

**Purchase College
State University of New York
Invitation For Bid**

TECHNICAL SPECIFICATIONS:

SECTION 01 33 00
SUBMITTAL REQUIREMENTS

***(Coordinate with Section 2.19 of the Agreement and
Articles 20, 24 and 27 of Section C of the General
Requirements)***

NOTES:

- SUBMISSIONS CAN BE MADE ELECTRONICALLY PROVIDED THAT SAID SUBMISSIONS FOLLOWS THE CRITERIA OUTLINED HEREIN AND BOTH THE FORMAT FOR THE OVERALL PROCESS IS AGREED TO BETWEEN ALL PARTIES PRIOR TO INITIAL START OF THE PROJECT.
- ***ALL SUBMITTALS SHALL BE MADE THROUGH THE SUBMITTAL EXCHANGE PROCESS – EMAIL TRANSMITTAL OF SAME WILL NOT BE ACCEPTED AND WILL BE RETURNED WITHOUT REVIEW***

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Where practical, submittals shall be made in groupings where installations are complimentary, i.e. steel, steel decking, steel stairs, stair railings; roof systems/flashings; etc. Failure to comply with this requirement will be cause for rejection of any oral submittals.

1.02 REQUIREMENTS INCLUDED

- A. Approved Equal Clause/Substitutions/Options
- B. Certification
- C. Manufacturer's Instructions
- D. Shop Drawings
- E. Samples
- F. Material Safety Data Sheet (MSDS) Submittals
- G. Design Responsibilities
- H. Coordination Drawings
- I.
- J. Certificates
- K. Construction Waste Management Procedures and Certifications – See Section 01 74 19.
- L. V.O.C. Compliance certification – See individual technical sections.
- M. Project Management And Coordination – Environmental

1.03 APPROVED EQUAL CLAUSE/SUBSTITUTIONS/OPTIONS - Section 2.20 of the Agreement

1.04 CERTIFICATION

- A. Certification of compliance with specification performance standards and manufacturers' specifications and directions shall be furnished for any portion of this work for which specific performance requirements and/or manufacturers' specifications are listed. It shall be the responsibility of the Contractor to secure two (2) copies of each certification when required and transmit same to the Architect and Owner's Representative.
- B. Sample Certification Form (2 pages) Section 01 33 06 as an exhibit at the close of this Section. Each item requiring certification shall be so noted and affidavits shall be filed singly to cover each specified material,

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installation, application and the like. CERTIFICATIONS SHALL BE SUBMITTED AS PART OF THE CLOSE OUT DOCUMENT REQUIREMENTS.

- C. Decorations, Furnishings and Interior Finish - The Contractor's attention is directed to the New York State Fire Codes as it relates to regulations controlling decoration, furnishings and interior finishes as they affect the work of this Contract. It is deemed the sole responsibility of the vendors furnishing fabrics, floor coverings, ceiling finishes, wall coverings and finishes and the like as covered by the regulations to submit applications and obtain approvals for same without additional charges to the Owner. Failure to obtain, and submit, approvals in accordance with requirements of this section will result in rejection of any submittal for this phase of the work.
- D. Packaged Equipment: Where packaged (factory assembled) mechanical and electrical equipment is furnished, a certificate shall be included with the submission of shop drawings or catalog data stating that the equipment complies with OSHA, National Electric Code, and applicable Underwriters Laboratories Standards in respect to motor protection, grounding and protection against hazards, and is approved by all Regulatory Agencies.

1.05 MANUFACTURER'S INSTRUCTIONS

- A. Where in these specifications an item is called for to be installed in accordance with the manufacturer's directions, specifications or recommendations, the Contractor shall furnish the Architect with two (2) printed copies of said directions, specifications or recommendations, before the item is installed.

1.06 SHOP DRAWINGS

- Submittals shall be made in groupings where installations are complementary, i.e. steel, steel decking, steel stairs, stair railings; roof systems/flashings; mechanical and electrical apparatus and the like. Failure to comply with this requirement will be cause for rejection of any or all submittals.
 - The Contractor is encouraged to submit for approval products made from recycled and/or environmentally responsible material. Every effort will be made by the Design Professional Team to approve these materials; the substitution request procedure shall still be enforced.
- A. The following serves as a further definition of the requirements for shop drawing submittals as covered in the General Requirements:
1. The Contractor shall submit to the Architect with such promptness as to cause no delay in the work, layout, detail, schedule, setting, product data and shop drawings for each part of the work as specified or required.
 - a. Submission of data for review by the Structural and Mechanical/Electrical Engineers shall be sent directly to those Engineers with duplicate transmittals sent to the Architect.
 2. BEFORE SUBMITTING ANY DATA FOR APPROVAL, THE CONTRACTOR SHALL CHECK THE SUBMITTALS OF ALL SUBCONTRACTORS FOR ACCURACY AND CONTRACT COMPLIANCE. ALL SUBMITTALS SHALL BE UNDER THE COVER SHEET ATTACHED HERETO. SUBMITTALS NOT COMPLYING WITH THE ABOVE SHALL BE RETURNED TO THE SUBMITTING CONTRACTOR WITHOUT EXAMINATION BY THE ARCHITECT. Contractor shall see that all work contiguous with and having bearing on work indicated on drawings is accurately and distinctly illustrated and that work shown is in conformity with contract requirements.
 3. Shop drawings shall be numbered consecutively and shall represent:
 - a. All working and erection dimensions.
 - b. Arrangement and sectional views.
 - c. Necessary details, including information for making connections to other work.
 - d. Kinds of materials and finishes. Colors, where applicable
 4. Shop drawings shall be dated, and shall generally contain:
 - a. Name and Number of project.
 - b. Name, address and telephone number of submitting Contractor.
 - c. Description of required equipment, materials, and classification item numbers.
 - d. Locations at which materials or equipment are to be installed in the Work.
 - e. Identification of drawings, schedules, notes and/or details and specification sections and related paragraphs/articles to which they apply.
 - f. Equipment or fixture identification corresponding to that used in Contract Documents.
 - g. Accessories and special or non-standard features and materials which are being furnished.
 - h. Properly marked with external connection identifications related to the project where they consist of standard factory assembly or field installation drawings.

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In addition to the general data required above, mechanical and electrical submissions shall contain:

- a. Manufacturer's specifications including materials of construction, metal gauge, thickness and finish.
 - b. Certified dimensional drawings including clearances required for maintenance or access
 - c. Performance data, ratings, operating characteristics, and operating limits.
 - d. Electrical ratings and characteristics.
 - e. Wiring and control diagrams, where applicable.
 - f. Certifications requested, including UL label or listing.
 - g. List of accessories which are required but are NOT being provided by the product manufacturer or are NOT being furnished under this Section. Identify the Section(s) under which the accessories are being furnished.
5. Submission of data for approval shall be accompanied by letter of transmittal, in duplicate, containing the name of the project, Contractor's name, number of drawings, titles and other pertinent data.
6. Procedure for Submitting Shop Drawings and Product Data: The contractor shall submit five (5) copies of data, for standard manufactured items, in the form of manufacturer's catalog sheets, showing illustrated cuts of the items to be furnished, scale details, sizes, dimensions, performance characteristics, operating clearances, capacities, wiring diagrams and all other pertinent information. Two copies of reviewed submissions will be returned to the contractor. For all other shop drawings, Contractor shall submit one transparency for each drawing until final approval is obtained. Each drawing transparency shall have a clear space approximately 4 inches by 10 inches on the right hand side for stamps showing "Date Received" and disposition of submittal. In addition to the transparency, three (3) prints shall be required.
- a. After completion of checking, the Architect, and Engineer (as appropriate) will retain one print for his record and return the transparencies to the submitting Contractor.
The average "turn around time" of any one in-house submittal by the Architect shall not exceed 15 business days for review.
 - b. For drawings returned "Resubmit", "Amend & Resubmit", "Disapproved" or "Rejected-Resubmit", the original drawings shall be corrected, a new transparency made, and resubmitted until final approval.
 - c. For drawings returned "Approved", "No Exceptions Taken", "Approved as Noted", and "Make Corrections Noted", the Contractor shall obtain and provide sufficient prints as required for the field.
- NOTE: It is the responsibility of the contractor to confirm all dimensions, quantities, and the coordination of materials and products supplied by him with other trades. Approval of shop drawings containing errors does not relieve the contractor from making corrections at his expense.
7. No work as called for by shop drawings shall be done until Architect's approval.
 8. IF SUBMITTALS SHOW VARIATIONS FROM CONTRACT REQUIREMENTS BECAUSE OF STANDARD SHOP PRACTICES, OR OTHER REASONS, CONTRACTOR SHALL MAKE SPECIFIC MENTION OF SUCH VARIATION IN HIS LETTER OF TRANSMITTAL.
 9. APPROVAL OF SHOP DRAWINGS IS GENERAL. IT SHALL NOT RELIEVE CONTRACTOR OF THE RESPONSIBILITY FOR ACCURACY OF SUCH DRAWINGS, NOR FOR THE FURNISHING OF MATERIALS OR PROVISION OF WORK REQUIRED BY THE CONTRACT AND NOT SHOWN ON THE SHOP DRAWINGS. Unless it is an interpretation of design intent, approval of shop drawings shall not be construed as approval of departures from Contract.
 10. If the Contractor should alter any information on previous submittals, besides the notations called for by the Architect, he must circle this new information to bring it to the Architect's attention.
 11. ***Where practical, in submitting data for approval, all associated drawings, product data and the like, relating to a complete assembly shall be submitted at one and the same time so that each may be checked in relation to the entire proposed assembly.***
PARTIAL SUBMISSIONS WILL BE RETURNED WITHOUT ACTION TAKEN. EXTRANEIOUS MATERIAL ON PRODUCT DATA SHEETS SHALL BE STRUCK PRIOR TO SUBMITTAL.
 12. Contractor shall have copies of all approved shop drawings as listed in Paragraph 1.06.A.6 above on the job at all times and shall make them available to the Architect or the Owner's representatives.

1.07 SAMPLES

- A. The following serves as a further definition of the requirements for sample submittals as covered in the General Requirements:
 1. Names of proposed manufacturers, materials men and dealers who are to furnish materials, fixtures, appliances or other fittings shall, where practical, be submitted to the Architect for early approval to afford proper investigation and check.

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2. No manufacturer will be approved for any materials to be furnished under this contract unless he shall be of good reputation and shall have plant of ample capacity and shall have successfully produced similar products.
3. All transactions with manufacturers and subcontractors shall be through the General Contractor.
4. Unless otherwise specified, samples shall be in duplicate (2) and of adequate size to show quality, type, color, range, finish, texture, etc.

INTERRELATED COLOR SELECTIONS WILL NOT BE MADE UNTIL ALL PERTINENT SAMPLES ARE MADE AVAILABLE TO ARCHITECT.

Deliver one (1) sample to field office and one (1) sample to Architect's office unless otherwise directed.

5. Each sample shall be labeled, bearing material and quality=names, submitting Contractor's name, and project name, and other pertinent data.
In accordance with OSHA regulation Number 1910.1200, a Manufacturers Material Safety Data Sheet (MSDS) shall be submitted for each product to be incorporated in the work.
The sole purpose for requiring submittal of MSDS sheets as outlined herein and respective technical sections is to advise the General Contractor that health and safety is of primary importance to the execution of the work and for the future occupants of the project under construction. It is to be assumed, and will be enforced, that the submission of MSDS sheets be made as a separate package, covered by it's own transmittal and marked "for evidence of legal compliance". This submission will be noted and returned with a stamp indicating "SUBMITTED INFORMATION ONLY, NOT REVIEWED".
Failure to observe these submittal requirements will be cause for rejection of the entire submittal. The safe handling of products by the applicator according to MSDS warnings is a safety issue, like any other, entirely within the purview of the General Contractor.
6. Where Specifications require manufacturer's printed installation directions, such directions and diagrams shall accompany samples. Coordinate with Paragraph 1.05 herein
7. A duplicate letter of transmittal from the submitting Contractor requesting approval of the sample shall accompany the samples.
8. Transportation charges to designated locations must be prepaid on all samples.
9. Materials shall not be ordered until approval is received in writing from the Architect. All materials shall be furnished equal in all respects to the samples which were approved.

1.08 MATERIAL SAFETY DATA SHEET (MSDS) SUBMITTALS

- A. As specified in Paragraph 1.07 of this Section and within the technical sections forming this Specification, the Contractor is directed to the following requirements concerning "MSDS" submissions.
 1. Submit MSDS's for all products used during construction whether incorporated within the work or used in the performance of the work.
 2. Identify which products may be harmful to construction workers or other building occupants.
 3. Develop means and methods for protection of construction workers and other building occupants from potentially harmful products. **Submit said means and methods to the Owner for review and approval.**
- B. Further, the General Contractor with assistance from each individual contractor shall maintain a "MSDS" file on site, accessible to workers and otherwise in compliance with jurisdiction's "Right To Know" legislation.
- C. **Attention is directed Section 01 77 00, Article 1.04.A.12 for final closeout submittal of MSDS compilation to the Owner.**

1.09 DESIGN RESPONSIBILITIES

- A. In accordance with the General Requirements, attention is directed to the following areas (if any) in which professional certification and/or design requirements are outlined within the technical specifications.
 1. 02 41 19 – Demolition Shoring
 2. 03 30 00 – Formwork and Shoring for Concrete
 3. 05 12 00 - Structural steel
 4. 05 30 00 - Metal decking
 5. 05 40 00 - Cold formed metal framing
 6. 05 51 00 - Steel Stairs
 7. 05 50 00/05 51 00 - Stair and Guard Railings
 8. 07 44 00 - Composite Metal Panel System (Rain Screen Design) – ACP; Support Systems
 9. 07 44 10 - Preformed Laminated Insulated Metal Panel System –

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- IMP; Support and Suspension Systems
- 10. 08 40 00 - Curtain walls
- 11. 08 40 00 - Entrances and Storefronts
- 12. 08 63 00 - Skylight, Metal Framed and Custom
- 13. 08 90 00 - Louvers and Vents
- 14. 09 29 00 – Gypsum Drywall - framing)
- 15. 11 24 00 – Façade Maintenance – Anchor Systems/Tie downs
- 16. 31 51 00 - Excavation Shoring

However, if included, is to be considered as partial only with the burden placed on the Contractor to provide all certifications and/or design information as may be specified and/or required by these Contract Documents in accordance with the applicable laws of the jurisdiction.

1.10 COORDINATION DRAWINGS

- A. Each Contractor's attention is directed to Section 01 31 14 for required coordination drawings and the responsibility therefore.

1.11 CERTIFICATES

- A. Submit a Summary of Solid Wastes Generated, manifests, weight tickets, and the like in accordance with requirements of Section 0174 19 - Construction Waste Management.
- B. Submit, as required by each technical section a certification for V.O.C. compliance.

1.12 PROJECT MANAGEMENT AND COORDINATION - ENVIRONMENTAL

- A. Contractor's Environmental Manager: Designate an on-site party responsible for overseeing the Contractor's conformance to environmental goals for the project and implementing procedures for environmental protection.
 - 1. Qualifications: Minimum **5** years construction experience on projects of similar size and scope; minimum **3** years experience with environmental procedures similar to those of this project; familiarity with environmental regulations applicable to construction operations.
 - 2. Responsibilities: Responsibilities shall include:
 - a. Compliance with applicable Federal, State, and local environmental regulations, Including maintaining required documentation.
 - b. Implementation of the Waste Management Plan.
 - c. Training for Contractor personnel in accordance with their position requirements.
 - d. Monitoring and documentation of environmental procedures.
- B. Perform project quality control in accordance with requirements specified in Related Sections, including:
 - 1. 01 74 19 - Construction Waste Management

End of Section

SUBMITTAL COVER SHEET

Contractor: _____

Address: _____ **Telephone:** () _____

TYPE OF SUBMITTAL:

- Shop Drawings
 - Technical Data
 - Test Report
 - Schedule
 - Certificate
 - Warranty
 - Physical Sample
 - Color Sample
- _____

Submission #: 1st , 2nd, 3rd, 4th (circle one)

Contractor Remarks:

Contractor Submittal Review Stamp

THE ATTACHED MATERIAL HAS BEEN REVIEWED BY THE UNDERSIGNED
AND IS BELIEVED TO COMPLY WITH ALL REQUIREMENTS OF THE
CONTRACT DOCUMENTS. THE UNDERSIGNED UNDERSTANDS
VERIFICATION OF FIELD DIMENSIONS, AND COORDINATION WITH OTHER
TRADES, REMAINS THE RESPONSIBILITY OF THE CONTRACTOR.

DATE: _____ BY (SIGN): _____

Consultant use below this line:

Architect Submittal Review Stamp

NO EXCEPTIONS MAKE CORRECTIONS NOTED

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REJECTED REVISE AND RESUBMIT
EXAMINED SUBMIT SPECIFIED ITEM
CHECKING IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN
CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE
INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. ANY ACTION
SHOWN IS SUBJECT TO THE REQUIREMENTS OF THE PLANS &
SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS
WHICH SHALL BE CONFIRMED & CORRELATED AT THE JOB SITE;
FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION;
COORDINATION OF HIS WORK WITH THAT OF ALL OTHER TRADES & THE
SATISFACTORY PERFORMANCE OF HIS WORK PURCHASE COLLEGE (SUNY)

DATE _____ BY _____

SECTION 01 42 19

CODES AND STANDARDS
(Coordinate with Section 2.10 of the Agreement)

Part 1 – GENERAL

1.01 REFERENCE STANDARDS

The abbreviations, which may be used in the construction specifications, refer to the organizations and specifications of the organizations listed below.

AABC	Associated Air Balance Council
AAN	American Association of Nurserymen
AI	Asphalt Institute
ADC	Air Diffusion Council
ALSC	American Lumber Standards Committee
AMCA	Air Movement and Control Association
ASC	Adhesive and Sealant Council
AWI	Architectural Woodwork Institute
CBM	Certified Ballast Manufacturers
CLFMI	Chain Link Fence Manufacturers Institute
CRI	Carpet and Rug Institute
CS	Commercial Standard of NBS
FS	Federal Specifications (General Services Administration), Specifications Unit (WFSIS)
GANA	Glass Association of North America
IEEE	The Institute of Electrical and Electronics Engineers
IES	Illuminating Engineering Society of North America
IGCC	Insulating Glass Certification Council
ILI	Indiana Limestone Institute of America
LSGA	Laminators Safety Glass Association
MIA	Marble Institute of America
NEII	National Elevator Industry Inc.
NELMA	Northeastern Lumber Manufacturers' Association
NEMA	National Electrical Manufacturers Association
NPCA	National Paint and Coatings Association
NPA	National Particleboard Association
NTMA	The National Terrazzo and Mosaic Association
PS	Product Standard of NBS (U.S. Department of Commerce)
RFCI	Resilient Floor Covering Institute
SFPA	Southern Forest Products Association
SIGMA	Sealed Insulating Glass Manufacturers Association
SPC	Southern Pine Inspection Bureau (Grading Rules)
SSPC	Steel Structures Painting Council
TIMA	Thermal Insulation Manufacturers Association
WRI	Wire Reinforcement Institute, Inc.
WSFI	Wood and Synthetic Flooring Institute
WWPA	Woven Wire Products Association

NOTE: Further attention is directed to industry guide compiled by Sweet's division of McGraw-Hill denoted as "SOURCES OF INFORMATION" as well as in the web site www.4specs.com wherein a comprehensive list of international organizations representing building product manufacturers, associations, institutes, governmental agencies and testing bureaus is put forth..Fa2309/kgd2011-1107 01 42 19 - 2 Codes and Standards

1.02 APPLICABLE CODES: The following is a listing of applicable codes within the jurisdiction of the Work as embodied within the 2010 New York State

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Building Code.

- A. 2006 International Building Code
- B. 2006 International Energy Conservation Code
- C. 2006 International Fire Code
- D. 2006 International Fuel Gas Code
- E. 2006 International Mechanical Code
- F. 2006 International Plumbing Code
- G. 2006 International Property Maintenance Code
- H. 2006 International Residential Code
- I. Accessibility Code - ANSI A117.1 New York State Building Code
- J. Elevator Code - ASME A17.1-2006 New York State Building Code
- K. Boiler Code - ASME Boiler & Pressure Vessel Code; NBIC

Part 2 - PRODUCTS - NOT USED

Part 3 - EXECUTION - NOT USED

****End of Section****

SECTION 01 43 26
TESTING LABORATORY SERVICES
(Coordinate with Section 2.17 of the Agreement)

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Definitions as apply to "Contractors" involved with the work of this Project shall be as set forth in Section 01 15 00.
- D. Pursuant to the provisions of Section 01 33 00, Submittal Requirements, it is further required that unless otherwise specified, tests called for in the Specifications applicable to the work and/or required to implement the work shall be paid for by the Owner.
- E. Where tests are required by the Architect to substantiate conformance to the specifications the Owner will pay all costs of such tests and engineering services unless said tests indicate that the workmanship or materials used by the Contractor are not in conformance with the Drawings, Specifications, Approved Shop Drawings or the approved materials. In such event, the Contractor shall pay for the tests, remove all work and material so failing to conform, REPLACE with work and materials which are in full conformity.
- F. Requirements related to testing services and specified elsewhere in these documents include:
 - 1. Inspections and testing as required by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction over the work.
 - 2. Certification of compliance as required by individual specification sections.
 - 3. Testing, adjusting and balancing of mechanical equipment and systems.
 - 4. Project record documents, including operation and maintenance manuals, record drawings and the like.
 - 5. Tests and standards governing work and/or materials as may be specified throughout these specifications and/or as shown on the drawings.
- G. The Owner will employ, and pay for, the services of an Independent Testing Laboratory to perform all specified services other than mechanical equipment and system balancing.
- H. Inspection, sampling and testing burden is placed on the Contractor to advise, and the Laboratory to provide, all such inspections, sampling and testing as may be specified and/or required by these Contract Documents and the applicable laws and ordinances of the jurisdiction.
- I. Employment of the Testing Laboratory shall not relieve the Contractor of his obligation to perform Work in accordance with the

1.02 REQUIREMENTS INCLUDED

- A. Laboratory Qualifications
- B. Laboratory Duties
- C. Contractor's Responsibilities
- D. Tests Required

1.03 LABORATORY QUALIFICATIONS

- A. Laboratory shall meet -
 - 1. The "Recommended Requirements for Independent Laboratory Qualifications", latest edition as published by the American Council of Independent Laboratories.
 - 2. Basic requirements of ASTM E 329, latest edition, governing "Standards of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used in Construction".
- B. Laboratory shall submit copy of inspection of facilities as made by Materials Reference Laboratory of the National Bureau of Standards during most recent tour of inspection; with memorandum of remedies of any deficiencies reported by inspection.
- C. Testing equipment shall be calibrated at maximum 12 month intervals by devices of accuracy traceable to either - National Bureau of Standards or accepted values of natural physical constants; submit copy of certificate of calibration as executed by an accredited calibration agency.

1.04 LABORATORY DUTIES

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- A. Cooperate with Architect and Contractor; provide qualified personnel promptly on notice.
- B. Perform specified inspections, sampling and testing of materials and methods of construction in conformance with specified standards, recognized authorities and the like so as to ascertain compliance with the requirements of the Contract Documents.
- C. Promptly notify Architect and Contractor of irregularities or deficiencies of Work which are observed during performance of services.
- D. Promptly submit sufficient copies (minimum 5) of reports and tests to Architect for distribution. Reports shall contain -
 - 1. Issue date
 - 2. Project title and number
 - 3. Testing laboratory name and address
 - 4. Name and signature of inspector
 - 5. Date of inspection or sampling
 - 6. Temperature and weather observations
 - 7. Test date
 - 8. Identification of product and specification section
 - 9. Location in project
 - 10. Type of inspection or test
 - 11. Observations regarding Contract Document compliance.
- E. Perform additional services as required by the Owner and/or Architect.
- F. The laboratory is not authorized to - release, revoke, alter or

1.05 CONTRACTOR'S RESPONSIBILITY

- A. The Contractor shall to the best of his ability -
 - 1. Cooperate with laboratory personnel, provide access to the Work and to Manufacturer's operations as may be necessary.
 - 2. Provide to the laboratory preliminary representative samples of materials to be tested in required quantities.
 - 3. Furnish copies of mill test reports.
 - 4. Provide casual labor and facilities as required to provide access to Work to be tested; to obtain and handle samples at the Site; to facilitate inspections and tests; for laboratory's exclusive use for storage and curing of test samples.
 - 5. Notify laboratory sufficiently in advance of operations to allow for his assignment of personnel and scheduling of tests.
 - 6. Arrange with laboratory and PAY FOR, additional sampling and testing required for the Contractor's convenience.
 - 7. Employ, AND PAY FOR, services of a separate, equally qualified Independent Testing Laboratory to perform additional inspections, sampling and testing required **when initial tests indicate Work does not comply with Contract Documents**. Coordinate with Paragraph 1.05.A.4 above.

1.06 TESTS REQUIRED – As applicable to particular Project

- A. General Tests: More detailed testing requirements are given in individual Specification Sections. The Owner shall retain the right to make any additional tests the Architect deem necessary or appropriate. The Contractor is responsible for providing his own tests to determine that materials meet specified requirements.
- B. Plumbing: At least the following tests will be performed. Conform to requirements specified in individual Division 22 Specification Sections. The test shall be performed and paid for by the subcontractor and witnessed by the Contractor and Owner's on-site representative:
 - 1. Water supply piping hydrostatic pressure test.
 - 2. Sanitary piping test before fixture installation: Cap pipes and fill to highest point in system.
 - 3. Plumbing fixture operation.
- C. Fire Protection System: At least the following tests will be performed. Conform to requirements specified in individual Division 21 Specification Sections. The test shall be performed and paid for by the subcontractor and witnessed by the Contractor and Owner's onsite representative:
 - 1. Fire protection system flushed and pressure tested.
- D. HVAC Testing All HVAC work shall be tested by an independent testing and balancing agency. Conform to requirements specified in individual Division 23 Specification Sections. All costs of these

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tests will be paid by the subcontractor. Adjustments shall be made by the subcontractor as directed by the Owner. At least the following tests will be performed:

1. Piping hydrostatic tests.
 2. Air and water balancing.
 3. Thermostat control monitoring and testing.
 4. Boiler efficiency testing.
 5. Fume hood face velocity testing. Certification sticker shall be placed on sash.
- E. Electrical Power System Testing: At least the following tests will be performed. Conform to requirements specified in individual Division 26 Specification Sections. The test shall be performed and paid for by the subcontractor and witnessed by the Contractor and Owner's on-site representative:
1. Polarity tests.
 2. Operation of all circuits.
 3. Testing of emergency system.
 4. Security systems.
 5. Generation system.
 6. Grounding systems.
- F. Electrical Lighting System Testing: Conform to requirements specified in individual Division 26 Specification Sections. At least the following tests shall be performed and paid for by the subcontractor.
1. Operation of every component of entire system.
- G. Fire Alarm System Testing: At least the following tests will be performed. Conform to requirements specified in individual Division 16 Specification Sections. The test shall be performed and paid for by the subcontractor and witnessed by the Contractor and Owner's onsite representative:
1. All smoke and heat detectors.
 2. Proper operation as required by authorities having jurisdiction.
- H. Contractor's Responsibilities: The Contractor shall notify the Owner, Architect, and Testing Laboratory personnel at least 48 hours prior to performance of work requiring testing. The Contractor shall fully cooperate with testing agencies and permit free access to all areas at all times. The Contractor shall permit taking samples at any time during construction, either before or after installation. Prior to notice to proceed with construction, the Contractor shall submit a Testing Log of planned tests and scheduled test dates. Tests shall be numbered based on type of work, type of test, and sequence. The Testing Log shall be maintained by the Contractor and updated weekly.
1. Coordination: The Contractor shall coordinate all testing, including all testing and inspections to be paid for by the Owner. The Contractor will arrange testing and sampling performed by the Owner's testing agency and will have prepared test record forms. Upon receipt of test results, the Owner will distribute two (2) copies to the Contractor and two (2) copies to the Architect with test results.
- I. Follow-up and Corrective Action: The Contractor and the Owner will note the test record on the Testing Log to acknowledge test procedures and results. If the follow-up or corrective action is needed, the Contractor shall submit to the Owner two (2) written copies of proposed follow-up or corrective plans and obtain the Owner's written approval before proceeding.
1. Cost of Testing: If tests indicate that materials or work do not comply with requirements, the contractor shall pay for all retesting, and shall remove and replace non-complying work at no additional cost to the Owner.
- J. Local Owner Inspections: The Contractor is also responsible for coordinating and cooperating with local requirements for inspections.

End of Section

SECTION 01 61 00
MATERIAL AND EQUIPMENT

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the General Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Definitions as apply to "Contractors" involved with the work of this Project shall be as set forth in Section 01 15 00.

1.02 REQUIREMENTS INCLUDED

- A. General Standards
- B. Sustainability
- C. Transportation and Handling
- D. Storage and Protection

1.03 GENERAL STANDARDS APPLICABLE TO ALL SPECIFICATION SECTIONS

- A. These provisions, standards, and tolerances shall apply to all work under this Contract. Where stricter standards and tolerances are specified elsewhere in these Specifications or in references specified in these Specifications, they shall take precedence over these standards and tolerances.
- B. Build and install parts of the Work level, plumb, square, and in correct position unless specifically shown or specified otherwise.
 - 1. No part shall be out of plumb, level, square, or correct position so much as to impair the proper functioning of the part or the Work as judged by the Architect.
 - 2. No part shall be out of plumb, level, square, or correct position so much as to impair the aesthetic effect of the part or the Work as judged by the Architect.
- C. Make joints tight and neat. Provide uniform joints in exposed work. Arrange joints to achieve the best visual effect. Refer choices of questionable visual effect to the Architect.
- D. Under potentially damp conditions, provide galvanic insulation between different metals which are not adjacent on the galvanic scale.
- E. Manufacturers, subcontractors, and workmen shall be experienced and skillful in performing the work assigned to them; coordinate with applicable provisions of the General Conditions.
- F. All paint used on all products shall conform to ANSI Z66.1, Specifications for Paints and Coatings Accessible to Children to Minimize Dry Film Toxicity.
- G. The Drawings do not attempt to show every item of existing work to be demolished and every item of repair required to existing surfaces. Perform work required to remove existing materials which are not to be saved and to restore existing surfaces to condition equivalent to new as judged by Architect. If possible, repairs shall be indistinguishable from adjacent sound surfaces. Where it is impossible to achieve repairs which are indistinguishable from adjacent sound surfaces to remain, notify Architect, and proceed according to his instructions; coordinate with Section 01120.

1.04 SUSTAINABILITY

- A. In the selection of the products and materials of this section as well as for the entire project, preference will be given to those with the following characteristics:
 - 1. Water based.
 - 2. Water-soluble.
 - 3. Can be cleaned up with water.
 - 4. Non-flammable.
 - 5. Biodegradable.
 - 6. Low or preferably no Volatile Organic Compound (VOC) content.
 - 7. Manufactured without compounds that contribute to ozone depletion in the upper atmosphere.
 - 8. Manufactured without compounds that contribute to smog in the lower atmosphere.
 - 9. Do not contain methylene-chloride.
 - 10. Do not contain chlorinated hydrocarbons.
 - 11. Contains the least possible of post-consumer or postindustrial waste.

1.05 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of materials in accordance with construction schedules in order to avoid delay in, conflict with, or the impeding of the progress of the Work and conditions at the site. Deliveries shall be made during regular work hours, unless approved otherwise by the Owner.
- B. Deliver materials in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.

1.06 STORAGE AND PROTECTION – See Section 01 15 00

- A. Store materials in accordance with manufacturer's instructions, with seals and labels accessible for inspection.
- B. Materials stored on the Site shall be neatly arranged and protected, and shall be stored in an orderly fashion in locations that shall not interfere with the progress of the Work or with the daily functioning of the existing facility.
- C. Interior Storage: Maintain temperature and humidity within the ranges required by manufacturer's instructions.

NOTE - If approval is given to store materials in any part of the building area, they shall be so stored as to cause no overloading of the existing structure.

D. Exterior Storage:

- 1. Store products subject to damage by the elements in weathertight enclosures.
- 2. Store fabricated products above the ground, on blocking or skids; prevent soiling or staining. Cover products subject to damage or deterioration with impervious sheet coverings; provide adequate ventilation to avoid condensation.
- 3. Store loose granular materials in a well drained area on solid surfaces to prevent mixing with foreign matter. Locate away from drainage or areas subject to flooding or storm washes.

NOTE - Should it become necessary during the course of the Work to move materials or equipment stored on the Site, the Contractor, at the direction of the Architect, shall move such material or equipment.

E. If it becomes necessary to remove and restack materials to avoid impeding the progress of any part of the Work or interfering with the work to be done by any other contractor employed on the Work, or interfering with the Owner's activities, the Contractor shall remove and restack such materials at no additional cost to the Owner.

F. Protection After Installation

- 1. Provide adequate coverings to protect installed materials from damage resulting from natural elements, traffic, and subsequent construction.
- 2. Remove when no longer needed.

End of Section

SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT

Part 1 - GENERAL

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Definitions as apply to "Contractors" involved with the work of this Project shall be as set forth in Section 01 15 00, Article 1.01.

1.02 DESCRIPTION OF WORK

- A. This Section specifies requirements for a complete program for implementation of waste management controls and systems for the duration of the Work.

1.03 INTENT

- A. The Owner has established that this Project shall generate the least amount of waste practical and that processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors shall be employed.
- B. Of the waste that is generated, as many of the waste materials as economically feasible shall be reused, salvaged, or recycled. Waste disposal in landfills shall be minimized to the greatest extent practical. With regard to these goals the Contractor shall develop, for Owner's Representative's review and Architect's review, a Waste Management Plan for this Project. Each Contractor shall be responsible for segregating their own waste into different dumpsters as directed by the Architect and/or Owner. The Contractor shall be responsible for ensuring that debris will be disposed of at appropriately designated licensed solid waste disposal facilities, as defined by governing laws of the jurisdiction of the Work.

1.04 WASTE MANAGEMENT PLAN

- A. Waste Management Plan: The General Contractor shall provide a plan containing the following:
 - 1. Analysis of the proposed jobsite waste to be generated, including types and rough quantities.
 - 2. Landfill Options: The name of the landfills where trash and building debris will be disposed of, the applicable landfill tipping fees, and the projected cost of disposing of all Project waste in the landfills.
 - 3. Landfill Certification: Contractor's statement of verification that landfills proposed for use are licensed for types of waste to be deposited and have sufficient capacity to receive waste from this project.
 - 4. Alternatives to Landfilling: A list of each material proposed to be salvaged or recycled during the course of the Project. Include the following and any additional items proposed:
 - a. Cardboard.
 - b. Clean dimensional wood.
 - c. Beverage containers.
 - d. Land clearing debris.
 - e. Concrete.
 - f. Bricks and masonry.
 - g. Asphalt.
 - h. Gypsum boards.
 - i. Acoustical ceiling material (grid separate).
 - j. Metals from framing, banding, stud trim, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
 - 5. Meetings: A description of the regular meetings to be held to address waste management.
 - 6. Materials Handling Procedures: A description of the means by which any waste materials identified above will be protected from contamination, and a description of the means to be employed in recycling the above materials consistent with requirements for acceptance by designated facilities.
 - 7. Transportation: A description of the means of transportation of the recyclable materials (whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler and removed from the site) and destination of materials.

Part 2 - PRODUCTS - Not Used

Part 3 - EXECUTION

3.01 RECYCLING

- A. Metal, including but not limited to aluminum stairs, structural beams and sections, and reinforcing steel shall be recycled.
- B. Wood that is not painted and does not contain preservatives (i.e. creosote, arsenic, and chromium-containing preservatives) shall be segregated and recycled.

3.02 WASTE MANAGEMENT PLAN IMPLEMENTATION – All sorting will be done “off site” by a recognized construction and demolition processing facility who will be responsible for provision of all documentation as to where loads were processed and the recycling rate achieved.

****End of Section ****