2 through 48 sections for specifying Project Record Submittal requirements for specific pieces of equipment or building operating systems.

D. Maintenance of Documents and Samples: Store As-Built markup documents and samples in the field office apart from the Contract Documents used for construction. Do not use As-Built markup documents for construction purposes. Maintain As-Built markup documents in good order and in a clean, dry, legible condition. Always make documents available for the A/E's inspections.

## 1.3 AS-BUILT MARKUP DRAWINGS

A. Markup procedure: During construction, maintain a copy of Contract Drawings and Shop Drawings for Project Record Document purposes.

1. Mark these Drawings to show the actual installation where the installation varies from the installation shown originally. Give attention to information on concealed elements that would be difficult to identify or measure and record later. Marked items include, but are not limited to, the following:

a. Dimensional changes to the Drawings

b. Revisions to details shown on the Drawings

c. Locations and depths of underground utilities

d. Revisions to routing of piping and conduits

e. Changes made by Contract Change Order

f. Details not on original Contract Drawings

g. Equipment ID (AIM asset or other) numbers for applicable equipment

2. Mark prints of Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.

3. Mark documents with red. Use other colors to distinguish between changes for different categories of the Work at the same location.

4. Mark important additional information that the A/E either showed schematically or omitted from original Drawings.

5. Note Construction Change Order numbers.

B. Responsibility for Markup: The individual or entity that obtained record data, whether the individual or entity is the Subcontractor, or similar entity, shall markup the Contract Drawings.

1. Accurately record information in an understandable drawing technique.
2. Record data as soon as possible after obtaining it.
3. Record and check the markup prior to enclosing concealed installations.

C. Review of Drawings: Immediately prior to Substantial Completion inspection, review completed marked-up drawings with the A/E and University’s CAM.

1. Incorporate changes and additional information previously marked on print sets. Erase, redraw, and add details and notations where applicable. Identify and date each drawing. Include the printed designation "AS-BUILT PROJECT DRAWINGS" in a prominent location on each drawing.

2. Refer instances of uncertainty to the A/E for resolution.

D. Adding Drawings to the As-Built Markup Documents: Prepare new drawings when the A/E determines that neither original Contract Drawings nor Shop Drawings are suitable to show the actual installation. New drawings may be required when the University issues a Change Order because of accepting an alternate, substitution, or other modification.

Consult with the A/E for proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. When completed and accepted, integrate newly prepared Drawings with procedures specified for organizing, copying, binding, and submitting marked-up drawings.

E. Submission of As-Built documents: At time of Substantial Completion, submit electronically As-Built documents to the A/E for the creation of Record Documents for University's records.

## 1.4 AS-BUILT MARKUP PROJECT MANUAL

A. During the construction period, maintain a copy of the Project Manual, including Addenda and modifications issued, for As-Built Project Document purposes.

1. Mark the Specifications to indicate the actual installation where the installation varies from that indicated in Specifications and modifications issued. Note related As-Built Project Drawing information, where applicable. Give attention to substitutions, selection of product options, and information on concealed installations that would be difficult to identify or measure and record later.

a. In each Specification section, where the A/E specified or scheduled products, materials, or equipment units, mark the copy with the proprietary name and model number of the product furnished.

b. Record the name of the manufacturer, supplier, installer, and other information necessary to provide a record of selections made and to document coordination with record product data Submittals and maintenance manuals.

c. Note related record product data, where applicable. For each principal product specified, indicate whether the CM/GC submitted record product data in a maintenance manual instead of as a product data Submittal.

B. Submission of As-Built Markup Project Manual: At time of Substantial Completion, submit As-Built Markup Project Manual electronically to the A/E for preparation of the Record Project Manual for the University's records.

## 1.5 PRODUCT DATA SUBMITTALS

A. During the construction period, maintain one copy of each Product Data Submittal for final Project Submittal purposes.

1. Mark product data to indicate the actual product installation where the installation varies substantially from that indicated in product data submitted. Include significant changes in the product delivered to the site and changes in manufacturer's instructions and recommendations for installation.

2. Give attention to information on concealed products and installations that the Project team cannot readily identify and record later.

3. Note related Change Orders and As-Built Markup Drawings, where applicable.

4. Upon completion of markup, submit a complete set of Product Data Submittals to the A/E for the University's records.

5. Where approved Product Data Submittals are required as part of maintenance manuals, submit approved Product Data Submittals as an insert in the manual instead of inclusion in separate Product Data Submittals.

6. Include Equipment ID (AIM asset or other) numbers on all Product Data Submittals for applicable equipment.

B. Submission of approved Project Data Submittals: At time of Substantial Completion, submit digital files of approved Product Data Submittals to the A/E to verify accuracy and completeness. Following confirmation from A/E, deliver to the PM/ CAM/ Geospatial Engineering for the University’s records. For Agency 209 (UVA Health) projects, in addition to the digital files, the CM/GC must submit one printed copy of approved Project Data Submittals to the University’s CAM for the University's records. Bind Project Data Submittals into heavy-duty, 3-ring, black, vinyl-covered binders, with non-stick transparent cover and spine pockets, 1 to 3 inches thick as required to contain information.

## 1.6 MAINTENANCE AND OPERATIONS MANUAL SUBMITTAL

A. When each construction activity that requires submittal of maintenance manuals is nominally complete, but before Substantial Completion, submit electronic maintenance manuals specified by the A/E for its review. Once approved, submit as follows to the University’s CAM.

1. Digital files of all operation and maintenance manuals.

2. Print copies in heavy-duty, 3-ring, vinyl-covered binders, with non-stick transparent cover and spine pockets, 1 to 3 inches thick as required to contain information, sized for 8½” x 11” paper with inside pockets or pocket folders for folded sheets. Submit one approved final copy of O&M Manual for Academic (Agency 207) and two copies for UVA Health (Agency 209) projects.

3. Bind data into individual binders for each manual, properly identified on front and spine. For large manuals, provide an index sheet and thumb tabs for separate information categories. The latest edition of CSI MasterFormat specification headings applies.

4. In each maintenance manual, include information specified in individual Specification sections and the following:

1. Copies of applicable approved Shop Drawings and Product Data Submittals.
2. Names, addresses and trades of all applicable Subcontractors, manufacturers, and equipment.
3. Complete maintenance instructions from the manufacturer’s local representative for each item of operable equipment, as well as the name, address and telephone number of the installing Subcontractor.
4. Catalog data on all items submitted and other pertinent data such as mortar colors, brick selected, and colors selected for all finished materials and fabrics.
5. Catalog data on all furnished plumbing fixtures, valves, water heaters, heating equipment, light fixtures and similar equipment and systems. Manufacturer’s promotional literature is not acceptable.
6. Manufacturer’s name, model number, service manual, spare parts list, and descriptive literature for all components used.
7. Preventive maintenance instructions and schedules for all major equipment.
8. List of most frequently encountered breakdowns and repairs/trouble shooting manual(s).
9. Instructions for starting and operating the actual system as installed.
10. Detailed one-line, color-coded wiring diagrams.
11. Copies of warranties.
12. Inspection procedures.
13. Equipment ID (AIM asset or other) numbers as applicable.

B. Submission of Attic Stock, Spare Parts, and Keys: At time of Substantial Completion, coordinate delivery of the following with the University’s CAM for the University's use.

* + - 1. Submit attic stock required by specifications with detailed transmittal.

2. Submit spare parts required by specification with detailed transmittal.

3. Submit keys other than those provided by FM.

4. Provide all special tools and special test equipment required for Maintenance.

## 1.7 ASSET INFORMATION

A. For all projects installing new or replacement equipment requiring routine/ preventive maintenance by Facilities Management (FM), the A/E will clearly identify such equipment in equipment schedules within the project documents. Schedules will address components of systems including, but not limited to elevators, fire protection and detection systems, electrical, HVAC, emergency lighting, refrigeration, roofing, water and sewer, heat distribution, plumbing, and storm water management. Equipment schedules shall include unique asset ID numbers generated from UVA’s Integrated Workplace Management System (IWMS). The UVA Preventive Maintenance Manager will provide the numbers to the UVA PM. Projects demolishing or replacing existing equipment currently tracked in UVA’s IWMS will clearly identify such equipment and its asset ID number(s) in an equipment demolition schedule.

B. During construction, the CM/GC and/or Commissioning Agent shall complete a data inventory spreadsheet (UVA FM Asset Turnover Form:

<https://www.fm.virginia.edu/docs/FM_Asset_Turnover_Form.xlsx>) for all installed equipment and building components individually listed on the equipment schedule as well as any equipment added to the Project scope following permit issuance. Prior to turnover to UVA, the CM/GC will submit a draft of the completed FM Asset Turnover Form to UVA’s PM, for review by UVA’s Preventive Maintenance Manager. Upon successful review, the Preventive Maintenance Manager will upload the newly installed assets into UVA’s IWMS and provide barcode stickers with the unique asset IDs for each relevant piece of equipment. The Project team will be responsible for applying barcode stickers on the installed equipment, and providing all special tools, training and test equipment required for maintenance.

## 1.8 MISCELLANEOUS PROJECT DOCUMENT SUBMITTALS

Refer to other Specification sections for miscellaneous record-keeping requirements and Submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. At time of Substantial Completion, submit digital (PDF) files to the A/E for the University's records.

Categories of requirements resulting in miscellaneous records include, but are not limited to, the following:

1. Field records on excavations and foundations.
2. Field records on underground construction and similar work.
3. Survey showing locations and elevations of underground lines.
4. Invert elevations of drainage piping.
5. Authorized measurements utilizing unit prices or allowances.
6. Ambient and substrate condition tests.
7. Certifications received in lieu of labels on bulk products.
8. Batch mixing and bulk delivery records.
9. Testing and qualification of tradesmen.
10. Documented qualification of installation firms.
11. Inspections and certifications by governing authorities.
12. Leakage tests.
13. TAB Reports stamped and sealed.
14. BAS documentation.
15. Final inspection and correction procedures.
16. Commissioning Reports.
17. Construction Photos.
18. Waste characterization determination(s), as applicable.
19. Waste disposal manifest(s)/ bill(s) of lading, as applicable.

## 1.9 RECORDING

Post changes and modifications to the Documents as they occur. Do not wait until the end of the Project.