

Wayne State University

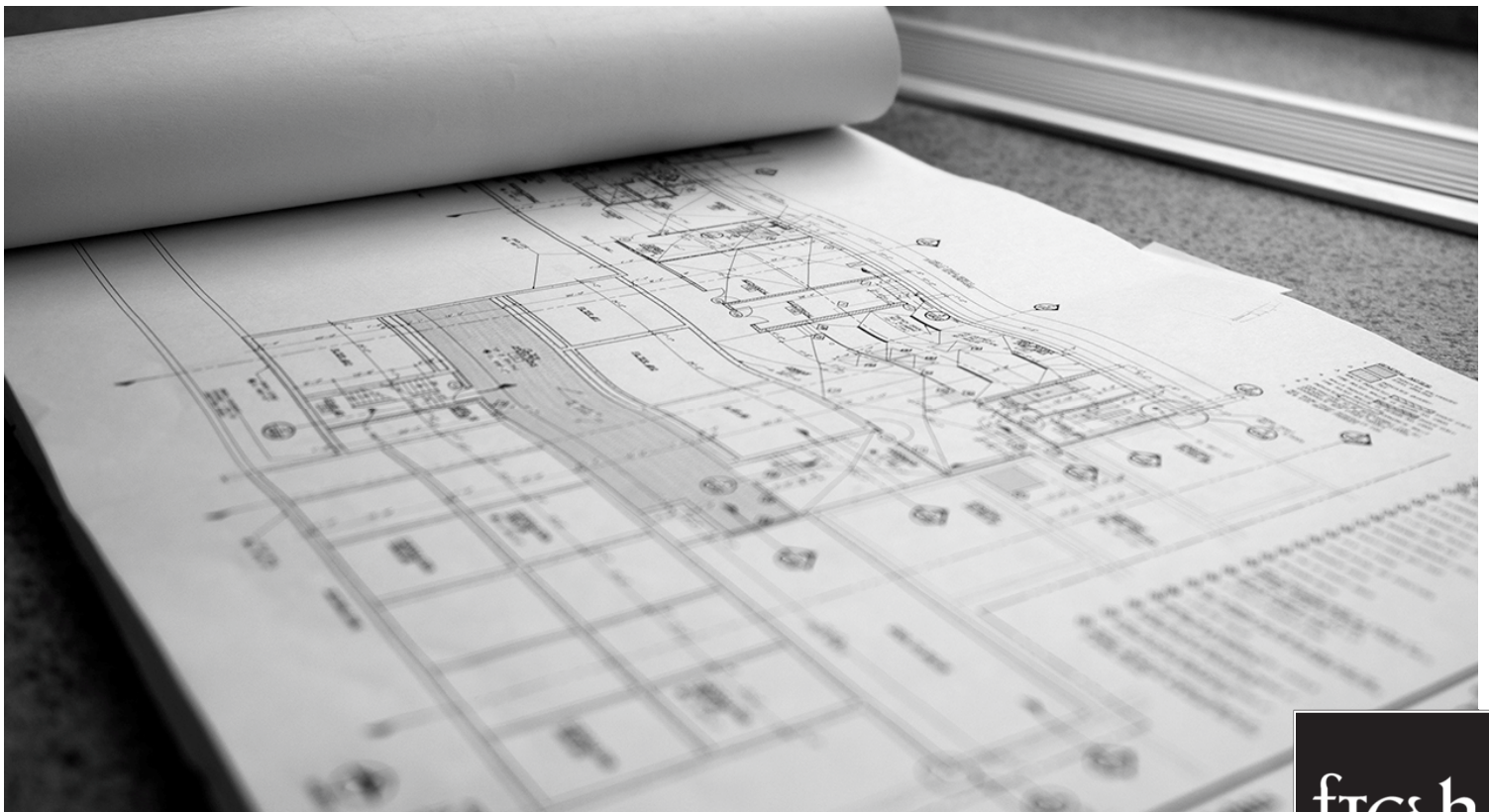
Cohn Building Student Commons

FFE

5557 Cass Avenue, Detroit, Michigan 48202
WSU Project Number 048-291367

BIDS AND PERMITS

Project Manual
Fishbeck Project Number 190812



Fishbeck, Thompson, Carr & Huber, Inc.
engineers | scientists | architects | constructors

ftc&h

PROJECT MANUAL
FOR
WAYNE STATE UNIVERSITY (WSU)

COHN BUILDING
STUDENT COMMONS
WSU PROJECT NUMBER 048-291367

FFE

October 31, 2019
Fishbeck Project Number 190812

ARCHITECT/ENGINEER

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SECTION 01 11 00 – SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections apply to this Section.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work covered by the Contract Documents comprises construction, coordination, and installation of furniture provided by the Owner under a separate contract.
- B. The Work includes the following major items:
 - 1. Demolition of existing space.
 - 2. New partitions, doors, windows, and finishes.
 - 3. Upgrades to the mechanical system.
 - 4. Upgrades to the electrical destruction and lighting.
 - 5. Information Technology and Audio-Visual upgrades.

1.3 TYPE OF CONTRACT

- A. Construct the Work of this Contract under a single lump sum Contract.

1.4 GENERAL

- A. Imperative Language: These Specifications (Divisions 01 through 28) are written in the imperative and abbreviated form. This imperative language of the technical specifications is directed at the Contractor unless specifically noted otherwise. Incomplete sentences shall be completed by inserting "shall", "shall be" and similar mandatory phrases by inference in the same manner as they are applied to notes on the Drawings. The words "shall", "shall be" and similar mandatory phrases shall be supplied by inference where a colon (:) is used within sentences or phrases. Except as worded to the contrary, fulfill (perform) all indicated requirements whether stated in the imperative or otherwise.
- B. Related Sections: Some Sections of these Specifications (Divisions 01 through 28) may include a paragraph titled "Related Sections". This paragraph is an aid to the Project Manual user and is not intended to include all Sections which may be related. It is the Contractor's obligation to coordinate all Sections whether indicated under "Related Sections" or not.
- C. Reference to the General Conditions: In Divisions 01 through 28, a reference to the General Conditions includes by inference all amendments or supplements in the Supplementary Conditions.
- D. Furnish, Install, Perform, Provide:
 - 1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the site (or some other specified location) ready for use or installation and in usable or operable condition.
 - 2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 - 3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 - 4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of the Contractor, "provide" is implied.

1.5 WORK UNDER OTHER CONTRACTS

- A. The owner will award a contract for the furnishing an installation of the following work:
 - 1. Furniture Package.
- B. Furniture Vendor's Responsibilities:
 - 1. Arrange for and deliver Shop Drawings, Product Data and Samples to the Contractor.
 - 2. Arrange and pay for Product delivery to the site.
 - 3. On delivery, inspect Products jointly with the Contractor.
 - 4. Submit claims for transportation damage.
 - 5. Arrange for replacement of damaged, defective or missing items.
 - 6. Arrange for Manufacturer's warranties, inspections and service.
- C. General Contractor's Responsibilities:
 - 1. Coordinate delivery schedule of material to the site with the Owner and Supplier.
 - 2. Review Shop Drawings, Product Data and Samples.
 - 3. Repair or replace items damaged by the Work of this Contract.
 - 4. Provide power, data, low voltage and final connections.
- D. Information on Owner furnished material:
 - 1. Is included in the following Sections:
 - a. Division 12 Section "Furnishings."

1.6 CONTRACTOR USE OF PREMISES

- A. Limit use of premises to allow for work by other contractors.
- B. Limit construction traffic access to site; Contractor may access the Site through Stair 1, Elevator 1, and third floor Corridor C2.
- C. Coordinate use of premises under direction of the Owner.
- D. Where the Contract Documents identify certain site elements within the construction limits, such as items outside the work zone must be kept open for public or the Owner's use during construction, the Contractor shall be responsible for protection and maintenance of such elements as well.
- E. Except in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto, all Work at the site shall be restricted to the following hours:
 - 1. Monday through Friday (except legal holidays): 7:00 a.m. to 5:00 p.m.
 - 2. Saturday, Sundays or legal holidays with written approval of the Owner.
- F. The Contractor must limit noise levels throughout the day as the building is continuously occupied during construction. Noise levels and permissions per hour are as follows:
 - 1. Low Levels of Noise:
 - a. The noise is minimal to light; including light drilling, wire pulls, intermittent pipe cutting, dry walling, etc.
 - 1) Permitted: Any time.
 - 2. Moderate Levels of Noise:
 - a. The noise is intermittently loud, but not sustained; including hammering or screwing into studs, some intermittent banging, installing barricade walls, etc.
 - 1) Permitted: Throughout the day tolerated throughout the day, evenings, and weekends.
 - 3. High Levels of Noise:
 - a. The noise will be very loud, the floor may vibrate, or the drilling may be for a sustained duration; including coring through concrete and structural vibrations,
 - 1) Permitted: Work must be preplanned and will occur in the at times that will not disrupt the occupied space adjacent to, below, or near the work zone. It is likely that this work must occur in the evenings, over midnights, or on weekends.
 - 4. At any time the Owner may discontinue or temporarily stop the work if deemed too loud or disruptive.

1.7 OCCUPANCY REQUIREMENTS

- A. Owner Occupancy During Construction:
 - 1. The Owner will occupy or utilize the premises during the entire period of construction. Coordinate with the Owner to minimize conflict and to facilitate the Owner's operations.
 - 2. Access to Abutting Properties: Provide at all times.
 - 3. Access for Emergency Vehicles:
 - a. Provide at all times.
 - b. Provide at least one clear lane during nonwork periods.
 - 4. Fire Hydrants: Provide access to at all times.
 - 5. Do not block fire access routes from buildings.
 - 6. Limit parking for construction vehicles to an area designated by the Owner.

PART 2 - PRODUCTS

2.1 OTHER MATERIALS

- A. General: All other materials which are not specified herein and are not indicated on the Drawings, but are required for proper and complete performance of the Work.
- B. Procedure:
 - 1. Select new, first quality material.
 - 2. Obtain the Architect's review.
 - 3. Provide and install.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 11 00

SECTION 01 18 13 – PROTECTION, RESTORATION AND NOTIFICATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes responsibilities for the protection, restoration and notification requirements for surface and subsurface structures, underground facilities and surface improvements.

1.3 NOTIFICATION AND INTERRUPTIONS

- A. Prior to Start of Construction:
 - 1. Notify MISS DIG at least 72 hours in advance at 800.482.7171 for exterior identification if applicable.
 - 2. Contact each utility owner.
 - 3. Arrange for the identification of the locations of existing underground facilities at or contiguous to the site.
- B. Utility Interruptions:
 - 1. Provide 7 days notice to the affected occupants of the time and duration of the anticipated shut off.
 - 2. See University approval prior to performing shut off.

1.4 PROTECTION AND RELOCATION

- A. Be responsible for:
 - 1. Protection of structures and utilities at or contiguous to the site in accordance with the General Conditions.
 - 2. Cost of cleaning, repair, relocation, raising, lowering, or replacement of structures and utilities which are damaged as a result of the Contractor's operations.
 - 3. Cost of cleaning, repair, relocation, raising, lowering, or replacement of structures and utilities which are identified on the Drawings for relocation.
 - 4. Temporary sheeting, bracing, poles, cables, sand fill or other means used to support a structure or utility exposed or endangered by the Contractor's operations.
 - 5. Relocating, raising or lowering of a structure or utility for the Contractor's convenience.

1.5 RESTORATION

- A. Acceptable Standards for Restoration:
 - 1. Restore to the better of the following:
 - a. Original condition.
 - b. Requirements of the Contract Documents.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 18 13

SECTION 01 21 13 – CASH ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section provides for cash allowances which are included in the Contract Sum.

1.3 SCHEDULE OF ALLOWANCES

- A. Include in the Contract Sum the following amounts:
 - 1. The amount of \$ 5,000 for temporary ground protection, temporary dumpster cover (if required) and the repair of landscaping, lawn, and other foliage once the construction dumpster is removed at the completion of the Project.

1.4 CASH ALLOWANCES

- A. Costs Associated With Allowances:
 - 1. All costs which are associated with allowances, but are not specifically defined in the Schedule of Allowances, paragraph 1.3 of this Section, shall be included in the Base Bid.
 - 2. Associated costs not specifically defined in the Schedule of Allowances may include, but are not necessarily limited to:
 - a. Unloading.
 - b. Handling on the Site.
 - c. Labor.
 - d. Installation.
 - e. Overhead.
 - f. Profit.

1.5 ADJUSTMENT OF COSTS

- A. Change Order: To adjust Contract Sum if final cost is different from allowance.
- B. Documentation:
 - 1. Submit:
 - a. Within 60 days after completion of the work under the allowance.
 - b. Documentation of actual costs.
 - 2. Failure to submit claims within the designated time will constitute a waiver of claims for additional costs.
 - 3. At Contract closeout, reflect all approved changes in Contract amounts in the final statement of accounting.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 21 13

SECTION 01 25 13 – PRODUCT SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General provisions of the Contract, including Owner's Division 00, General and Supplementary Conditions, and Division 01 Specification Sections, apply to this Section.
- B. Division 01 provisions of the Construction Specification, and the Construction Drawings, apply to this Section.

1.2 SUMMARY

- A. This Section includes the administration of substitutions and Product options.

1.3 SUBMITTALS

- A. List of all products proposed for installation:
 - 1. Submit 5 copies within 30 days after the Effective Date of Agreement unless otherwise indicated elsewhere in the Contract Documents.
 - 2. Tabulate the list by each Specification Section.

1.4 CONTRACTOR'S OPTIONS

- A. Products specified only by reference standards or by description:
 - 1. Select any Product meeting the standards or description by any Supplier unless otherwise required elsewhere in the Contract Documents.
 - 2. Submit for Architect's review:
 - a. Name and address of Supplier.
 - b. Trade name.
 - c. Model or catalog designation.
 - d. Manufacturer's data including:
 - 1) Performance and test data
 - 2) Compliance with reference standards.
- B. Products specified by naming one or more suppliers without an "or equal" clause:
 - 1. Use specified Product of one of the Suppliers named.
 - 2. No substitutions.
- C. Products specified by naming one or more suppliers with an "or equal" clause:
 - 1. Indicates the option of selecting equivalent Products by stating "or equal" after the specified Suppliers.
 - 2. Architect may waive some or all of the requirements specified for substitutions if, at Architect's sole discretion, the proposed equivalent Product is considered an "or equal".
 - 3. If, at Architect's sole discretion, the proposed equivalent Product does not qualify as an "or equal", it will be considered as a proposed substitute and a substitution request submittal will be required.

1.5 SUBSTITUTIONS

- A. Substitutions after the effective date of agreement:
 - 1. Within 30 days after the Effective Date of Agreement.
 - 2. Architect will consider formal requests for substitution of Products in place of those specified unless otherwise prohibited elsewhere in the Contract Documents.
- B. Substitution Request Submittals: Submit 5 copies of the request for substitution including the following:
 - 1. Complete data substantiating compliance of the proposed substitution with the Contract Documents.
 - 2. For Products:
 - a. Names and addresses of Manufacturer and Supplier.
 - b. Product identification.

- c. Manufacturer's literature, including:
 - 1) Product description.
 - 2) Performance and test data
 - 3) Reference standards.
 - d. Samples.
 - e. Name and address of similar projects on which the Product was used and date of installation.
 - 3. For Construction Methods:
 - a. Detailed description of the proposed method.
 - b. Drawings illustrating methods.
 - 4. Itemized comparison of proposed substitution with Product or method specified.
 - 5. Data relating to changes in the construction schedule.
 - 6. Accurate cost data on the substitution and comparison with the Product or method specified.
 - 7. Changes to the Work which would be caused by the substitution.
- C. Contractor's Responsibilities: In making a request for a substitution, Contractor represents:
- 1. Contractor has personally investigated the proposed Product or method and determined that it is equal or superior in all respects to that which is specified.
 - 2. Contractor will provide the same guarantee for the substitution as for the Product or method specified.
 - 3. Contractor will coordinate installation of the accepted substitution into the Work making such changes as may be required for the Work to be completed in all respects.
 - 4. Contractor waives all claims for additional cost related to the substitution which consequently become apparent.
 - 5. Cost data is complete and includes all related costs under Contractor's contract, but excludes costs under separate contracts and Architect's redesign costs.
- D. Substitutions Not Considered: Substitutions will not be considered if:
- 1. They are indicated or implied on Shop Drawings or Product data submittals without formal request submitted in accordance with this Section.
 - 2. Acceptance will require substantial revision of the Contract Documents.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 25 13

SECTION 01 26 13 – REQUESTS FOR INFORMATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes procedures for Contractor to give notice of conflicts, errors, ambiguities, or discrepancies in the Contract Documents.

1.3 DEFINITIONS

- A. Abbreviation: Request for Information (RFI).

1.4 REQUESTS FOR INFORMATION

- A. Format:
 - 1. Use the enclosed RFI form or, at Contractor's option, generate form.
 - 2. Minimum required content of Contractor's RFI form:
 - a. Project name.
 - b. Name and address of Contractor.
 - c. RFI number.
 - d. RFI date.
 - e. Name of initiator.
 - f. Complete written request, with sketches as required.
 - g. Signature of initiator.
 - h. Space for written response by Architect/Engineer, with signature and date of Architect/Engineer's representative.
- B. Procedures:
 - 1. Maintain a log of RFIs, including the RFI date and the date of the response.
 - 2. Allow at least 10 full working days for Architect/Engineer's response following Architect/Engineer's receipt of RFI.
 - 3. Submit written justification for shorter response time.
 - 4. Do not submit RFIs for information already included in the Contract Documents.
 - 5. Illegitimate RFIs may be cause for deductions in the Contract amount. See the Supplementary Conditions.
 - 6. RFIs submitted directly by subcontractors or vendors will be rejected.
 - 7. Changes in Contract Price or Contract Times not permitted within an RFI form.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.1 SCHEDULES

- A. Attached is the following form suggested for use on this project:
 - 1. Request for Information.

REQUEST FOR INFORMATION
PAGE 1 OF 1

CONTRACT FOR:	PROJECT NO.:
OWNER:	
CONTRACTOR:	
ARCHITECT/ ENGINEER:	
THE CONTRACTOR SHALL COMPLY WITH THE PROCEDURES IN DIVISION 01 SECTION "REQUESTS FOR INFORMATION."	

RFI No.: _____

FTCH Project Manager: _____

REQUEST		
RFI From:	Signature:	Date:

RESPONSE		
Response From:	Signature:	Date:

END OF SECTION 01 26 13

SECTION 01 31 13 – PROJECT COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General provisions of the Contract, including Owner's Division 00, General and Supplementary Conditions, and Division 01 Specification Sections, apply to this Section.
- B. Division 01 provisions of the Construction Specification, and the Construction Drawings, apply to this Section.

1.2 SUMMARY

- A. This Section includes provisions for coordination of the Work.

1.3 GENERAL COORDINATION

- A. Coordinate scheduling, submittals and work of the various Sections of the Specifications to:
 - 1. Ensure efficient and orderly sequence of installation of interdependent construction elements.
 - 2. Provide for items to be installed later.
- B. Interrelated Operating Equipment:
 - 1. Verify that characteristics of elements are compatible.
 - 2. Coordinate work of various sections having interdependent responsibilities for:
 - a. Installation.
 - b. Connection.
 - c. Placing in service.
- C. Shutdown of Existing Systems: Complete the WSU Building Notification Form regarding all impacts to the building and forward for approval 7 calendar days in advance of any shutdown of, or impact to, existing building systems.
- D. In finished areas, except as otherwise indicated:
 - 1. Conceal pipes, ducts and wiring in the construction.
 - 2. Coordinate locations of fixtures and outlets with finish elements.

1.4 ACCEPTANCE OF CONDITIONS

- A. Inspection:
 - 1. Prior to performing any work under a section:
 - a. Carefully inspect the installed work.
 - b. Verify that all such work is complete to the point where the work under that Section may properly commence.
 - c. Starting of work indicates acceptance of the condition of components to which the work will be applied.
 - 2. Verify that all materials, equipment and Products to be installed under a Section may be installed in strict accordance with the original design and reviewed Shop Drawings.
- B. Discrepancies:
 - 1. Resolve all discrepancies and conflicts between the trades.
 - 2. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

1.5 SLEEVES AND INSERTS

- A. Function: For pipes, conduits and similar items in forms, walls, partitions and floors.
- B. Trades: Furnish required sleeves and inserts.

- C. Place sleeve and inserts in ample time so as to not delay work.
- D. Except as approved by Architect, do not place sleeves vertically through:
 - 1. Beams.
 - 2. Girders.
 - 3. Similar construction.
- E. Maintain in proper position during subsequent work.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 31 13

SECTION 01 31 19 – PROJECT MEETINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General provisions of the Contract, including Owner's Division 00, General and Supplementary Conditions, and Division 01 Specification Sections, apply to this Section.
- B. Division 01 provisions of the Construction Specification, and the Construction Drawings, apply to this Section.

1.2 SUMMARY

- A. This Section includes scheduling and administering of preconstruction and progress meetings.
- B. Scheduling and Administration of Meetings:
 - 1. Responsibility:
 - a. Preconstruction Meeting: Owner.
 - b. Progress Meetings: Contractor.
 - 2. Procedures:
 - a. Prepare agenda.
 - b. Distribute written notice and agendas of meetings 4 days in advance of the meeting date.
 - c. Make physical arrangements for the meetings.
 - d. Preside at meetings.
 - e. Record minutes and include significant proceedings and decisions.
 - f. Distribute copies of the minutes within 4 days after meetings to:
 - 1) Participants.
 - 2) Others affected by proceedings.

1.3 PRECONSTRUCTION MEETING

- A. Schedule: Preconstruction meeting will be scheduled by Owner:
 - 1. Before starting the Work at the Site.
- B. Attendance: Representatives of the following parties are to be in attendance at the meeting:
 - 1. Owner.
 - 2. Architect/Engineer.
 - 3. Contractor.

1.4 PROGRESS MEETINGS

- A. Types of Progress Meetings:
 - 1. Regular.
 - 2. Called.
- B. Schedule meetings as follows unless otherwise approved by Architect:
 - 1. Regular: Bi-Weekly.
 - 2. Called: As the progress of the Work dictates.
- C. Location: Hold meetings at Site or as indicated in the notice.
- D. Attendance: Representatives of the following parties are to be in attendance at the meeting:
 - 1. Architect/Engineer.
 - 2. Contractor.
 - 3. Owner's representative as appropriate.

- E. Minimum Agenda: The minimum agenda for progress meetings shall consist of the following:
1. Review and approve minutes of previous meetings.
 2. Review safety procedures and protocols.
 3. Review progress of the Work since the previous meeting.
 4. Note field observations, problems and decisions.
 5. Identify problems which impede planned progress.
 6. Develop corrective measures and procedures to regain approved schedule.
 7. Revise construction schedule as indicated.
 8. Review submittal schedules; expedite as required to maintain schedule.
 9. Maintenance of quality and work standards.
 10. Review changes proposed by Owner for their effect on the construction schedule and completion date.
 11. Identify all claims and potential claims.
 12. Pending changes and substitutions.
 13. Complete other current business.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 31 19

SECTION 01 32 16 – CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the preparation, furnishing, distribution and periodic revision of construction progress schedules.

PART 2 - PRODUCTS

2.1 FORM OF SCHEDULE

- A. Preparation:
 - 1. Prepare in the form of a horizontal bar chart, CPM network, or other form as approved by the Architect prior to submission.
 - 2. Provide a separate horizontal bar column or path for each trade or operation.
 - 3. Prepare the schedule in the chronological order of the beginning of each item of work.
 - 4. Identify each column or path by:
 - a. Major Specification Section number.
 - b. Distinct graphic delineation.
 - 5. Use a horizontal time scale and identify the first work day of each week.
 - 6. Allow space for updating.
- B. Size: The schedule sheets shall be 11 inches x 17 inches unless otherwise approved by the Architect.

2.2 CONTENT OF SCHEDULES

- A. Construction Sequence:
 - 1. Provide a complete sequence of construction by activity Milestones.
 - 2. For Shop Drawings, project data and Samples indicate the following:
 - a. Submittal dates.
 - b. Dates review copies will be required.
 - 3. Show decision dates for selection of finishes.
 - 4. Show Product procurement and delivery dates.
 - 5. Show dates for beginning and completion of each element of construction.
- B. Percentage Completion: Show the projected percentage of completion for each item of work as of the first day of each month.
- C. Subschedules:
 - 1. Provide separate subschedules showing submittals, review times, procurement schedules and delivery days.
 - 2. Provide subschedules to define critical portions of the entire schedule.

PART 3 - EXECUTION

3.1 SUBMITTAL

- A. Preliminary Schedule:
 - 1. Submit the preliminary schedule within 10 days after the date of the Owner's signature on the Agreement Supplement.
 - 2. The Architect will review schedule and will return the reviewed copy within 15 days after receipt.
 - 3. If required, resubmit within 7 days after receipt of a returned review copy.
 - 4. Upon request, meet with the Architect at least 10 days prior to the submission of the first Application for Payment to review the schedule.
- B. Periodic Adjustment: Monthly, submit a revised schedule accurately depicting adjustments and progress to the first day of each month.
- C. Number of Copies: Submit the number of copies required by the Contractor, plus 4 copies to be retained by the Architect.

3.2 DISTRIBUTION

- A. Reviewed Schedules: Distribute copies of the reviewed schedules to:
 - 1. Job site file.
 - 2. Subcontractors.
 - 3. Other concerned parties.
- B. Instructions to Recipients: Instruct recipients to report inability to comply with the schedule, and provide detailed explanations with suggested remedies.

3.3 ADJUSTMENT OF PROGRESS SCHEDULE

- A. Changes: Show changes occurring since previous submission of the schedule.
- B. Progress: Indicate progress of each activity and show completion dates.
- C. Other Items:
 - 1. Include major changes in scope.
 - 2. Include activities modified since previous updating.
 - 3. Include revised projections due to changes.
 - 4. Include other identifiable changes.
- D. Narrative Report:
 - 1. Provide a narrative report including:
 - a. A discussion of problem areas including current and anticipated delay factors and their impact.
 - b. Direct action taken, or proposed, and its effect.
 - c. A description of revisions including:
 - 1) Their effect on the schedule due to change of scope.
 - 2) Revisions in duration of activities.
 - 3) Other changes that may affect the schedule.
 - d. The status of completion of Milestones.

END OF SECTION 01 32 16

SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General provisions of the Contract, including Owner's Division 00, General and Supplementary Conditions, and Division 01 Specification Sections, apply to this Section.
- B. Division 01 provisions of the Construction Specification, and the Construction Drawings, apply to this Section.

1.2 SUMMARY

- A. This Section includes procedures for the submittal of Shop Drawings, Product Data, Samples, Operation and Maintenance Manuals, and other information.
- B. Related Sections include pertinent Sections of these Specifications for the individual Submittals required.
- C. Submittal of samples to be in duplicate with Owner and A/E each receiving full submittal.

1.3 DEFINITIONS

- A. Submittal: Information sent by Contractor to convey information about systems, equipment, materials, products, and administrative matters for the Work.
- B. Resubmittal: Submittal sent for review a second or further time.
- C. Product Data: Illustrations, standard schedules, diagrams, performance charts, instructions, brochures, or manufacturer's literature that describe the physical size, appearance, and other characteristics of materials or equipment for a portion of the Work.
- D. Shop Drawings: Drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
- E. Samples: Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
- F. Action Submittals: Submittals that require A/E's response.
- G. Informational Submittals: Submittals that do not require A/E's response.
- H. Delegated-Design: In certain individual Specification Sections, design services or certifications by a design professional that are specifically delegated to the Contractor. Performance and design criteria are defined in the individual Specification Sections or on the Drawings. Contractor is solely responsible for design of those items or systems, and achieving specified performance.
- I. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 SUBMITTAL PROCEDURES

A. Submittal Schedule:

1. Prepare and submit a Submittal schedule that identifies the following for each Submittal:
 - a. Submittal number
 - b. Submittal description
 - c. Projected date Submittal will be submitted; based on when material is required on the job and in support of the project completion date.
2. An electronic copy (MS Excel file) of a blank Submittal schedule, in the preferred format, will be furnished by Architect at the preconstruction meeting.
3. Submittal Numbers:
 - a. Use the applicable Specification Section number followed by a decimal point and then a sequential number (e.g., 06 10 00.1). Where a Submittal is required via a Drawing (instead of a Specification Section), use the applicable Drawing Number followed by a decimal point and then a sequential number (e.g., M501.1.1).
 - b. Resubmittals shall include a letter suffix after another decimal point (e.g., 06 10 00.1.A).
 - c. Submittals that are not numbered correctly may be rejected.

B. Delivery Method:

1. Submittals may be delivered as paper copies or electronic files at Contractor's option.
2. Advise A/E of delivery method to be used at the preconstruction meeting.
3. Where Submittals include information that is intended to be printed on sheets larger than 11 inches x 17 inches, or where scale or drawing size are critical for proper review, submit 3 paper copies for review.
4. Paper Copies:
 - a. Unless indicated otherwise, submit 3 copies of each Submittal.
 - b. One copy of each Action Submittal will be returned to Contractor.
 - c. Extra copies submitted by Contractor will be discarded.
5. Electronic Files:
 - a. Unless indicated otherwise, submit 1 copy of each Submittal in PDF format.
 - b. Scanned Submittals shall be produced in such a way as to not compromise the graphic quality or accuracy of scale, where applicable; and text shall be searchable.
 - c. One copy of each Action Submittal will be returned to Contractor.
 - d. Submittals may be transmitted via electronic mail (e-mail) or on a CD or DVD. Submittals that are transmitted electronically may be returned electronically at the Architect's discretion.
6. Transmit Submittals to party and address identified by Architect/Engineer at preconstruction meeting.

C. Coordination and Timing: Coordinate preparation and processing of Submittals with performance of construction activities. Contractor is responsible for cost of delays caused by lack of coordination or tardiness of Submittals. Incomplete Submittals will be rejected.

1. Coordinate each Submittal with fabrication, purchasing, testing, delivery, other Submittals, and related activities that require sequential activity.
2. Coordinate transmittal of different types of Submittals for related parts of the Work so processing will not be delayed because of need to review Submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a Submittal requiring coordination with other Submittals until related Submittals are received.

D. Processing Time: Allow 15 full working days for Architect to review each Submittal, including Resubmittals. Time for review shall commence on Architect's receipt of Submittal. No extension of the Contract Time will be authorized because of failure to transmit Submittals enough in advance of the Work to permit processing, including Resubmittals. Architect/Engineer will advise Contractor when a Submittal being processed must be delayed for coordination.

E. Identification: Place a permanent label on each Submittal or generate a separate cover sheet.

1. Indicate name of firm or entity that prepared Submittal.
2. Provide space to record Contractor's review and approval markings and action taken by Architect.
3. Include the following information:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.

- d. Name and address of Contractor.
 - e. Name and address of Subcontractor(s).
 - f. Name and address of Supplier(s).
 - g. Name of Manufacturer.
 - h. Submittal number, including revision identifier.
 - i. Drawing number and detail references, as applicable.
 - j. Location(s) where product is to be installed, as applicable.
 - k. Other necessary identification.
 - F. Deviations: Encircle or otherwise specifically identify deviations from the Contract Documents on Submittals. Submittals that include deviations that are not identified may be rejected. Architect may or may not consider deviations. Deviations are not substitutions. Refer to Division 01 Section "Product Substitution Procedures" for procedures regarding requests for substitutions.
 - G. Transmittal: Package each Submittal individually and appropriately for transmittal and handling. Transmit each Submittal using a transmittal form. Architect will reject Submittal(s) received from sources other than Contractor.
 - H. Resubmittals: Make Resubmittals in same form and number of copies as initial Submittal.
 - 1. Note date and content of previous Submittal.
 - 2. Clearly identify additions and revisions.
 - 3. Resubmit Submittals until they are marked, "Reviewed, No Exceptions Noted" or "Reviewed With Corrections Noted."
 - I. Distribution: Furnish copies of Submittals with mark indicating, "Reviewed, No Exceptions Noted" or "Reviewed With Corrections Noted," to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities.
 - J. Use for Construction: Unless otherwise indicated by Architect, use only Submittals with mark indicating, "Reviewed, No Exceptions Noted" or "Reviewed With Corrections Noted."
- 1.5 CONTRACTOR'S USE OF ARCHITECT'S ELECTRONIC DRAWING FILES
- A. At Contractor's written request, copies of Architect's electronic Drawing files of the floor plans may be provided to Contractor for Contractor's use in connection with Project, including Submittal preparation. Electronic files may be furnished by Architect for the convenience of the Contractor. Conclusions or information obtained or derived from such electronic files will be at the Contractor's sole risk. Materials furnished by Architect that may be relied upon are limited to printed Contract Documents.
 - B. When Contractor uses Architect's electronic Drawing files to facilitate Submittal preparation, prepare Submittals to be project specific. Submittals that are not project specific, including Architect's Drawing files submitted on a new title block, will be rejected.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

- A. General: Prepare and submit project specific Action Submittals required by individual Specification Sections. Do not use highlighting that would not be reproducible.
- B. Product Data: Collect information into a single Submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for Submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
 - 2. Mark each copy of each Submittal to indicate which products and options are applicable.
 - 3. Include the following information, as applicable:
 - a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.

- d. Color charts as required by individual Specification Sections.
 - e. Manufacturer's catalog cuts.
 - f. Wiring diagrams showing factory-installed wiring.
 - g. Printed performance curves.
 - h. Operational range diagrams.
 - i. Mill reports.
 - j. Standard product operation and maintenance manuals.
 - k. Compliance with specified referenced standards.
 - l. Testing by recognized testing agency.
 - m. Application of testing agency labels and seals.
 - n. Notation of coordination requirements.
 4. Submit Product Data before or concurrent with Samples.
 5. Maintain copy of returned Submittal for Project records.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale where appropriate. Scale shall be sufficiently large to indicate pertinent features of the item and its method of connection to the Work.
 1. Preparation: Fully illustrate requirements of the Contract Documents. Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Colors and materials as applicable.
 - e. Roughing-in and setting diagrams.
 - f. Wiring diagrams showing field-installed wiring, including power, signal, control, and communication wiring. Differentiate between Manufacturer-installed and field-installed wiring.
 - g. Manufacturing instructions.
 - h. Templates and patterns.
 - i. Schedules.
 - j. Calculations.
 - k. Compliance with specified standards.
 - l. Notation of coordination requirements.
 - m. Notation of dimensions established by field measurement.
 - n. Relationship to adjoining construction clearly indicated.
 2. Sheet Size: Submit Shop Drawings on sheets at least 8-1/2 inches x 11 inches but no larger than 36 inches x 48 inches.
 3. Maintain copy of returned Submittal for Project records.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements, and for a comparison of these characteristics between Submittal and actual component as delivered and installed.
 1. Transmit Samples that contain multiple, related components, such as accessories, together in one Submittal package.
 2. Identification: On unexposed side of Samples, attach label that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of Manufacturer.
 - c. Sample source.
 - d. Number and title of appropriate Specification Section.
 3. Samples for Initial Selection: Submit Manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available. Where Contract Documents indicate custom color or material, coordinate production of custom Samples with the Architect and Manufacturer prior to submittal.
 - a. Number of Samples: Unless indicated otherwise, submit 3 full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from Manufacturer's product line. A/E will return 1 Sample with options selected.
 4. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, physically identical with material or product proposed for use, and that show full range of color and texture variations expected.
 5. Samples include, but are not limited to, the following: Partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

6. Number of Samples: Unless indicated otherwise, submit 3 sets of Samples to A/E and 1 set to Owner. A/E will retain 1 Sample set; remainder will be returned. Owner will retain samples.
 - a. Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - b. If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
 7. Disposition: Maintain sets of approved Samples at Site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used by A/E to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples shall be in an undamaged condition at time of Substantial Completion.
 - b. Samples not incorporated into the Work, or otherwise designated to become Owner's property, are the property of Contractor.
- E. Operation and Maintenance Manuals:
1. General:
 - a. Where manuals are required to be submitted covering items included in the Work, prepare such manuals in durable plastic binders approximately 8-1/2 inches X 11 inches in size and with at least the following:
 - 1) Identification on, or readable through, the front cover stating general nature of the manual.
 - 2) Neatly typewritten index near the front of the manual.
 - 3) Complete instructions regarding operation and maintenance of equipment involved, including:
 - a) Equipment function, normal operating characteristics, and limiting conditions.
 - b) Assembly, installation, alignment, adjustment, and checking instructions.
 - c) Operating instructions for start-up, routine and normal operating, regulation and control, shutdown, and emergency conditions.
 - d) Maintenance instructions, including lubrication requirements where applicable.
 - e) Guide to "troubleshooting".
 - f) Parts lists and predicted life of parts subject to wear.
 - g) Project specific outline and cross sections, assembly drawings, Architecting data, and wiring diagrams. Wiring diagrams shall reflect final, as-installed conditions and include wire numbers.
 - h) Test data and performance curves.
 - 4) Complete nomenclature of all replaceable parts, their part numbers, current costs, and name and address of nearest vendor of parts.
 - 5) Copies of guarantees and warranties issued.
 - 6) Copies of the reviewed Submittals.
 - 7) Copies of data concerning changes made during construction.
 2. Extraneous Data: Where contents of the manuals include Manufacturer's catalog pages, clearly indicate the precise items included in this installation and delete all Manufacturers' data with which this installation is not concerned. Do not use highlighting that would not be reproducible.
 3. Number of Copies Required: Unless otherwise specifically directed by A/E, or stipulated in the pertinent Section of these Specifications:
 - a. For review, submit 1 paper and 1 electronic copy.
 - b. For record, deliver 4 paper and 1 electronic copies to A/E and Owner.
 4. Schedule delivery of record copies of operation and maintenance manuals at least 60 days prior to startup of respective equipment, unless otherwise specified.

2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by individual Specification Sections. Do not use highlighting that would not be reproducible.
- B. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

- C. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects/Architects and owners, and other information specified.
- D. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.
- E. Installer Certificates: Prepare written statements on Manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by Manufacturer for this Project.
 - 1. Special attention to Low Voltage Electrical System installer.
- F. Manufacturer Certificates: Prepare written statements on Manufacturer's letterhead certifying that Manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- G. Product Certificates: Prepare written statements on Manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- H. Material Certificates: Prepare written statements on Manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- I. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- J. Product Test Reports: Prepare written reports indicating current product produced by Manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by Manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- K. Research/Evaluation Reports: Prepare written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - 1. Name of evaluation organization.
 - 2. Date of evaluation.
 - 3. Time period when report is in effect.
 - 4. Product and manufacturers' names.
 - 5. Description of product.
 - 6. Test procedures and results.
 - 7. Limitations of use.
- L. Preconstruction Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- M. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- N. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents; such as, but not limited to WSU C&IT test report requirements.

- O. **Manufacturer's Instructions:** Prepare written or published information that documents Manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of Manufacturer. Include the following, as applicable:
 - 1. Preparation of substrates.
 - 2. Required substrate tolerances.
 - 3. Sequence of installation or erection.
 - 4. Required installation tolerances.
 - 5. Required adjustments.
 - 6. Recommendations for cleaning and protection.
- P. **Manufacturer's Field Reports:** Prepare written information documenting tests and inspections of factory-authorized service representative. Include the following, as applicable:
 - 1. Name, address, and telephone number of factory-authorized service representative making report.
 - 2. Statement of substrate condition and acceptability of substrate for installation or application of product.
 - 3. Statement that products at Site comply with requirements.
 - 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 - 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 - 6. Statement whether conditions, products, and installation will affect warranty.
 - 7. Document settings in writing.
 - 8. Other required items indicated in individual Specification Sections.
- Q. **Material Safety Data Sheets (MSDSs):** Submit information directly to Owner; do not submit to A/E.
 - 1. A/E will not review Submittals that include MSDSs and will return the entire Submittal for Resubmittal.

2.3 DELEGATED-DESIGN SUBMITTALS

- A. Where design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
- B. Performance type design documents and calculations shall be prepared by a design professional as required by the individual Specification Section, licensed in the State where the Project is being constructed. Design documents shall be signed and sealed by the responsible design professional. Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Identify name and version of software, if any, used for calculations.
- C. In addition to Shop Drawings, Product Data, and other required Submittals, submit two copies of a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Review each Submittal and check for coordination with other work of the Contract and for compliance with the Contract Documents. Verify field dimensions and conditions; note corrections as necessary. Mark with approval stamp before submitting to A/E.
 - 1. **Approval Stamp:** Stamp each Submittal with an approval stamp. Use the same stamp format for each Submittal. Include Project name and location, Submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that Submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

- B. Submittals that are not approved and stamped by Contractor will be rejected.

3.2 POSTING

- A. Contractor to post reviewed submittals and shop drawings to a FTP site; and provide access to Owner, Architect, and all other project team members.

3.3 A/E'S REVIEW

- A. Action Submittals: A/E will review Action Submittals, make marks to indicate corrections or modifications required, and return Submittal. A/E will stamp each Submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
 - 1. Reviewed, No Exceptions Noted: Submittal appears to conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 - 2. Reviewed With Corrections Noted: Upon incorporation of review comments, it appears that Submittal will conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 - 3. Revise and Resubmit: Submittal has one or more specific segments that are incomplete, do not appear to conform to the information given in the Contract Documents, or are incompatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Contractor shall resubmit information for review to demonstrate understanding of comments and portions of Work to be provided. Except as noted, Contractor shall not proceed with work related to Submittal.
 - 4. Rejected, Resubmit: Submittal as a whole is incomplete, does not appear to conform to the information given in the Contract Documents, or is incompatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Contractor shall resubmit information for review to demonstrate understanding of comments and portions of Work to be provided. Contractor shall not proceed with work related to Submittal.
- B. Informational Submittals: Other Submittals required by the Contract Documents are for information only. A/E will acknowledge receipt of Informational Submittals. Such Submittals include, but are not limited to:
 - 1. Qualifications Data.
 - 2. Certificates.
 - 3. Test Reports.
 - 4. Manufacturer's Instructions.
 - 5. Maintenance Data.
 - 6. Field Reports.
- C. Delegated-Design Submittals: Review of Delegated-Design Submittals by A/E shall not relieve Contractor of Contractor's sole responsibility for design and achieving specified performance.
- D. Submittals not required by the Contract Documents will be returned without being reviewed.
- E. Partial Submittals are not acceptable, will be considered non-responsive, and will be rejected.

3.4 RE-REVIEW COSTS

- A. Compensation:
 - 1. Should A/E be required to review a Submittal more than twice because of failure of the Submittal to meet the requirements of the Contract Documents, A/E will record A/E's expenses for performing additional reviews.
 - 2. Owner will compensate A/E for these additional services and deduct the amount paid from payments to Contractor.

END OF SECTION 01 33 00

SECTION 01 42 00 – REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes provisions for references throughout the Contract Documents.

1.3 DEFINITIONS

- A. Abbreviations:
 - 1. AASHTO - American Association of State Highway and Transportation Officials, 444 North Capitol Street, N.W., Suite 249, Washington, DC 20001.
 - 2. ACI - American Concrete Institute, 38800 Country Club Dr., Box 9094, Farmington Hills, MI 48333.
 - 3. AISC - American Institute of Steel Construction, Inc., One East Wacker Dr., Suite 3100, Chicago, IL 60601-2001.
 - 4. AITC - American Institute of Timber Construction, 7012 S. Revere Pkwy., Suite 140, Englewood, CO 80112.
 - 5. ANSI - American National Standards Institute, 11 West 42nd St., 13th Floor, New York, NY 10018.
 - 6. APA - American Plywood Association, P.O. Box 11700, Tacoma, WA 98411.
 - 7. ASTM - American Society for Testing and Materials, 100 Barr Harbor Dr., West Conshohocken, PA 19428-2959.
 - 8. AWS - American Welding Society, Inc., 550 LeJeune Road, Miami, FL 33126.
 - 9. AWWA - American Water Works Association, 6666 West Quincy Avenue, Denver, CO 80235.
 - 10. CPA – Composite Panel Association, 19465 Deerfield Avenue, Suite 306, Leesburg, VA 20176.
 - 11. CRSI - Concrete Reinforcing Steel Institute, 933 Plum Grove Road, Schaumburg, IL 60173-4758.
 - 12. EGLE – Michigan Department of Environment, Great Lakes and Energy, P.O. Box 30473, Lansing, MI 48909
 - 13. MDNR - Michigan Department of Natural Resources, P.O. Box 30028, Lansing, MI 48909.
 - 14. MDOT - Michigan Department of Transportation, State Transportation Bldg., 425 W. Ottawa St., Lansing, MI 48909.
 - 15. MDPH - Michigan Department of Public Health, P.O. Box 30035, Lansing, MI 48909.
 - 16. MIOSHA - Michigan Safety Standards Division, State Secondary Complex, 7150 Harris Drive, P.O. Box 30015, Lansing, MI 48909.
 - 17. NCMA - National Concrete Masonry Association, 2302 Horse Pen Rd., Herndon, VA 22070-3406.
 - 18. NEC - National Electrical Code (see NFPA 70).
 - 19. NEMA - National Electrical Manufacturers' Association, 13100 N. 17th Street N.W., Suite 1846, Washington, DC 20037.
 - 20. NFPA - National Fire Protection Association, One Batterymarch Park, Quincy, MA 02269-9101.
 - 21. PCI - Precast Concrete Institute, 209 West Jackson Blvd., Suite 500, Chicago, IL 60606.
 - 22. SDI - Steel Deck Institute, P.O. Box 25, Fox River Grove, IL 60021.
 - 23. SJI - Steel Joist Institute, 3127 10th Avenue N., Myrtle Beach, SC 29577-6760.
 - 24. UL - Underwriters' Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062.

1.4 REFERENCES

- A. The provisions of the Contract Documents shall govern over any conflicting provisions of the referenced documents.
- B. The provisions of laws and regulations shall govern over any conflicting provisions of the referenced documents.

- C. Comply with the referenced document that is in effect as of the Bid date, except when a specific date is specified.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 42 00

SECTION 01 50 00 – TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General provisions of the Contract, including Owner's Division 00, General and Supplementary Conditions, and Division 01 Specification Sections, apply to this Section.
- B. Division 01 provisions of the Construction Specification, and the Construction Drawings, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following items to facilitate construction:
 - 1. Temporary Utilities: Water, electricity, and telephone.
 - 2. Contractor's field offices.
 - 3. Sanitary facilities.
 - 4. Temporary heat.
 - 5. Temporary partitions.
 - 6. Storage areas.
 - 7. Project signs.

1.3 SUBMITTALS

- A. Samples: For construction project identification sign.
 - 1. Required Sample:
 - a. 11 x 17 color proofs of sign representing actual appearance of sign producer's final product.
 - b. Created by sign producer.
 - 2. Submit and obtain review by Architect prior to printing final version of vinyl.

1.4 STORAGE AREAS

- A. Locations:
 - 1. Interior: There will be no predesignated interior storage area(s) for contractor use.
 - a. Storage needs beyond what can be accommodated within the limits of the area under construction will be considered by the Owner on an individual basis.

PART 2 - PRODUCTS

2.1 UTILITIES

- A. Temporary Utilities:
 - 1. Water: Obtain water by connection to Owner's existing water system.
 - 2. Electricity:
 - a. Obtain electrical power by connecting to Owner's existing system.
 - b. Furnish, install, remove and pay for all temporary wiring, equipment switches, panels, connections and transformers.
 - c. Furnish, install, remove, and pay for area distribution boxes so located that power and artificial lighting are located at all points where required by the Work.
 - 3. Construction Telephones: Responsibility of General Contractor.
 - 4. Construction Lighting: Responsibility of General Contractor.
 - a. Provide lighting levels meeting minimum requirements for proper performance and observation of the work.
 - b. Existing lighting fixtures to be demolished may remain in place if not prohibiting execution of work.
 - 5. Sanitary Facilities: Specific restrooms within the building will be designated for contractor use.
 - a. Condition of facilities to be maintained in clean and orderly fashion.

2.2 FIELD OFFICES

- A. Contractor's Field Office:
 - 1. No trailer will be allowed on University property.
 - 2. Contractor's office functions to be handled within limits of construction.

2.3 CONSTRUCTION HEATING

- A. Permanent Heating Equipment:
 - 1. Prior to use in areas of construction, provide adequate means to keep internal duct and acoustic liner surfaces clean and in a like-new condition.
 - 2. Filters:
 - a. Securely supported at each return and exhaust air open duct end and grille.
 - b. Support filter length at required intervals to prevent filter deformation.
 - c. Replaced at intervals required to keep internal duct and acoustic liner surfaces free of construction debris and dust.
 - 3. At substantial completion of space(s) being served in the work area, ductwork used by Contractor shall be cleaned to Engineer's satisfaction.
- B. Temperatures:
 - 1. Except as otherwise called for, a minimum temperature of 50 degrees F and a maximum temperature of 75 degrees F in construction areas shall be maintained at all times.
 - a. Maintain typical temperatures in areas of general building use.
 - 2. See requirements of various other Sections of these Specifications for minimum temperature to be maintained for the application of work under the various trades.

2.4 TEMPORARY PARTITIONS

- A. Provide separation between public areas and work area, where existing door or wall is temporarily removed.
 - 1. Wall must have smoke/fire rating as required by Code and AHJ.
 - 2. Wall must not damage existing surfaces to remain.
 - 3. See Drawings for specific requirements.

2.5 STORAGE AREAS

- A. Construction materials and supplies to be kept within the confines of the work areas.

2.6 PROJECT IDENTIFICATION SIGNAGE

- A. No signage announcing names of parties involved with construction process will be allowed on University property.

PART 3 - EXECUTION

3.1 REMOVAL

- A. Maintain all temporary facilities and controls as long as needed for the safe and proper completion of the Work. Remove all such temporary facilities and controls as rapidly as progress of the Work will permit. Remove exterior sign when directed to by Owner.

END OF SECTION 01 50 00

SECTION 01 66 00 – PRODUCT STORAGE AND HANDLING REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General provisions of the Contract, including Owner's Division 00, General and Supplementary Conditions, and Division 01 Specification Sections, apply to this Section.
- B. Division 01 provisions of the Construction Specification, and the Construction Drawings, apply to this Section.

1.2 SUMMARY

- A. This Section includes provisions for the storage and protection of Products.

1.3 STORAGE AND PROTECTION

- A. Delivery: All contractor deliveries to be supervised, received at the loading dock, and routed coordinated in advance with the Dock manager. Large material deliveries and large items are not allowed through the main entrance.
- B. Storage:
 - 1. Maintain ample way for foot traffic at all times, except as otherwise approved by A/E or Owner.
 - 2. Repair or replace property damaged by reason of storing of material at no additional cost to Owner.
 - 3. Packaged Materials:
 - a. Delivered in original, unopened containers.
 - b. Stored until ready for use.
 - 4. Materials shall meet the requirements of these Specifications at the time that they are used in the Work.
 - 5. Store Products in accordance with Manufacturer's instructions.
- C. Protection:
 - 1. Use all means necessary to protect the:
 - a. Products of every Section before, during and after installation.
 - b. Installed work and materials of all trades.
 - 2. All materials shall be delivered, stored and handled to prevent:
 - a. The inclusion of foreign materials.
 - b. Damage by water, breakage or other causes.
- D. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of Architect/Engineer and at no additional cost to Owner.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 66 00

SECTION 01 71 36 – MONITORING OF EXISTING CONDITIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes monitoring of building cracks.

1.3 SYSTEM DESCRIPTION

- A. Crack Monitoring: Instrumentation permitting the widths of existing cracks to be measured and reported.

1.4 PERFORMANCE REQUIREMENTS

- A. Contractor's Responsibilities:
 - 1. Contractor will be held responsible for damage to structures or buildings due to contractual activities.
 - 2. Repair or replace damaged structures or buildings in a timely fashion and to the satisfaction of the property owner and Owner and at no cost to property owner or Owner.
- B. Contractor's Responsibilities:
 - 1. Contractor will be held responsible for damage to structures or buildings due to contractual activities.
 - 2. Repair or replace damaged structures or buildings in a timely fashion and to the satisfaction of the property owner and Owner and at no cost to property owner or Owner.
- C. Measuring and Reporting: By Contractor.

1.5 SEQUENCING AND SCHEDULING

- A. Install monitoring systems and take initial readings prior to commencement of construction activities.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. All materials and workmanship shall conform to the requirements of other Sections of the Specifications.
 - 1. Where no materials are specified in these specifications, use materials of an equivalent type, quality, and size to match those existing in other areas of the facility.
 - 2. If none exist, use materials and workmanship recognized as of the highest quality in the industry.
 - 3. Obtain Architect's review of all such material and workmanship.
- B. Settlement Markers: Stainless steel nails or stainless steel screw anchors.
- C. Crack Monitors:
 - 1. Avongard Calibrated Crack Monitors; or approved equal.
 - 2. Capable of measuring crack displacement and rotation to 1 mm.
 - 3. May include use of steel pins or other appropriate devices driven or grouted into concrete.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Preconstruction Survey:
 - 1. Conducted by Contractor and witnessed by Architect following award of Contract and before beginning construction.
 - 2. At Contractor's expense and documented by Contractor in the form of:
 - a. Pictures.
 - b. Field notes.
 - 3. Include an assessment of existing structural conditions and documentation of cracks as identified by Architect and Contractor.

3.2 INSTALLATION AND MONITORING

- A. Crack Monitoring:
 - 1. For bidding purposes, make provisions for 5crack monitors at locations to be identified by Architect following the preconstruction survey to be conducted by Contractor.
 - 2. Monitor crack monitors as follows:
 - a. Daily for 1 week prior to beginning activities that may affect cracks.
 - b. Daily during activities that may affect cracks.
 - c. Daily for 1 week after completion of activities that may affect cracks.
 - 3. At end of construction, remove monitors and repair surfaces to match existing.

3.3 CLEANING

- A. Clean materials installed under this Section in accordance with Division 01 Section "Cleaning and Waste Management."

END OF SECTION 01 71 36

SECTION 01 73 29 – CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes provisions for cutting and patching work.
- B. Requirements:
 - 1. Cutting and patching may be described in various Sections of these Specifications
 - 2. Execute cutting or patching of work required to:
 - a. Make several parts fit properly.
 - b. Uncover work to provide for installation of ill-timed work.
 - c. Remove and replace defective work.
 - d. Remove and replace work not conforming to the requirements of the Contract Documents.
 - e. Remove Samples of the installed work as specified for testing.
 - f. Install specified work in existing construction.
- C. Requirements Upon Architect/Engineer's Instructions:
 - 1. In addition to Contract requirements, upon written instruction of Architect/Engineer:
 - a. Uncover work to provide for Architect/Engineer's observation of covered work.
 - b. Remove Samples of installed materials for testing.
 - c. Remove work to provide for alteration of existing work.
- D. Protection of Work:
 - 1. Do not endanger any work by cutting or altering the work or any part of it.
 - 2. Do not cut or alter the work of another trade without written consent of Architect/Engineer.

1.3 SUBMITTALS

- A. Written Notice:
 - 1. Prior to cutting which may affect the structural integrity of the Project or the work of another trade, submit written notice to Architect/Engineer and Owner requesting consent to proceed with cutting.
 - 2. Required Information:
 - a. Identification of Project.
 - b. Description of all related defective work.
 - c. Necessity for cutting.
 - d. Affect on other work or on the structural integrity of the Project.
 - e. Description of the proposed work including:
 - 1) Scope of cutting and patching.
 - 2) Subcontractor and trades to execute work.
 - 3) Products proposed to be used.
 - 4) Extent of refinishing.
 - f. Alternatives to cutting and patching.
 - g. Designation of party responsible for the cost of cutting and patching.
- B. Changes of Materials or Methods:
 - 1. Should conditions of the Work, or the schedule, indicate change of materials or methods, submit a written recommendation to Architect/Engineer including:
 - a. Conditions indicating the change.
 - b. Recommendations for alternative materials or methods.
 - c. Submittals as required for substitutions.

- C. Uncovered Work: Submit written notice to Architect/Engineer's designating the time work will be uncovered to provide for observation.

1.4 DIVISION OF WORK

- A. Work:
 - 1. In accordance with the General Conditions, Contractor is responsible for dividing the Work among the Subcontractors and Suppliers and for delineating the work to be performed by specific trades.
 - 2. The following are suggestions as to how the Work may be divided. This is not a complete list of all the Work:
 - a. Each trade shall be financially responsible for all cutting and patching for sleeves, penetrations and installation of isolated components as necessary for its work unless herein specifically stated to the contrary.
 - b. On renovation projects, Contractor shall cut and patch walls, floors, ceilings to allow for continuous runs of recessed utilities and ductwork.
 - c. All patching shall be done by the trade whose work is damaged.
 - d. Any cost caused by defective or ill-timed work shall be borne by the party responsible.
 - e. Each trade shall do all fitting of its own work as required to make its several components fit together or to receive the work of other contractors.
 - f. Holes cut in exterior walls or roofs for installation of mechanical or electrical equipment shall be waterproofed. If existing roofing is to remain, obtain and submit to Owner original roofing manufacturer's approval and warranty on new roof penetrations and where removing existing roof penetrations and curbs.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. All materials and workmanship shall conform to the requirements of other Sections of the Specifications. Where no materials are specified in these specifications, use materials of an equivalent type, quality, and size to match those existing in other areas of the facility. If none exist, use materials and workmanship recognized as of the highest quality in the industry. Obtain Architect/Engineer's review of all such material and workmanship.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Existing Conditions: Inspect existing conditions of the Work, including elements subject to movement or damage during cutting and patching or excavating and backfilling.
- B. Uncovered Work: After uncovering work, inspect conditions affecting the installation of new Products.

3.2 PREPARATION

- A. Shoring and Bracing: Provide shoring, bracing and support as required to maintain structural integrity of the Project.
- B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

3.3 PERFORMANCE

- A. Adjustments to Products: Execute fitting and adjustments of Products to provide finished installation.

- B. Refinishing:
 - 1. Prepare existing surfaces for finishes by scraping, sanding, filling, acid etching, and sand blasting to ensure bonding and a smooth finish.
 - 2. Refinish entire surfaces as necessary to provide an even finish.
 - 3. Refinish continuous surfaces to the nearest intersection.
 - 4. Refinish entire assemblies.
- C. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- D. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
 - 1. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
 - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

3.4 CLEANING

- A. Clean materials installed under this Section in accordance with Division 01 Section "Cleaning and Waste Management."

END OF SECTION 01 73 29

SECTION 01 74 00 – CLEANING AND WASTE MANAGEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specifications Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes provisions for maintaining structures in a standard of cleanliness.
- B. Related Sections: In addition to standards described in this Section, comply with requirements for cleaning as described in various other Sections of these Specifications.

1.3 QUALITY ASSURANCE

- A. Inspection:
 - 1. Daily and more often if necessary.
 - 2. Conduct inspections to verify that requirements of cleanliness are being met.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Hazards Control:
 - 1. Volatile Wastes:
 - a. Store in covered metal containers.
 - b. Remove from premises daily.
 - c. Provide secondary containment for storage of hazardous materials, as required by Owner, governing authorities and agencies.
 - 2. Prevent accumulation of wastes which create hazardous conditions.
 - 3. Provide adequate ventilation during use of volatile or noxious substances.

1.5 PROJECT CONDITIONS

- A. Cleaning and Disposal:
 - 1. Conduct operations to comply with local ordinances and anti-pollution laws.
 - 2. Dumpster shall be located near building dumpster.
 - a. Dumpster shall not be placed concrete pad or sidewalk.
 - b. Allowance for associated dumpster located in Division 01 Section "Cash Allowances."
 - 3. Not Allowed:
 - a. Burning or burying of rubbish or waste materials on Site.
 - b. Disposal of volatile wastes in storm or sanitary sewers: Volatile wastes include, but are not limited to, mineral spirits, oil and paint thinner.
 - c. Disposal of wastes into streams or waterways.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. Compatibility:
 - 1. Compatible with the surface being cleaned.
 - 2. Recommended by the Manufacturer of the material being cleaned.
 - 3. As reviewed by Architect/Engineer.

PART 3 - EXECUTION

3.1 PROGRESS CLEANING

- A. General:
 - 1. Store Materials:
 - a. In an orderly arrangement allowing maximum access.
 - b. Provide for the required protection of materials.
 - 2. Do not allow accumulation of scrap, debris, waste material and other items not required for construction of the Work.
 - a. Provide adequate storage for materials awaiting removal.
 - 3. Observe requirements for fire protection and protection of the environment.
- B. Buildings and Other Structures:
 - 1. Weekly, and more often if necessary:
 - a. Inspect.
 - b. Pick up scrap, debris and waste material; remove such items to the place designated for their storage.
 - c. Sweep interior spaces clean. Clean shall be defined to be free from dust and other material capable of being removed by reasonable diligence using a hand-held broom.
 - 2. Preparation for installation of succeeding material:
 - a. Clean the building or other structure or pertinent portion thereof:
 - 1) To the degree of cleanliness recommended by the Manufacturer of the succeeding material.
 - 2) Using equipment and materials required to achieve the required cleanliness.
 - 3. After installation of finish floor material:
 - a. Clean the finish floor daily at all times while work is being performed in the space in which finish materials have been installed.
 - 1) Clean as used above shall be defined to be free from all foreign material which, in the opinion of Architect/Engineer, may be injurious to the finish floor material.
 - 4. Schedule cleaning operations so that dust and other contaminants resulting from cleaning operations will not fall on wet, recently painted surfaces.

3.2 FINAL CLEANING

- A. Definitions for Clean: The level of cleanliness generally provided by commercial building maintenance subcontractors using commercial quality building maintenance equipment and materials.
- B. Prior to Completion of the Work:
 - 1. Remove from the Site all tools, surplus materials, equipment, scrap, debris and waste.
 - 2. Conduct final progress cleaning as described in Article 3.1 above.
- C. Project Areas, Adjacent Spaces, and General Building Areas:
 - 1. Interior:
 - a. Visually inspect interior surfaces.
 - b. Remove traces of soil, waste material, smudges and other foreign matter.
 - c. Remove traces of splashed materials from adjacent surfaces.
 - d. Remove paint droppings, spots, stains and dirt from finished surfaces using only the specified cleaning materials and equipment.
 - 2. Glass: Clean glass inside and outside.
 - 3. Polished Surfaces: To surfaces requiring the routine application of buffed polish, apply the specified polish as recommended by the Manufacturer of the material being polished.
- D. Timing: Schedule final cleaning as approved by Owner to enable Owner to accept a completely clean Project.

3.3 OWNER OCCUPANCY PRIOR TO SUBSTANTIAL COMPLETION AND ACCEPTANCE

- A. If Owner occupies the Work, or a portion of the Work, prior to Substantial Completion and acceptance, then the responsibilities for interim and final cleaning shall be determined by Architect in accordance with the Contract Documents.

END OF SECTION 01 74 00

SECTION 01 75 00 – STARTING AND ADJUSTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes provisions for the facility start-up and demonstration of the systems as follows:
 - 1. Equipment.
 - 2. Mechanical systems.

1.3 SUBMITTALS

- A. Preliminary Schedules:
 - 1. Submit 2 weeks prior to earliest proposed date.
 - 2. List time and date for the following for each system:
 - a. Start-up.
 - b. Demonstration to Owner's representative.
- B. Completion Reports:
 - 1. Submit within 1 week after each system demonstration.
 - 2. List time, date and persons present for the following for each system:
 - a. Start-up.
 - b. Demonstration to Owner's representative.
 - 3. Include Manufacturer's representative's report indicating:
 - a. Approval of installation.
 - b. Satisfactory start-up.
 - c. Functioning correctly.
 - 4. Indicate that demonstration and instructions were satisfactorily completed.

1.4 QUALITY CONTROL

- A. Manufacturer's Field Services:
 - 1. Provide when required by individual Section.
 - 2. Provide the following services except where indicated otherwise in individual Sections.
 - a. Inspect, check and approve system installation.
 - b. Supervise system start-up.
 - c. Provide written report indicating that system:
 - 1) Has been properly installed and lubricated.
 - 2) Is in accurate alignment.
 - 3) Is free from undue stress imposed by connecting lines or anchor bolts.
 - 4) Has been satisfactorily operated under full load conditions.
 - d. Demonstrate operation of system to the Owner's personnel.
 - e. Instruct the Owner's personnel on operation and maintenance of system.

1.5 PROJECT CONDITIONS

- A. Verify that:
 - 1. Excess packing and shipping bolts have been removed.
 - 2. Interdependent systems have been checked and are operational.

1.6 CORRECTION PERIOD

- A. Provide periodic continuing warranty services as necessary to ensure proper functioning of mechanical systems after occupancy of the Project, and for a period of 1 year after date of Substantial Completion.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.1 STARTING OF SYSTEMS

- A. Inspection:
1. Verify that Project conditions comply with requirements.
 2. Verify that status of Work meets requirements for starting of systems.
- B. Preparation:
1. Coordinate sequence for start-up of various systems including Owner-provided equipment if any.
 2. Notify the Architect/Engineer 7 days prior to start-up of each system.
 3. Have at hand during entire start-up process:
 - a. Contract Documents.
 - b. Shop Drawings.
 - c. Product Data.
 - d. Operation and Maintenance Data.
 4. Verify that each piece of equipment has been checked for:
 - a. Proper lubrication.
 - b. Drive rotation.
 - c. Belt tension.
 - d. Control sequence.
 - e. Other conditions which may cause damage.
 5. Verify control systems are fully operational in automatic mode.
 6. Verify that tests, meter readings and specific electrical characteristics agree with those specified by electrical equipment Manufacturer.
 7. Bearings:
 - a. Inspect for cleanliness, clean and remove foreign materials.
 - b. Verify alignment.
 - c. Replace defective bearings and those which run rough or noisy.
 - d. Grease as necessary and in accordance with Manufacturer's recommendations.
 8. Drives:
 - a. Adjust tension in V-belt drives, and adjust vari-pitch sheaves and drives for proper equipment speed.
 - b. Adjust drives for alignment of sheaves and V-belts.
 - c. Clean, remove foreign materials before starting operation.
 9. Motors:
 - a. Check each motor for amperage comparison to nameplate value.
 - b. Correct conditions which produce excessive current flow and which exist due to equipment malfunction.
 10. Control Valves:
 - a. Inspect both hand and automatic control valves; clean bonnets and stems.
 - b. Tighten packing glands to ensure no leakage, but permit valve stems to operate without galling.
 - c. Replace packing in valves to retain maximum adjustment after system is judged complete.
 - d. Replace packing on any valve which continues to leak.
 - e. Remove and repair bonnets which leak.
 - f. Coat packing gland threads and valve stems with a surface preparation of "Moly-Cote" or "Fel-Pro" after cleaning.
 - g. Verify that control valve seats are free from foreign material and are properly positioned for intended service.

11. Flanges:
 - a. Tighten flanges after system has been placed in operation.
 - b. Replace flange gaskets which show any sign of leakage after tightening.
12. Screwed Joints:
 - a. Inspect screwed joints for leakage.
 - b. Promptly remake each joint which appears to be faulty; do not wait for rust to form.
 - c. Clean threads on both parts, apply compound and remake joints.
13. Cleaning:
 - a. After system has been placed in operation, clean strainers, dirt pockets, orifices, valve seats and headers in fluid systems, to ensure being free of foreign materials.
 - b. Open steam traps and air vents; remove operating elements. Clean thoroughly, replace internal parts, and put back into operation.
 - c. Remove rust, scale and foreign materials from equipment and renew defaced surfaces.
14. Draft Gages: Set and calibrate draft gages of air filters and other equipment.
15. Control Circuits: Check each electrical control circuit to ensure that operation complies with Specifications and requirements to provide desired performance.
16. Pressure gages:
 - a. Inspect each pressure gage and thermometer for calibration.
 - b. Replace items which are defaced, broken or which read incorrectly.
17. Repair damaged insulation.
18. Leaks: Check piping for leaks at every joint and at every screwed, flanged or welded connection using "Leak-Tek" or other approved compound.

C. Start-up:

1. Execute start-up under supervision of responsible persons in accordance with Manufacturer's instructions.
2. Place equipment in operation in proper sequence.

3.2 SYSTEMS DEMONSTRATION

A. Preparation:

1. Verify That System:
 - a. Has been inspected and put in service.
 - b. Is fully operational.
2. Operation and Maintenance Manuals:
 - a. Completed.
 - b. Sufficient copies available for use in demonstrations and instructions.

B. Demonstrations and Instructions:

1. Demonstration Of and Instruction On Operation and Maintenance of System:
 - a. To the Owner's personnel.
 - b. Two weeks prior to Substantial Completion.
2. Equipment Requiring Seasonal Operation: Demonstrate within 6 months of Substantial Completion.
3. Instruction:
 - a. Operation and maintenance manual as basis.
 - b. Review contents of manual in detail.
 - c. Explain all aspects of operation and maintenance.
4. Demonstrate:
 - a. Start-up.
 - b. Operation.
 - c. Control.
 - d. Adjustment.
 - e. Troubleshooting.
 - f. Servicing.
 - g. Maintenance.
 - h. Shutdown.

3.3 PERFORMANCE TEST

- A. Performance Test:
 - 1. Test the entire Work, including all of its individual systems for 2 weeks before final payment will be made.
 - 2. Make final tests in the presence of the Owner and the Architect.
 - 3. If any part of the Work or equipment does not meet Specifications:
 - a. Correct the situation.
 - b. Obtain approval of the Architect before final payment is made.
 - 4. Provide the personnel and bear all costs for correcting all malfunctions.
 - 5. The Owner will provide operating personnel and utilities.

END OF SECTION 01 75 00

SECTION 01 77 00 – CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the instructions for and the responsibilities of each party in contract closeout.
- B. Related Section includes Certificate of Substantial Completion.

1.3 SUBSTANTIAL COMPLETION

- A. Contractor: When Contractor considers that the Work or any portion of the Work is ready for its intended use, Contractor shall submit:
 - 1. Written certification to Architect/Engineer and Owner that the Work, or designated portion of the Work, is substantially complete.
 - 2. A list of major items to be completed or corrected.
 - 3. Request that Architect/Engineer issue a certificate of Substantial Completion.
- B. Architect/Engineer's Inspection: Architect/Engineer will make an inspection:
 - 1. Within 10 full working days after receipt of request, or on a date mutually agreed upon with all attendees.
 - 2. Together with Owner and Contractor.
- C. Architect/Engineer's Determination of Substantial Completion:
 - 1. Should Architect/Engineer consider the Work or designated portion of the Work substantially complete, the following steps shall be taken:
 - a. Contractor shall prepare and submit to Architect/Engineer, a list of items to be completed or corrected as determined by the inspection.
 - b. Architect/Engineer will prepare and deliver to Owner:
 - 1) A tentative certificate of Substantial Completion.
 - 2) A tentative list of items to be completed or corrected before final payment.
 - c. Owner shall have 7 full working days after receipt of the tentative certificate during which to make written objection to Architect/Engineer as to any provisions of the certificate or attached list.
 - d. Architect/Engineer will, within 14 full working days after delivery of tentative certificate to Owner, decide:
 - 1) Not Substantially Complete: Architect/Engineer will issue written notice to Contractor stating reasons.
 - 2) Substantially Complete: Architect/Engineer will issue definitive certificate of Substantial Completion and a revised list of items to be corrected or completed.
 - 2. Should Architect/Engineer consider that the Work or designated portion of the Work is not substantially complete, the following steps shall be taken:
 - a. Architect/Engineer shall notify Contractor in writing stating Architect/Engineer's reasons.
 - b. Contractor shall complete the Work and send a second written notice to Architect/Engineer certifying that the Project, or designated portion of the Project, is substantially complete.
 - c. Architect/Engineer and Owner will reinspect the Work.
- D. Division of Responsibilities:
 - 1. Architect/Engineer:
 - a. At the time of delivery of tentative certificate of Substantial Completion.
 - b. Deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment with respect to:
 - 1) Security.
 - 2) Operation.

- 3) Safety.
 - 4) Protection of the Work.
 - 5) Maintenance.
 - 6) Heat.
 - 7) Utilities.
 - 8) Insurance.
 - 9) Warranties.
2. Architect/Engineer's written recommendation on division of responsibilities shall be binding on Owner and Contractor until final payment unless Owner and Contractor agree otherwise in writing and so notify Architect prior to Architect's issuance of a definitive certificate of Substantial Completion.

1.4 FINAL INSPECTION

- A. Contractor Certification: Prior to final inspection, Contractor shall submit written certification that:
 1. The Contract Documents have been reviewed.
 2. The Project has been inspected in compliance with the Contract Documents.
 3. Work has been completed in accordance with the Contract Documents.
 4. Equipment and systems have been tested in the presence of the Owner's representative and are operational.
 5. The Project is complete and ready for final inspection.
- B. Architect/Engineer's Inspection: The Architect/Engineer will make final inspection:
 1. Within 10 full working days after receipt of certification.
 2. Together with Owner and Contractor.
- C. Architect/Engineer's Determination of Final Completion:
 1. Should Architect/Engineer consider the Work complete and ready for final payment in accordance with the requirements of the Contract Documents, Architect/Engineer shall request Contractor to make Project closeout submittals.
 2. Should Architect/Engineer consider the Work not complete and ready for final payment:
 - a. Architect/Engineer shall notify Contractor in writing stating the reasons.
 - b. Contractor:
 - 1) Take immediate steps to remedy the stated deficiencies.
 - 2) Send a second written notice to Architect/Engineer certifying that the Work is complete.
 - c. Architect/Engineer and Owner will reinspect the Work.

1.5 REINSPECTION COSTS

- A. Should Architect/Engineer be required to perform second inspections because of failure of the Work to comply with the original certifications of Contractor, Owner will compensate Architect/Engineer for additional services and deduct the amount paid from payment or payments to Contractor, according to the Preferred Vendor agreement.

1.6 ADDITIONAL INSPECTION COSTS

- A. Substantial Completion: Owner will compensate Architect/Engineer for inspection services rendered between the scheduled date of Substantial Completion and the actual date of Substantial Completion and deduct the amounts paid from payment or payments to Contractor.
- B. Final Completion: Owner will compensate Architect/Engineer for inspection services rendered between the scheduled date of final completion and the actual date of final completion and deduct the amounts paid from payment or payments to Contractor.

1.7 CLOSEOUT SUBMITTALS

- A. Contractor:
 - 1. Provide closeout submittals as required in the Contract Documents.
 - 2. These submittals shall include, but not necessarily be limited to:
 - a. Project record documents.
 - b. Operation and maintenance manuals.
 - c. Guarantees.
 - d. Spare parts and maintenance materials.
 - e. Instruction in operation of all systems.
 - 1) Record all training per WSU standards and create DVD. Provide two copies with close-out documentation.

1.8 EVIDENCE OF PAYMENTS AND RELEASE OF LIENS

- A. Affidavits:
 - 1. Submit with final Application for Payment an affidavit of payment of debts and release of claims.
 - 2. Affidavit shall include:
 - a. Contractor's release or waiver of lien.
 - b. Consent of surety of final payment.
 - c. Separate releases or waivers of liens for Subcontractors, Suppliers and others with lien rights against property of Owner together with a list of those parties.
- B. Execution: All submittals shall be duly executed before delivery to Architect/Engineer.

1.9 FINAL ADJUSTMENT OF ACCOUNTS

- A. Final Statement: Submit a final statement of accounting, which reflects all adjustments, to Architect/Engineer. This statement shall contain the following:
 - 1. Original Contract Price.
 - 2. Additions and deductions.
 - 3. Total Contract Price as adjusted.
 - 4. Previous payments.
 - 5. Sum remaining due.
- B. Final Change Order: Architect may prepare a final Change Order reflecting approved adjustments to the Contract Price not previously made by Change Orders.

1.10 FINAL APPLICATION FOR PAYMENT

- A. Contractor shall submit a final Application for Payment in accordance with the requirements of the Contract Documents.
- B. Disposition of Final Application for Payment:
 - 1. If the final Application for Payment and the Work are acceptable in accordance with the Contract Documents:
 - a. Architect/Engineer, within 10 full working days after receipt of the Application for Payment:
 - 1) Submit to Owner a written recommendation for payment.
 - 2) Submit to Owner and Contractor a written notice that the Work is acceptable subject to the provisions of the General Conditions.
 - b. Owner will, within 30 calendar days after receipt of the Application for Payment and Architect/Engineer's recommendation in accordance with the Contract Documents, pay to Contractor the amount recommended.
 - 2. If the Application for Payment, the Work or both are unacceptable:
 - a. Architect/Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment.
 - b. Contractor shall make the necessary corrections and resubmit the Application for Payment.

3. Final Completion Delayed:
 - a. Upon receipt of Contractor's final Application for Payment and recommendation by Architect/Engineer, Owner shall make payment of the balance due for that portion of the Work fully completed and accepted if Architect/Engineer confirms that final completion of the Work is significantly delayed through no fault of Contractor.
 - b. Payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.
 - c. Contractor shall submit with the Application for Payment written consent of surety if the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 77 00

SECTION 01 78 39 – PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes procedures for the maintenance, recording and submittal of Project record documents.

1.3 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Storage:
 - 1. Store documents and Samples in Contractor's field office apart from documents used for construction.
 - 2. Provide files and racks for storage of documents.
 - 3. Provide locked cabinet or secure storage space for storage of Samples.
- B. Filing: File record documents in accordance with CSI Masterformat.
- C. Maintenance:
 - 1. Maintain documents in a clean, dry, legible condition and in good order.
 - 2. Do not use record documents for construction purposes.
- D. Availability: Make documents and Samples available at all times for inspection by Architect.
 - 1. Reviewed submittals and shop drawings to be maintained on a FTP site accessible to project team members.

1.4 RECORDING

- A. Labeling: Label each document "PROJECT RECORD" in neat large printed letters.
- B. Recording:
 - 1. Record actual revisions to the Work.
 - 2. Record information concurrently with construction progress.
 - 3. Do not conceal any work until required information is recorded.
- C. Drawings:
 - 1. Legibly mark, with notes or graphic representations, to record actual construction.
 - a. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.
 - b. Field changes of dimension and detail.
 - c. Changes made by Field Order, Work Change Directive or Change Order.
 - d. Details not on original Contract Drawings.
 - 2. After Architect/Engineer's review of the record drawings, transfer all marks to electronic documents provided by Architect/Engineer.
- D. Specifications and Addenda:
 - 1. Legibly mark each Section to record:
 - a. Manufacturer, trade name, catalog number, and Supplier of each Product and item of equipment actually installed.
 - b. Changes made by Field Order, Work Change Directive or Change Order.

1.5 SUBMITTAL

- A. Delivery: At Contract closeout, deliver record documents to Architect/Engineer for Owner.
 - 1. Provide electronic as well as 3 hard copies.
 - 2. Provide two copies of DVDs recorded of all training per WSU standards.
- B. Transmittal Letter:
 - 1. Accompany submittal with transmittal letter in duplicate, containing:
 - a. Date.
 - b. Project title and number.
 - c. Contractor's name and address.
 - d. Title and number of each Record Document.
 - e. Signature of Contractor or their authorized representative.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION 01 78 39

SECTION 12 50 00 - FURNISHINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Furnishings.

1.2 RELATED SECTIONS

- A. Division 26 - Electrical.

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 – Submittal Procedures
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Verification Samples: For each finish product specified, two samples, representing actual product and finish.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.
- B. Installer Qualifications: Minimum 2 year experience installing similar products.

1.5 PRE-INSTALLATION MEETINGS

- A. Convene minimum two weeks prior to starting work of this section.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
- B. Handling: Handle materials to avoid damage.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.8 SEQUENCING

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers: Steelcase, Haworth, OFS Brands, Enwork; or approved equal.
- B. Requests for substitutions will be considered in accordance with provisions Section 01 25 13. Any substitution will need to be approved by the Owner, Owner's Representative, and Architect

- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 MATERIALS

- A. Furnishings: Refer to drawings for locations and coordination of architectural and engineering trades
- B. Bidding: Contractor shall provide unit prices for each of the items listed below.

C1

(Lounge)

Manufacturer: OFS Brands
Model Name: Tangent 8'x10' U Shape (See Plan for Layout) Sectional with Tall Back, Cushions W/ Tie downs
Model Number(s): (TN-2233B) (TN-2222B) (TN-1133WT) (TN-1122WT) (TN-22C) (TN-33C)
Fabric: Designtex Tiny Boucle Juniper - 3926-503 or \$50/Yard COM

Qty:	1	Unit \$	Total \$
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C2

(Lounge)

Manufacturer: OFS Brands
Model Name: COACT MID BACK SOFA 67.5"W
Model Number: F78043-M
Fabric Seat: Maharam Meld Crater 466387-014 or \$50/Yard COM
Fabric Back: Carnegie Collage #6 6546-6 or \$70/Yard COM
Leg Finish: Luster Gray

Qty:	2	Unit \$	Total \$
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C3

(Conference Stool)

Manufacturer: OFS Brands
Model Name: FLEXXY MID BACK STOOL
Model Number: 16055
Fabric Vinyl: Designtex Trove Lilypad 3839-501 \$50/Yard COM
Mesh Back: OFS Flexxy Grey
Plastic Shell: OFS Grey
Base Finish: Standard Black
Glides: For LVT

Qty:	6	Unit \$	Total \$
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C4

(Ottoman)

Manufacturer: Turnstone
Model Name: Bouy
Model Number: TSBUOY
Fabric Seat: Designtex Billard Cloth Tangelo 3549-701 Or Grade 3 Fabric
Surround: Artic White

Qty:	4	Unit \$	Total \$
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C5

(Stool)

Manufacturer: Haworth
Model Name: Maari Wood Leg Stool, Low Back, Upholstered Seat, Bar Height
Model Number: S8WB-24-0K
Poly Shell: Cocoa TR-CF
Fabric Seat: Maharam Merit Kookaburra 466444-023 or \$50/Yard Com
Leg: White Oak
Glide: For LVT

Qty:	13	Unit \$	Total \$
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C6

(Chair)

Manufacturer: Haworth
Model Name: Maari 4 Leg Chair with Upholstered Seat and Back
Model Number: S7S-22-0K
Poly Shell: Cocoa TR-CF
Fabric Seat: Maharam Merit Kookaburra 466444-023 or \$50/Yard Com
Leg: Smooth Plaster TR-PLS
Glide: For LVT

Qty:	12	Unit \$	Total \$
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C7

(Conference Chair)

Manufacturer: OFS Brands
Model Name: FLEXXY MID BACK CHAIR
Model Number: 16015,
Fabric Seat: Designtex Trove Lilypad 3839-501 or \$50/Yard COM
Mesh Back: OFS Flexxy Grey
Plastic Shell: OFS Grey
Base Finish: Standard Black
Glides: For LVT

Qty:	4	Unit \$	Total \$
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T1
(Media Table)

Manufacturer: Steelcase
Model Name: Media:scape Rectangular Stool Height Table
Model Number: MT03SR7260
Power: Standard 6 outlets within Media Well of Table, Large 8x4 switcher, 6 Pucks: 3 VGA, 3 HDMI, and display Scaler
Dimension: 60" D x 72" W x 38" H
Laminate Top: Formica Neutral Twill 8826-58
Edge: 3mm
Base: Platinum Metallic
Glides: Levelers\glides for LVT

Qty:	1	Unit \$	Total \$
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T2
(Laptop Table)

Manufacturer: Turnstone
Model Name: Turnstone Campfire Personal Table
Model Number: TS4TWP
Laminate: Formica Neutral Twill 8826-58
Glides: For LVT

Qty:	2	Unit \$	Total \$
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T3
(Cafe Table)

Manufacturer: Coaless
Model Name: Enea Lottus Table
Model Number: COEL3036
Dimensions: 36" W x 30" H
Laminate: Formica Neutral Twill 8826-58
Base: Platinum Metallic

Qty:	3	Unit \$	Total \$
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T4

Manufacturer: Enwork
Model Name: Sawhorse Table
Dimensions: 36" x 60"
Laminate: Formica Neutral Twill 8826-58
Base: Silver Metallic

Qty:	1	Unit \$	Total \$
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T5

Manufacturer: Haworth
Model Name: Jive Table 36x36 x 20" H X Base Table on Glides
Laminate: Formica Neutral Twill 8826-58
Base: Metallic Silver

Qty:	1	Unit \$	Total \$
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PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions and in proper relationship with adjacent construction.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION 12 50 00