

SECTION 01 33 23 - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 - GENERAL

1.1 SUMMARY

A. Products include, but are not limited to, the following construction submittals:

1. Shop Drawings.
2. Product Data.
3. Samples.
4. Delegated design calculations.
5. Quality Assurance Submittals.
6. LEED Submittals.
7. Informational Submittals.
8. Other Submittals.

B. Execution:

1. Coordinating Submission Scheduling: Submit Submittals with sufficient time for review, including of resubmittals, submittals for activities that require sequential steps, and simultaneous review for activities that are part of the same element of work. No extensions given for deadlines due to lack of sufficient time allowed by Contractor for review.
2. Submission and Distribution: Label electronic submittals and hard copy Samples with information outlined, allow sufficient space for PSC's stamp, and submit using a Transmittal form and following detailed submittal instructions included in this document and following Exhibit 01 33 23-01 "F&S Electronic Construction Submittal Process"
3. PSC's Actions: PSC will review, mark with an Action Stamp and indicate action taken, and return submittal. Work may not proceed until submittal is approved.

1.2 RELATED SECTIONS

A. *Section 01 78 23 – Operation and Maintenance Data*

B. *Section 01 78 39 – Project Record Documents*

PART 2 - PRODUCTS

2.1 SHOP DRAWINGS

A. Shop Drawings are documents prepared by contractors, manufacturers, suppliers, or subcontractors or to illustrate details and techniques for a portion of the work, usually to show compliance with the Contract Documents or to show how specialized work will be incorporated into the project. They are not Contract Documents, or standard documentation from the manufacturer.

B. Shop Drawings include, but are not limited to:

1. Fabrication drawings.
2. Installation drawings.
3. Setting diagrams.
4. Shopwork manufacturing instructions.
5. Templates and patterns.
6. Schedules – required in Microsoft Excel format:
 - a. Equipment Schedules
 - b. Electrical Schedules
 - c. Valve Schedules
 - d. Door, Window & Hardware Schedules
 - e. Materials & Finishes Schedules, to include Paint Schedules

C. Include the following information on Shop Drawings:

1. Equipment tags.
2. Dimensions, including dimensions established by field measurement.
3. Scale.
4. Identification of products and materials included.
5. Compliance with specified standards.
6. Notation of coordination requirements.
7. Construction sequences and relationships of separate components where necessary to avoid conflicts in utilization of the space available.
8. Indication of deviation from Contract Documents, reproducible in black and white.
9. Space for Contractor's review and action taken by PSC. See Part 3 "Execution."

D. Shop Drawings Submittal Instructions (use in conjunction with Part 3 "Execution"):

1. Sheet Size: Except for templates, patterns, and similar full-size Drawings, submit electronic copies of Shop Drawings on electronic sheets at least 8-1/2 by 11 inches but no larger than 30 by 40 inches.
2. Submit _____ () electronic set of Shop Drawings (minimum one for owner), as per 3.2.
3. Submit schedules (as per 2.1, B, 6) in Microsoft Excel format.

2.2 PRODUCT DATA

A. Product Data are documents that illustrate physical appearance, size, performance capabilities and limitations, and other characteristics of materials and equipment for some portion of the work.

B. Product Data include, but are not limited to:

1. Manufacturer's product specifications.
2. Manufacturer's installation instructions.
3. Standard color charts.
4. Catalog cut sheets.
5. Roughing-in diagrams and templates.

6. Standard wiring diagrams.
7. Manufacturer's performance curves.
8. Operational range diagrams.
9. Mill reports.
10. Standard product operating and maintenance manuals.

C. Include the following information when preparing Product Data:

1. Equipment tags.
2. When Product Data includes information on several similar products, some of which are not required for use on the Project, mark copies clearly to enable black and white copying to indicate which products are applicable.
3. When Product Data must be specially prepared for required products, materials, or systems because standard printed data are not suitable for use, submit as Shop Drawings not Product Data.
4. Manufacturer's printed recommendations.
5. Compliance with recognized trade association standards.
6. Compliance with recognized testing agency standards.
7. Material information
8. Previous strength tests to verify conformance with specification.
9. Application of testing agency labels and seals.
10. Notation of dimensions verified by field measurement.
11. Notation of coordination requirements.

D. Product Data Submittal Instructions (use in conjunction with Part 3 "Execution"):

1. Submit () electronic copies of each Product Data submittal (minimum one for owner)

2.3 SAMPLES

A. Samples are physical examples of materials, finishes, equipment, or workmanship that illustrate aesthetic and functional characteristics of a material or product and establish standards for Work to be done. Samples shall be retained as part of the project record documents.

B. Samples include, but are not limited to:

1. Interior Finishes:
 - a. Paint chips
 - b. Cloth swatches
 - c. Finished pieces of woodwork trim
 - d. Carpet Samples
 - e. Accent finishes and casework
 - f. Exposed HVAC elements with custom color finishes
 - g. Exposed lighting elements with custom color finishes
2. Exterior Finishes:
 - a. Slate Tile, other roofing materials
 - b. Brick
 - c. Mortar
 - d. Limestone

- e. Sealant
 - f. Glazing
- C. Include the following when preparing Samples (use in conjunction with Part 3 "Execution"):
- 1. Submit full-size, fully fabricated Samples, cured and finished in the manner specified.
 - 2. Mount, display, or package Samples in the manner specified to facilitate review of qualities indicated. Prepare Samples to match the PSC's sample where so indicated. Include the following information:
 - a. Material or product proposed for use.
 - b. Generic description of the Sample.
 - c. Size limitations.
 - d. Sample source.
 - e. Product name or name of manufacturer.
 - f. Compliance with recognized standards.
 - g. Compliance with governing regulations.
 - h. Availability.
 - i. Delivery time.
- D. Samples Submittal Instructions (use in conjunction with Part 3 "Execution"):
- 1. Submit () Sample(s) (minimum one for owner), except as noted:
 - a. When variation in color, pattern, texture, or other characteristic is inherent in the material or product represented, submit a Sample size large enough, or submit multiple Samples necessary, to show approximate limits of the variations.
 - b. Refer to other Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, assembly details, connections, operation, and similar construction characteristics.
 - 2. Mail Samples to:
Design & Construction Submittal Receiving
Facilities & Services, Room 117
Physical Plant Services Building, MC-800
1501 South Oak Street
University of Illinois at Urbana-Champaign
Champaign, IL 61820

Submit an electronic copy (scanned or photographed) of all pertinent sides of the sample, including labels.
 - 3. Maintain Samples, as returned by the PSC, at the Project Site, available for quality-control comparisons throughout the course of construction activity, except as noted:
 - a. Refer to other Specification Sections for Samples to be returned to the Contractor for incorporation in the Work. Such Samples must be in an undamaged condition at time of use. On the transmittal form, indicate such special requests about disposition of Sample submittals.

- b. Samples not incorporated into the Work or otherwise designated as the Owner's property, are the property of the Contractor and shall be removed from the site prior to Substantial Completion.
 - 4. Unless the PSC observes noncompliance with provisions of the Contract Documents, the submittal may be used to obtain final acceptance and serve as the final submittal.
- E. Bulk Asbestos Sampling of New Building Materials
 - 1. All new building materials considered suspect asbestos containing in accordance with the USEPA Asbestos National Emission Standard for Hazardous Air Pollutants (NESHAP) standard shall be sampled prior to installation.
 - a. A minimum of one bulk sample of each homogenous area as defined by the Illinois Department of Public Health (IDPH) shall be collected and submitted for laboratory analysis.
 - b. Contractor shall provide enough advance notice to the project environmental consultant to inspect materials and classify into homogenous areas, collect necessary Samples, submit to a National Voluntary Laboratory Accreditation Program (NVLAP) laboratory, and receive analytical testing results prior to installation.
 - c. Submittals shall be provided to the PSC and Division of Safety and Compliance (S&C) and shall include laboratory analysis report, inspector's description of each material sampled, material product data, and a floor plan showing the proposed locations of installation.
 - 2. Post installation inspection and sampling of new materials considered suspect asbestos containing in accordance with the USEPA Asbestos NESHAP shall be in accordance with the USEPA Asbestos NESHAP "thorough inspection" requirement.
 - a. The inspection and sampling report shall be submitted to the PSC and S&C.
 - 3. All asbestos material inspection and bulk sampling shall be conducted by an IDPH licensed Asbestos Building Inspector employed by the project environmental consultant.
 - 4. All asbestos laboratory analysis shall be performed by a laboratory that is NVLAP accredited.
 - 5. Bulk sample analysis shall be by polarized light microscopy (PLM) and point counting as required by the USEPA Asbestos NESHAP.
 - 6. Transmission electron microscopy (TEM) analysis shall be performed on floor tile in accordance with USEPA and IDPH floor tile sampling advisories.

2.4 QUALITY ASSURANCE SUBMITTALS

- A. Quality Assurance Submittals are records that document that a facility, system or assembly meets defined objectives and criteria.
- B. Quality Assurance Submittals include, but are not limited to:
 - 1. Design data.
 - 2. Engineered designs. Where Sections of the Specifications require an engineered design, the supporting calculations and applicable drawings signed and sealed by the appropriate Professional Engineer or Structural Engineer licensed in the State of Illinois.

3. Certifications. Where other Sections of the Specifications require certification that a product, material, or installation complies with specified requirements, submit a notarized certification from the manufacturer certifying compliance with specified requirements.
 - a. Signature: Certification shall be signed by an officer of the manufacturer or other individual authorized to sign documents on behalf of the company.
 4. Manufacturer's instructions.
 5. Manufacturer's Field Reports.
 6. Inspections and Test Reports.
 7. Original Field Checklists. Original checklists or forms used by the factory or field technician are required.
- C. Include the following when preparing Quality Assurance Submittals:
1. U of I Project Number and Name.
 2. Specification Section Number and Name.
 3. Equipment tags.
- D. Quality Assurance Submittals Submittal Instructions (use in conjunction with Part 3 "Execution"):
1. Submit () electronic copies of Quality Assurance Submittals (minimum one for owner).

2.5 INFORMATIONAL SUBMITTALS

- A. Informational Submittals are records that document the information the PSC requires to verify performance and quality control of project requirements, but do not require approval. They are also used as verification and certification that the installed work or portion of the work meets the specified requirements.
- B. Informational Submittals include (but are not limited to):
1. Meeting Minutes.
 2. Construction Photographs.
- C. Include the following when preparing Informational Submittals (use in conjunction with Part 3 "Execution"):
1. U of I Project Number and Name.
 2. Specification Section Number and Name.
 3. Equipment tags.
- D. Informational Submittals Submittal Instructions (use in conjunction with Part 3 "Execution"):
1. Submit () electronic copies of Informational Submittals (minimum one for owner).

2.6 OTHER SUBMITTALS

- A. Other Submittals are records that document some part or associated part of the construction Work not previously covered.
- B. Other Submittals may include (but are not limited to):
 - 1. Warranties.
- C. Include the following when preparing Other Submittals (use in conjunction with Part 3 “Execution”):
 - 1. U of I Project Number and Name.
 - 2. Specification Section Number and Name.
 - 3. Equipment tags.
- D. Other Submittals Submittal Instructions (use in conjunction with Part 3 “Execution”):
 - 1. Submit _____ () electronic copies of Other Submittals (minimum one for owner).

PART 3 - EXECUTION

3.1 COORDINATING SUBMISSION SCHEDULING:

- A. To avoid the need to delay installation as a result of the time required to process submittals, allow sufficient time for submittal review, including time for resubmittals.
 - 1. Allow 3 weeks for the Coordinating Contractor’s and PSC’s review of each submittal.
 - 2. Allow additional time if the Coordinating Contractor and PSC must delay processing to permit coordination with other submittals, due to:
 - a. Activities that require sequential steps.
 - b. Activities that are part of the same element of work.
 - 3. When necessary to provide an intermediate submittal, process the intermediate submittal in the same manner as the initial submittal.
 - 4. The Owner will not authorize an extension of time because of the Contractor’s failure to transmit submittals to the Coordinating Contractor and PSC sufficiently in advance of the Work to permit processing.

3.2 SUBMISSION AND DISTRIBUTION:

- A. Prepare Submittals as follows:
 - 1. Place an electronic label or title block on each submittal for identification. Provide a physical label on hard copies of physical Samples.
 - 2. Indicate name of the firm or entity that prepared each submittal on the label or title block.
 - 3. Provide a space approximately 4 by 5 inches on the label or beside the title block to record the Contractor’s review and approval markings and the action taken by the PSC.
 - 4. Include the following information on the label for processing and recording action taken.

- a. U of I Project Number and Name.
 - b. Date.
 - c. Name and address of the PSC.
 - d. Name and address of the Contractor.
 - e. Name and address of the subcontractor.
 - f. Name and address of the supplier.
 - g. Name of the manufacturer.
 - h. Number and title of appropriate Specification Section.
 - i. Drawing number and detail references, as appropriate.
5. Submit per Exhibit 01 33 23-01 "*F&S Electronic Construction Submittal Process*"

B. Transmit each submittal by use of a transmittal form.

C. Resubmittals: Each resubmittal should indicate whether it fully replaces the previous submittal, replaces a portion of a previous submittal, or is in addition to a previous submittal.

1. If a resubmittal replaces a portion of a previous submittal, indicate previous unique submittal number, and indicate clearly by page numbers, section numbers, or section title the portion of the previous submittal replaced.
2. If a resubmittal is in addition to a previous submittal, indicate previous submittal by unique submittal number.

D. Submit number of copies as indicated in each section of Part 2.

3.3 PSC'S ACTIONS

A. Except for Informational Submittals where no action and return of submittals is required, the PSC will review each submittal, mark to indicate the action taken, and return.

B. Action Stamp: The PSC will electronically stamp each submittal with a uniform action stamp. The PSC will mark the stamp appropriately to indicate the action taken, as follows:

1. Approved: Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final acceptance will depend on that compliance.
2. Approved as Noted: Work covered by the submittal may proceed provided it complies with both the PSC's notations and corrections on the submittal, and requirements of the Contract Documents. Final acceptance will depend on that compliance.
3. Revise/Resubmit or Rejected/Resubmit: Do not proceed with the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the PSC's notations. Resubmit without delay. Repeat if necessary to obtain an "Approved" or "Approved as Noted" action mark.
4. No Action Required: When a submittal is primarily for information or record purposes or for special processing or other contractor activity, the submittal will be marked "No Action Required" and returned without review.

END OF SECTION 01 33 23

This section of the *U of I Facilities Standards* establishes minimum requirements only.
It should not be used as a complete specification.