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CENTRAL WASHINGTON UNIVERSITY

SMALL WORKS PROJECT

CWU Dining Service Warehouse

CWU Contract No. 15937.02

Project Manual – BID ST

JULY 19, 2023

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VOLUME 1

000100 TABLE OF CONTENTS

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

001000 BID REQUIREMENTS
002000 BID FORM
003000 CONTRACT REQUIREMENTS
007200 GENERAL CONDITIONS
007300 SUPPLEMENTAL CONDITIONS
007400 MODIFICATIONS TO GENERAL CONDITIONS

DIVISION 01 - GENERAL REQUIREMENTS

011000 SUMMARY
012000 PRICE AND PAYMENT PROCEDURES
012500 SUBSTITUTION PROCEDURES
012500A SUBSTITUTION REQUEST FORM
013000 ADMINISTRATIVE REQUIREMENTS
013216 CONSTRUCTION PROGRESS SCHEDULE
013300A CONSENT FOR RELEASE OF ELECTRONIC MEDIA
013536 INDOOR AIR QUALITY PROCEDURES
014000 QUALITY REQUIREMENTS
016000 PRODUCT REQUIREMENTS
017000 EXECUTION
017800 CLOSEOUT SUBMITTAL PROCEDURES

DIVISION 02 – EXISTING CONDITIONS

NOT USED

DIVISION 03 – CONCRETE

NOT USED

DIVISION 05 – METALS

NOT USED

DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES

NOT USED

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

NOT USED

DIVISION 08 – OPENINGS

BID SET– 07/19/2023

NOT USED

DIVISION 09 – FINISHES

NOT USED

DIVISION 10 – SPECIALTIES

NOT USED

DIVISION 22 – PLUMBING

NOT USED

DIVISION 23 – HEATING, VENTILATION, AND AIR CONDITIONING (HVAC)

NOT USED

DIVISIONS 26 – ELECTRICAL

NOT USED

DIVISION 27 - COMMUNICATION

NOT USED

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

283110 FIRE ALARM SYSTEMS

END OF SECTION

DIVISION 00
PROCUREMENT AND CONTRACTING
REQUIREMENTS

PROJECT DESCRIPTION:

Fire life safety modifications including the addition of an egress door, new fire alarm system and smoke/heat venting.

SMALL WORKS ROSTER PROCEDURE:

This campus project is being delivered using CWU's Small Works Roster process. Contractors interested in bidding must be listed on CWU's Small Works Roster and have a current Washington State Contractor's License.

ELECTRONIC BID OPENING:

The electronic bid opening process shall consist of an email submitted to Jeremiah Eilers, Capital Planning and Projects, Jeremiah.Eilers@cwu.edu. The email submission shall have the **Bid Form** (See **Section 00 2000**) attached in PDF format. The email with the Bid Form must be submitted prior to **3:00 PM, Pacific Time, Wednesday, September 20th, 2023**. Upon receipt of the electronic bid, the CWU Project Manager will reply to the email address and acknowledge receipt of the Bid Form.

BASE BID:

The base bid amount the Contractor submits shall be to furnish all labor, supervision, materials, services, and equipment required to apply fire life safety modifications including the addition of an egress door, new fire alarm system and smoke/heat venting in accordance with the Bid/Construction Documents.

PROJECT SCHEDULE:

July 20th, 2023: Small Works Roster Contractors will be solicited by CWU to submit bids.
September 20th, 2023: Bids must be received prior to **3pm, September 20th, 2023**.
January 20th, 2024: Project shall be Performed by **January 20th, 2024**.

CWU CONTACT:

Direct all questions regarding the project to Jeremiah Eilers, CWU Project Manager, at Jeremiah.Eilers@cwu.edu, or 509-963-2357.

SITE VISIT:

A pre-bid site visit is highly recommended. Schedule the visit with Jeremiah Eilers, Capital Planning and Projects, Jeremiah.Eilers@cwu.edu.

BID/CONSTRUCTION DOCUMENT CLARIFICATIONS AND PRODUCT SUBSTITUTIONS:

Any clarifications or product substitution requests to the Bid/Construction Documents must be submitted to the CWU Construction Coordinator at least five (5) working days prior to the bid opening. Approval of proposed equals or substitutions will be made by addendum prior to receipt of bids and by a properly executed change order after receipt of bids.

AMENDMENTS TO BID SPECIFICATIONS:

Any amendment(s) to or error(s) in bid documents (specifications, drawings, etc.) called to the attention of the Owner will be corrected and furnished to all Contractors holding bid documents.

CONTRACTOR QUALIFICATIONS:

All bidders must be listed on the CWU Small Works Roster and have a current Washington State Contractor's License. Bidders must have successfully performed work of a similar scope and nature. Qualifications of bidders will be evaluated when determining award of bid.

PREVAILING WAGE:

The Contractor shall pay prevailing wages in accordance with RCW 39.12. Before payment is made by the Owner to the Contractor for any work performed by the Contractor and subcontractors whose work is included in the application for payment, the Contractor shall submit a statement of Intent to pay prevailing wages approved by the Department of Labor and Industries, certifying the rate of hourly wage paid.

RESERVED RIGHTS:

The Owner expressly reserves the rights: to accept or waive any and/or all irregularities in the bids submitted, to reject any and/or all bids, to base awards with due regard to quality, and to award to any bidder whose bid in the opinion of the Owner, is the lowest and best bid.

MINORITY AND WOMEN'S BUSINESS PARTICIPATION:

Minority and Women owned business are encouraged to submit bids. For assistance verifying certification, contact: Office of Minority and Women's Business Enterprises, 406 South Water, Mail Stop FK-11, Olympia WA 98504-4611, telephone (360) 753-9693.

DIVERSE BUSINESS INCLUSION:

The Owner is committed to providing the maximum practicable opportunity for participation by diverse businesses enterprises (DBE). DBE are defined as; small business, microbusiness, mini-business, minority owned business (MBE), and women owned business (WBE), as defined in RCW 39.26.010 and veteran-owned businesses as defined in RCW 43.60A.010. CWU strongly encourages contractors to work with DBE to meet or exceed the Owner's goals for each project of MBE 10%, WBE 6%, WA Small Business 5% and WA Veterans 5% participation. The successful bidder shall provide a plan to Jeremiah Eilers, Capital Planning and Projects, Jeremiah.Eilers@cwu.edu for inclusion efforts undertaken to utilize DBE for any CWU goods and services contracted prior to commencing with the work.

CENTRAL WASHINGTON UNIVERSITY
Dining Service Warehouse
SMALL WORKS PROJECT
BID FORM

TOTAL BASIC BID (Not including Washington State Sales Tax):

The undersigned hereby proposes to furnish all labor, supervision, materials, services, and equipment required for the Dining and Service Warehouse on the campus of Central Washington University in Ellensburg, Washington, and to perform the Work for the General Contract in accordance with the project Bid/Construction Documents for the following lump sum of money:

_____ Dollars (\$ _____)
(Print written dollar amount in space above) (Print numeric amount in space above)

TRENCH EXCAVATION SAFETY PROVISIONS:

If the project includes any work which requires trenching exceeding a depth of four feet, costs for safety systems need to be shown as a separate bid item in compliance with RCW 39.04 and to ensure that the bidder agrees to comply with trench safety requirements of RCW 49.17. The bid amount shall be considered as part of the total base bid set above. *If trench excavation safety provisions do not pertain to this project, put N.A. for the dollar amount. Failure to complete this requirement shall be considered as non-responsive to the bid solicitation.*

Trench Excavation Safety Provisions Only: \$ _____

TIME FOR COMPLETION:

The undersigned hereby agrees to fully complete the Work by January 20th, 2024.

BID SECURITY:

Per RCW 39.08.010, no Bid Bond is required for projects under \$150,000. For projects over \$150,000, enclose a Bid Bond, certified check or cashier's check in the amount shown below, which shall be at least 5 % of the total bid.

Name of Contractor _____
Signed by _____ Title _____
Address _____
Telephone _____ Date _____
Email address _____
State of Washington Contractor's License No. _____
Federal Tax Identification No. _____
UBI Tax Number _____

END OF BID FORM

SCOPE OF WORK: The Contractor shall provide all labor, materials, and equipment necessary for the CWU Dining Service Warehouse in accordance with the Bid Documents.

PROJECT SITE: To find the exact location of the project, refer to cwu.edu/map for an interactive online campus plan. The Contractor shall schedule and coordinate all of the work with Jeremiah Eilers, Capital Planning and Projects, at Jeremiah.Eilers@cwu.edu, or 509-963-2357. The Contractor shall communicate with CWU Dining Service Warehouse for any CWU shop support assistance as needed.

GENERAL CONDITIONS: The Contractor shall comply with Section 00 7200 General Conditions for Washington State Facility Construction, which can be located at the following hyperlink:
<https://www.cwu.edu/facility/rfq-general-conditions>

GENERAL CONDITIONS:

Regarding the project terms and conditions (Insurance, Prevailing Wages, Payment and Performance Bonds, Contract Sum, etc.), the Contractor shall comply with:

Section 00 7200 General Conditions for Washington State Facility Construction – access the following hyperlink:

<http://www.cwu.edu/facility/general-conditions>

END OF SECTION

**SUPPLEMENTAL CONDITIONS
FOR WASHINGTON STATE FACILITIES CONSTRUCTION**
(Paragraphs keyed to the State's General Conditions)

2.02 Replaces Section 2.02 – INSURANCE COVERAGE LIMITS and CERTIFICATES

A. Insurance Coverage Certificates and Policies

The Contractor shall furnish acceptable proof of insurance coverage on the state of Washington Certificate of Insurance form SF500A, dated 07/02/92 or ACORD form, as well as copies of insurance policies.

B. Required Insurance Coverages

1. For a contract less than \$100,000.00, the coverage required is:

- a. Comprehensive General Liability Insurance – The Contractor shall at all times during the term of this contract, at its cost and expense, carry and maintain general public liability insurance, including contractual liability, against claims for bodily injury, personal injury, death or property damage occurring or arising out of services provided under this contract. This insurance shall cover claims caused by any act, omission, or negligence of the Contractor or its officers, agents, representatives, assigns or servants. The limits of liability insurance, which may be increased as deemed necessary by the contracting parties, shall be:

Each Occurrence	\$1,000,000.00
General Aggregate Limits (other than products – commercial operations)	\$1,000,000.00
Products – Commercial Operations Limit	\$1,000,000.00
Personal and Advertising Injury Limit	\$1,000,000.00
Fire Damage Limit (any one fire)	\$50,000.00
Medical Expense Limit (any one person)	\$5,000.00

- b. If the contract is for underground utility work, then the Contractor shall provide proof of insurance for that above in the form of Explosion, Collapse and Underground (XCU) coverage.

- c. Employers Liability on an occurrence basis in an amount not less than \$1,000,000.00 per occurrence.

2. For contracts over \$100,000.00 but less than \$5,000,000.00 the contractor shall obtain the coverage limits as listed for contracts below \$100,000.00 and General Aggregate and Products – Commercial Operations Limit of not less than \$2,000,000.00.

3. Coverage for Comprehensive General Bodily Injury Liability Insurance for a contract over \$5,000,000.00 is:

Each Occurrence	\$2,000,000.00
General Aggregate Limits (other than products – commercial operations)	\$4,000,000.00
Products – Commercial Operations limit	\$4,000,000.00
Personal and Advertising Injury Limit	\$2,000,000.00

Fire Damage Limit (any one fire)	\$50,000.00
Medical Expense Limit (any one Person)	\$5,000.00

4. For all Contracts – Automobile Liability: in the event that services delivered pursuant to this contract involve the use of vehicles or the transportation of clients, automobile liability insurance shall be required. If Contractor-owned personal vehicles are used, a Business Automobile Policy covering at a minimum Code 2 “owned autos only” must be secured. If Contractor employee’s vehicles are used, the Contractor must also include under the Business Automobile Policy Code 9, coverage for non-owned autos. The minimum limits for automobile liability is: \$1,000,000.00 per occurrence, using a combined single limit for bodily injury and property damage.
5. For Contracts for Hazardous Substance Removal (Asbestos Abatement, PCB Abatement, etc.)
 - a. In addition to providing insurance coverage for the project as outlined above, the Contractor shall provide Pollution Liability insurance for the hazardous substance removal as follows:

<u>EACH OCCURRENCE</u>	<u>AGGREGATE</u>
\$500,000.00	\$1,000,000.00

or \$1,000,000.00 each occurrence/aggregate bodily injury and property damage combined single limit.

- 1) Insurance certificate must state that the insurer is covering hazardous substance removal.
- 2) Should this insurance be secured on a “claims made” basis, the coverage must be continuously maintained for one year following the project’s “final completion” through official completion of the project, plus one year following.

For Contracts where hazardous substance removal is a subcomponent of contracted work, the general contractor shall provide to the Owner a certificate of insurance for coverage as defined in 5a. above. The State of Washington must be listed as an additional insured. This certificate of insurance must be provided to the Owner prior to commencing work.

2.04 Replaces Section 2.04 - PAYMENT AND PERFORMANCE BONDS

Conditions for bonds: Payment and performance bonds for 100% of the Contract Award Amount, plus state sales tax, shall be furnished for the Work, using the Payment Bond and Performance Bond form published by and available from the American Institute of Architects (AIA) – form A312. Prior to execution of a Change Order that, cumulatively with previous Change Orders, increases the Contract Award Amount by 15% or more, the Contractor shall provide either new payment and performance bonds for the revised Contract Sum, or riders to the existing payment and performance bonds increasing the amount of the bonds. The Contractor shall likewise provide additional bonds or riders when subsequent Change Orders increase the Contract Sum by 15% or more.

No payment or performance bond is required if the Contract Sum is \$150,000 or less and the Contractor or General Contractor/Construction Manager agrees that Owner may, in lieu of the bond, retain 10% of the Contract Sum for the period allowed by RCW 39.08.010.

3.02 Replaces Section 3.02 B – CONSTRUCTION SCHEDULE

B. Form of Progress Schedule: The Progress Schedule shall be in the form of a Critical Path Method (CPM) logic network or, with the approval of the Owner, a bar chart schedule may be submitted. The scheduling of construction is the responsibility of the Contractor and is included in the contract to assure adequate planning and execution of the work. The schedule will be used to evaluate progress of the work for payment based on the Schedule of Values. The schedule shall show the Contractor's planned order and interdependence of activities, and sequence of work. As a minimum the schedule shall include:

1. Date of Notice to Proceed;
2. Activities (resources, durations, individual responsible for activity, early starts, late starts, early finishes, late finishes, etc.);
3. Utility Shutdowns;
4. Interrelationships and dependence of activities;
5. Planned vs. actual status for each activity;
6. Substantial completion;
7. Punch list;
8. Final inspection;
9. Final completion, and
10. Float time

The Schedule Duration shall be based on the Contract Time of Completion listed on the Bid Form. The Owner shall not be obligated to accept any Early Completion Schedule suggested by the Contractor. The Contract Time for Completion shall establish the Schedule Completion Date.

If the Contractor feels that the work can be completed in less than the Specified Contract Time, then the Surplus Time shall be considered Project Float. This Float time shall be shown on the Project Schedule. It shall be available to accommodate changes in the work and unforeseen conditions.

Neither the Contractor nor the Owner have exclusive right to this Float Time. It belongs to the project.

5.01 Replaces Section 5.01 B & D - CONTRACTOR CONTROL AND SUPERVISION

B. Competent Superintendent required: Performance of the Work shall be directly supervised by a competent superintendent who has authority to act for Contractor. The superintendent must be satisfactory to the Owner and shall not be changed without the prior written consent of Owner. Owner may require Contractor to remove the superintendent from the Work or Project site, at no cost to the Owner for delay or any other claim, if Owner reasonably deems the superintendent incompetent, negligent, or otherwise objectionable, provided Owner has first notified Contractor in writing and allowed a reasonable period for transition. Noncompliance with the Owner's request to remove and replace the superintendent for a material reason shall also be grounds for terminating the Contract for cause.

D. Contractor to employ competent and disciplined workforce: Contractor shall enforce strict discipline and good order among all of the Contractor's employees and other persons performing the Work. Contractor shall not permit employment of persons not skilled in tasks assigned to them. Contractor's employees shall at all times conduct business in a manner which assures fair, equal, and nondiscriminatory treatment of all persons. Owner may, by written notice, require Contractor to remove from the Work or Project site, at no cost to the Owner for delay or any other claim, any employee Owner reasonably deems incompetent,

negligent, or otherwise objectionable. Noncompliance with the Owner's request to remove and replace personnel at any level for a material reason shall also be grounds for terminating the Contract for cause.

5.02 Replaces Section 5.02 B – PERMITS, FEES AND NOTICES

- B. Allowances for permit fees: The actual cost of the general building permit (only) and the public utility hook-up fees will be a direct reimbursement to the Contractor or paid ***directly to the permitting agency by the Owner. Fees for these permits should not be included by the Contractor in his bid amount***

Add New Section 5.02 D – PERMITS, FEES, AND NOTICES

- D. Contractor to submit copies: The General Contractor shall submit copies of each valid permit required on the project to the Owner's representative. Nothing in this part shall be construed as imposing a duty upon the Owner or A/E to secure permits.

5.04 Replaces 5.04, Section A – PREVAILING WAGES

- A. Contractor to pay Prevailing Wages or applicable Federal Wages: Contractor shall pay the prevailing rate of wages to all workers, laborers, or mechanics employed in the performance of any part of the Work in accordance with RCW 39.12 and the rules and regulations of the Department of Labor and Industries. The schedule of prevailing wage rates for the locality or localities of the Work, is determined by the Industrial Statistician of the Department of Labor and Industries. It is the Contractor's responsibility to verify the applicable prevailing wage rate. If applicable, the Contractor shall comply with all Federal Funding requirements of the Davis Bacon Act that will be addressed in a separate "DIVISION 00 SPECIAL CONDITIONS" specification section that will be based on the specific requirements of the funding source. .

5.04 Replaces 5.04, Section G – Certified Payrolls

- G. Certified Payrolls: Consistent with WAC 296-127-320, the Contractor and any subcontractor shall submit a certified copy of payroll records if requested. If applicable, the Contractor shall comply with all Federal Funding requirements of the Davis Bacon Act that will be addressed in a separate "DIVISION 00 SPECIAL CONDITIONS" specification section that will be based on the specific requirements of the funding source.

5.06 Replaces 5.06, Section A – NONDISCRIMINATION

- A. Discrimination prohibited by applicable laws: The Contractor and all Subcontractors shall comply with all applicable federal and state non-discrimination laws, regulations, and policies. No person shall, on the grounds of age, race, creed, color, sex, sexual orientation, religion, national origin, marital status, honorably discharged veteran or military status, or disability (physical, mental, or sensory) be denied the benefits of, or otherwise be subjected to discrimination under any project, program, or activity, funded, in whole or in part, under this Agreement.

5.07 Replaces 5.07, Section A – SAFETY PRECAUTIONS

- A. In performing this contract, the Contractor shall provide for protecting the lives and health of employees and other persons; preventing damage to property, materials, supplies, and equipment; and avoid work interruptions. For these purposes, the Contractor shall:
1. Follow Washington Industrial Safety and Health Act (WISHA) regional directives and provide a site-specific safety program that will require an accident prevention and hazard analysis plan for the contractor and each subcontractor on the work site. The Contractor shall submit a site-specific safety plan to the Owner's representative prior to the initial scheduled construction meeting.
 2. Provide adequate safety devices and measures including, but not limited to, the appropriate safety literature, notice, training, permits, placement and use of barricades, signs, signal lights, ladders, scaffolding, staging, runways, hoist, construction elevators, shoring, temporary lighting, grounded outlets, wiring, hazardous materials, vehicles, construction processes, and equipment required by all applicable state, federal, and local laws and regulations.
 3. Comply with the State Environmental Policy Act (SEPA), Clean Air Act, Shoreline Management Act, and other applicable federal, state, and local statutes and regulations dealing with the prevention of environmental pollution and the preservation of public natural resources.
 4. Post all permits, notices, and/or approvals in a conspicuous location at the construction site.
 5. Provide any additional measures that the Owner determines to be reasonable and necessary for ensuring a safe environment in areas open to the public. Nothing in this part shall be construed as imposing a duty upon the Owner or A/E to prescribe safety conditions relating to employees, public, or agents of the Contractors.

5.20 Add New Paragraph A. 6. – SUBCONTRACTORS AND SUPPLIERS

6. Within the three-year period immediately preceding the date of the bid solicitation, not have been determined by a final and binding citation and notice of assessment issued by the department of labor and industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of chapter 49.46, 49.48, or 49.52 RCW.

5.20 Replace Paragraph B – SUBCONTRACTORS AND SUPPLIERS

- B. Use qualified Subcontractors: Contractor shall utilize Subcontractors and suppliers, which are experienced and qualified, and meet the requirements of the Contract Documents, if any. Contractor shall not utilize any Subcontractor or supplier to whom the Owner has a reasonable objection, and shall obtain Owner's written consent before making any substitutions or additions.

7.02 Replace Paragraph B.7.c – CHANGE IN THE CONTRACT SUM, Change Order Pricing – Fixed Price, Components of Increased Cost

- c. Equipment costs: This is an itemization of the type of equipment and the estimated or actual length of time the construction equipment appropriate for the Work is or will be

used on the change in the Work. Costs will be allowed for construction equipment only if used solely for the changed Work, or for additional rental costs actually incurred by the Contractor. Equipment charges shall be computed on the basis of actual invoice costs or if owned, from the current edition of one of the following sources:

- (1) The National Electrical Contractors Association for equipment used on electrical work.
- (2) The Mechanical Contractors Association of America for equipment used on mechanical work.
- (3) The EquipmentWatch Fleet Manager Estimator Package (digital). The maximum rate for standby equipment shall not exceed that shown in the Associated General Contractors Washington State Department of Transportation (AGC WSDOT) Equipment Rental Agreement, current edition on the Contract execution date.

10.11 Add Part 10.11 – DIVERSE BUSINESS PARTICIPATION

The state of Washington encourages participation in all of its contracts by Diverse Businesses as found in RCW Chapters 39, 43, and WAC 326. The voluntary Diverse Business goal of 26%, which is an aggregate of: 10% Minority Business Enterprises (MBE), 6% Women Business Enterprises (WBE), 5% Veteran-owned Business, and 5% Washington Small Businesses self-identified in the Washington Electronic Business Solution (WEBS) <http://www.des.wa.gov/services/ContractingPurchasing/Business/Pages/WEBSRegistration.aspx>. Contractors are encouraged to meet or exceed the project goals in the advertisement by any level of participation, regardless of category.

DES reserves the right to adjust the voluntary participation goals.

Businesses are encouraged to register in WEBS, as well as registering as a state certified M/WBE/Veteran Business.

For reporting, Contractor is required to register and create an account in the DES Diversity Compliance Program (B2GNow) at <https://des.diversitycompliance.com/>.

Every month for the duration of your contract, and while your contract is active in the B2Gnow system, submit and accurately maintain the following information through B2Gnow:

- a. Payments received by the prime contractor from the Agency
- b. Payments paid to each first tier subcontractor
- c. Payments paid to each first tier supplier

You must also ensure the following information is reported in the B2Gnow system by your first tier subcontractors and suppliers for the duration of your contract:

- a. Confirmation of payments from the prime contractor to the first tier subcontractor
- b. Confirmation of payments from the prime contractor to first tier suppliers

10.12 Add Part 10.12 - MINIMUM LEVELS OF APPRENTICESHIP PARTICIPATION

In accordance with RCW 39.04.320, the State of Washington requires 15% apprenticeship participation for projects estimated to cost one million dollars or more.

- A. Apprentice participation, under this contract, may be counted towards the required percentage (%) only if the apprentices are from an apprenticeship program registered and approved by the Washington State Apprenticeship and Training Council (RCW 49.04 and WAC 296-05).

- B. Bidders may contact the Department of Labor and Industries, Specialty Compliance Services Division, Apprenticeship Section, P.O. Box 44530, Olympia, WA 98504-4530 by phone at (360) 902-5320, and e-mail at Apprentice@Lni.wa.gov, to obtain information on available apprenticeship programs.
- C. For each project that has apprentice requirements, the contractor shall submit a **“Statement of Apprentice and Journeyman Participation”** on forms provided by the Department of Enterprise Services, with every request for progress payment. The Contractor shall submit consolidated and cumulative data collected by the Contractor and collected from all subcontractors by the Contractor. The data to be collected and submitted includes the following:
 - 11. Contractor name and address
 - 12. Contract number
 - 13. Project name
 - 14. Contract value
 - 15. Reporting period “Beginning Date” through “End Date”
 - 16. Name and registration number of each apprentice by contractor
 - 17. Total number of apprentices and labor hours worked by them, categorized by trade or craft
 - 18. Total number of journeymen and labor hours worked by them, categorized by trade or craft
 - 19. Cumulative combined total of apprentice and journeymen labor hours
 - 20. Total percentage of apprentice hours worked
- D. No changes to the required percentage (%) of apprentice participation shall be allowed without written approval of the Owner. In any request for the change, the Contractor shall clearly demonstrate a good faith effort to comply with the requirements for apprentice participation.
- E. Any substantive violation of the mandatory requirements of this part of the contract may be a material breach of the contract by the Contractor. The Owner may withhold payment pursuant to Part 6.05, stop the work for cause pursuant to Part 3.04, and terminate the contract for cause pursuant to Part 9.01.

10.13 Add Part 10.13 – SPECIAL CONDITIONS

The Owner may have Federal Funding or other special requirements for this project. If applicable, the Contractor will be required to comply with the “DIVISION 00 SPECIAL CONDITIONS” section in the specifications that will be based on the specific requirements of the funding source.

00 7400 MODIFICATIONS TO THE GENERAL CONDITIONS

These Central Washington University Modifications to the General Conditions form a part of, and are incorporated in the Contract Documents and modify, delete, add, and replace provisions of the General Conditions. Provisions not altered remain in effect. All terms defined elsewhere in the Contract Documents shall have the same meaning here.

PART 1 - GENERAL PROVISIONS

- 1.01A Modify the sentence as follows:
"Application for Payment" means a written request submitted by contractor to Owner for payment of Work.

PART 2 - INSURANCE AND BONDS

- 2.01 Add the following:
The certificate holder shall be:
Central Washington University
Vice President for Business & Financial
Affairs
Ellensburg, WA 98926

PART 4 - SPECIFICATIONS, DRAWINGS, AND OTHER DOCUMENTS

- 4.01 Add to paragraph 4.02B
...changes and shall be available to Owner and A/E at all times.

PART 5 - PERFORMANCE

- 5.01 Add a new paragraph
G. Work During Off Hours
When work is to be performed during other than normal working hours or on Central Washington University holidays, Contractor shall give Owner 48 hour prior notice so that Owner's Police Department may be properly notified. Any construction activity between the hours of 7:00 p.m. to 7:00 a.m. PST is subject to approval of Owner.
- 5.02 Add a new paragraph 5.02E
E. Prior to Final Completion, the building permit and City-approved drawings, signed inspection card(s), and any appropriate occupancy permits shall be submitted to Owner.

PART 6 - PAYMENTS AND COMPLETION

- 6.02 Add a new subparagraph:
This schedule shall be based upon any cost loading required as a part of the progress schedule and shall allocate at least 1% of the contract sum (in addition to the statutory retainage described in Paragraph 6.06 to that portion of the work between Substantial and Final Completion.
- 6.03D Add a new subparagraph 6.03D(9):
9 For material stored off-site not in a warehouse, Contractor may request payment, provided that the remaining requirements of this paragraph and any additional requirements of Owner are met.
- 6.04A In the first sentence change "30 days" to "45 days."
6.09B Add the following:
Final Acceptance: Final Acceptance of the Work shall be by action of the Board of Trustees or its delegated representative.

PART 8 - CLAIMS AND DISPUTE RESOLUTION

- 8.01 Add new Paragraphs 8.01 G and 8.01 H:
G Notwithstanding 8.02 below, upon request by Owner, any claims between Owner and Contractor, Architect/Engineer and Contractor, Owner and Architect/Engineer, Owner and Contractor's Guarantor, or Contractor and its Subcontractors and Suppliers shall be submitted in a single forum and Owner may consolidate or join any of the above-named parties in the action. Other parties may be joined upon notice

by either Contractor or Owner with the consent of such third party.

Thereafter, such third parties shall be bound by the results of such dispute resolution process to the same extent as the original parties to the dispute.

- H Contractor agrees that any contract with a Sub-contractor to perform any portion of the work shall include a provision which contractually requires the Sub-contractor be joined, at the Owner's request, in the dispute process.

8.02 Replace the 8.02 A – E with the following:

DISPUTE RESOLUTION: In order to assist in the resolution of disputes or claims arising out of the work of this project, the Owner has provided for the following procedures in an escalating fashion.

- A Within 20 calendar days after receipt of a written directive from the Owner's Project Manager to proceed with the protested work, in accordance with Paragraph 8.01. D, the Contractor shall, if the Contractor still objects to such instruction, file a written protest with the Owner's Director of Facilities Management, clearly detailing all of the following:

1. The basis of the objection(s), and
2. The contract provisions that support the protest, and
3. The actual or estimated dollar cost, if any, of protested work and how that cost was determined, and,
4. Estimates or actual amounts of additional time incurred, if any.

- B Within 20 calendar days of receipt of the contractor's appeal for review, the Owner shall arrange a meeting to include the Contractor's Senior Principal (or their designee) and the Owner's Business Manager (or his designee). Such meeting shall be held at a mutually agreed time on the Owner's Campus. Either party may request a Mediator be retained to participate in the dispute resolution process. Both must agree on the choice and share equally in the expense. If in disagreement, the parties agree to allow an independent third party such as the Yakima Dispute Resolution Center to pick one.

- C If the Owner and the Contractor are able to resolve their dispute through this process, the Owner will promptly process any contract changes, otherwise the Owner shall, after review of all the pertinent facts, make a written determination of the dispute and such determination shall be final.

- D If the Contractor disagrees with the final determination of the Owner, the Contractor may, within 45 calendar days, file a Complaint which shall be subject to judicial review as provided under State of Washington case law, in the Superior Court of Kittitas County, Washington, which shall have exclusive jurisdiction and venue over all matters in question between the Contractor. Failure to file such Complaint within the time prescribed shall be deemed acceptance by the Contractor.

PART 10 - MISCELLANEOUS PROVISIONS

10.11 Change to read as follows:

10.11 W/MBE

PARTICIPATION

Goals

CWU encourages participation in all of its contracts by Diverse Businesses as found in RCW Chapters 39, 43, and WAC 326. The voluntary Diverse Business goal of 26%, which is an aggregate of: 10% Minority Business Enterprises (MBE), 6% Women Business Enterprises (WBE), 5% Veteran-owned Business, and 5% Washington Small Businesses self-identified in the Washington Electronic Business Solution (WEBS). Contractors are encouraged to meet or exceed the project goals in the advertisement by any level of participation, regardless of category.

If Contractor has been unsuccessful in complying with these goals for any craft, Contractor shall broaden recruitment, training and job referral opportunities for minorities and women by undertaking each of the following:

- 1 Notify Owner;
- 2 Notify state and community organizations of opportunities for employment, and retain evidence of their responses. Trade associations maintain lists of community organizations that refer minority and women workers for employment in construction trade;
- 3 Maintain a file in which is recorded the name and address of each minority and woman worker referred to Contractor and specifically what action was taken with respect to each such referred worker. If such worker was not employed by Contractor, Contractor's file shall document this and the reason therefore;
- 4 Notify Owner whenever the union with which Contractor has a collective bargaining agreement has not

referred to Contractor a minority or woman worker requested by Contractor, or Contractor has other information that the union referral process has impeded Contractor's efforts to effect minority or women utilization. Contractor shall show what relief has been sought under the collective bargaining agreement or through appropriate federal and state agencies. Appropriate steps can include, but are not limited to, arbitration or administrative relief;

- 5 Hire directly on a non-discriminatory basis for performance of Work, if a court of competent jurisdiction finds that a union with which Contractor has a collective bargaining agreement racially or sexually discriminates in recruitment or dispatch of worker; and
- 6 Use of apprentices or other appropriate entry classifications up to limits allowed or required by applicable collective bargaining agreements to meet the goals.

B Reports

Contractor shall report monthly the total hours of employment on site by craft and category. Reports will be submitted on the form attached to this Section titled "Affidavit of Amount Paid MBA/WBE".

C Compliance Meetings

Upon Owner's request, Contractor and Owner will hold a conference to discuss affirmative action with regard to equal employment opportunity. Review will be made of Contractor's reports and evidence of good faith efforts.

D Definitions

- 1 "Minority is defined as Blacks, Asians (Japanese, Chinese, Filipino), American Indians, Spanish-Americans (includes Mexican-American, Puerto Rican and other people with Spanish surnames not otherwise reported) and other (including Korean, Polynesian, Indonesian, Hawaiian, Aleut, and Eskimo).
- 2 "Craft" is defined as a recognized construction trade for which minimum wage categories are established by the Department of Labor and Industries.

10.14 Add the Following:

10.14 ASBESTOS

A Asbestos Products

Contractor shall ensure that no Asbestos products in any form are incorporated into the Work.

B Good Faith Inspection

- 1 Owner has performed a good faith inspection to determine whether the materials to be worked on or removed contain Asbestos, and will make this inspection report available to all bidders. Contractor shall not commence Work without receiving a copy of this report.
- 2 Contractor shall keep the asbestos inspection report on site.
- 3 The usual policy of the Owner is to identify and abate Asbestos before the Work begins, unless Asbestos abatement is included in the scope of Work of these Contract Documents. In limited cases where Owner is reasonably certain that Asbestos will not be disturbed, Asbestos material are to remain intact in the work area. These materials would be identified in the Asbestos inspection report and Contractor advised of protective measures.
- 4 In some cases, where certain construction or demolition tasks must be performed before the Asbestos can be accessed for removal, or where phasing of the construction does not permit scheduled during the Contract Time. In such cases, Owner and Contractor must coordinate the scheduling of the work of the separate Asbestos contractor.

C Notice

If in the course of performing the Work Contractor encounters an Asbestos Project which was not specifically reference in the Contract Documents, or disturbs Asbestos, Contractor shall immediately stop work and notify Owner. Contractor shall not recommence work until authorized by Owner.

D Delays

Owner will use its best efforts to identify the scope of an Asbestos Project in the Contract Documents. Contractor acknowledges that the condition or scope of an Asbestos Project cannot be fully determined if it would result in disturbance or exposure of asbestos prior to undertaking the Work. If Contractor is significantly delayed during the course of performance because of the presence of Asbestos not identified in the Contract Documents, Contractor may request an equitable adjustment in the Contract Sum in accordance with the provisions of section 7.02.

E Permits

Contractor shall file a Notice of Intent to Remove Asbestos with the Department of Labor and Industries. Prior

to submitting such notice to the Department of Labor and Industries, Contractor shall submit for approval to Owner Contractor's proposed procedures for undertaking the Asbestos Project to assure compliance with Owner's performance standards and applicableregulations.

F Safety Precautions

Contractor shall provide, at Contractor's cost, appropriate clothing, caution sign, supply items, and safety equipment in order to perform the Asbestos Project in accordance with the Regulations and the performance standards of Owner.

During the course of performing an Asbestos Project, Contractor shall monitor the work place and adjacent areas in accordance with the regulations and the performance standards of Owner to ensure that permissible levels of airborne concentrations of asbestos fibers are not exceeded. The results of all monitoring shall be immediately provided to Owner. If the prescribed exposure limits are exceeded, Contractor shall immediately execute a compliance program of engineering and work practices approved by Owner.

G Certification

No Contractor or person shall undertake an Asbestos Project unless certified by the Department of Labor and Industries as aqualified asbestos contractor, supervisor, or worker in accordance with the requirements of WAC Chapter 296-65.

H Records

Contractor shall maintain complete records of personal and environmental monitoring. A copy of these records shall be provided to Owner before Final Acceptance. Contractor is also required by regulation to arrange for medical examinations for those employees who work on an Asbestos Project and to maintain those records for at least twenty years.

I Definitions

- 1 "Asbestos" includes different forms of chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite.
- 2 "Asbestos Project" means the construction, demolition, repair, maintenance or renovation of any building, mechanicalpiping equipment or system involving the demolition, removal, encapsulation, salvage, or disposal of material which may release asbestos fibers into the air.
- 3 "Regulations". For purpose of this section Regulations shall mean the National Emission Standards for Hazardous Air Pollutants (40 CFR 61), Occupational Safety and Health Requirements Pertaining to Asbestos (29 CFR 1910), the Regulations of the Washington State Department of Labor and Industries, WAC Chapters 296-62, -65, -155, and PugetSound Air Pollution Control Agency (PSAPCA) regulating Asbestos Projects as adopted or hereafter amended.

Attachment: "Affidavit of Amounts Paid MBE/WBE Participants"

END OF SECTION

AFFIDAVIT OF AMOUNTS PAID MBE/WBE PARTICIPANTS
(provide report monthly with each application for payment)

CONTRACTOR: _____ ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____ DATE: _____

STATE CONTRACT/AGREEMENT NO. JOB TITLE/DESCRIPTION _____

CONTRACT BID PRICE MBE COND. OF AWARD _____ WBE COND. OF AWARD _____

MBE/WBE PARTICIPANT NAME AND ADDRESS	WBE	MBE UTILIZATION	DESCRIPTION OF PARTICIPANTS	AMOUNT PAID
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AFFIDAVIT

I, the undersigned, do hereby certify that in connection with all work for the project for which this statement is submitted each MBE/WBE participant contacted by me has been paid the amounts as listed. \$ _____
TOTAL WBE PARTICIPATION ACHIEVED _____

SIGNATURE _____ TITLE _____

Subscribed and sworn to me this _____ day of 20____
_____ Notary Public in and for the State of Washington residing
at _____

INSTRUCTIONS:

1. Complete this form in triplicate and have it notarized.
2. This form is required to be updated monthly and provided with each payment request from the General Contractor.

DIVISION 01
GENERAL REQUIREMENTS

SECTION 011000 - SUMMARY

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Description of the Work.
2. Contract description.
3. Project Contacts.
4. Work by Owner or other.
5. Owner-furnished products.
6. Contractor's use of site and premises.
7. Work sequence.
8. Owner occupancy.
9. Permits.
10. Ecological Requirements.
11. Terms and Definitions.
12. Specification conventions.

1.2 DESCRIPTION OF THE WORK

A. Project location:

1. Central Washington University: 415 N Railroad Ave, Ellensburg, WA, 98926.

- B. Fire Life Safety modifications including the addition of an egress door, new fire alarm system and smoke/heat venting to address Fire Marshal's Inspection Reports, dated January 5, 2023 and January 6, 2023.

1.3 CONTRACT DESCRIPTION

- A. Perform Work of Contract under separate Contract with Owner according to Conditions of Contract.

1.4 PROJECT CONTACTS

- A. Owner: CWU Capital Planning & Projects, 400 East University Way, Ellensburg, WA 98926-7523.
- B. Architect: Integrus Architecture, 10 S. Cedar, Spokane, WA 99201, 509.838.8681.
- C. Structural Engineer: Integrus Architecture, 10 S. Cedar, Spokane, WA 99201, 509.838.8681.
- D. Mechanical and Electrical Engineers: MW Consulting Engineers, 601 W. 1st Ave Ste. 1300, Spokane, WA 99201, 509.838.9020.

1.5 WORK BY OWNER OR OTHERS

- A. If Owner-awarded contracts interfere with each other due to work being performed at the same time or at the same Site, Owner will determine the sequence of work under all contracts according to "Work Sequence" and "Contractor's Use of Site and Premises" Articles in this Section.
- B. Contractor is responsible for scheduling the work, storing such equipment if requested, and coordinating related work in the Contract with installation of NIC and OFOI equipment.
- C. Contractor shall provide all preparatory work necessary for proper installation including blocking and backing, and finish work including caulking, grouting, furring, and painting adjacent surfaces as required for NIC and OFOI equipment. Confirm with Owner work to be done.
- D. Coordinate Work with utilities of Owner and public or private agencies.
- E. The Owner will employ a special inspector to perform the special inspections required as indicated on the drawings.

1.6 OWNER-FURNISHED PRODUCTS

- A. Items noted 'OFOI' (Owner Furnished, Owner Installed) will be furnished and installed by Owner as is appropriate to the flow of the work, and 'OFCI' (Owner Furnished, Contractor Installed) will be furnished to the Contractor by the Owner for the Contractor to install. Items noted 'NIC' (Not in Contract) are not in contract and will be provided by others.
- B. Owner's Responsibilities:
 - 1. Arrange for and deliver Owner-reviewed Shop Drawings, Product Data, and Samples to Contractor.
 - 2. Arrange and pay for delivery to Site.
 - 3. Upon delivery, inspect products jointly with Contractor.

4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
 5. Arrange for manufacturers' warranties, inspections, and service.
 6. Installation of Owner furnished equipment.
 7. Installation of furnishings and furniture.
 8. Stocking of supplies.
- C. Contractor's Responsibilities:
1. Review Owner-reviewed Shop Drawings, Product Data, and Samples.
 2. Receive and unload products at Site; inspect for completeness or damage jointly with Owner.
 3. Handle, store, install, and finish products.
 4. Contractor is responsible for scheduling the work, storing such equipment if requested, and coordinating related work in the Contract with installation of NIC and OFOI equipment.
 5. Contractor shall provide all preparatory work necessary for proper installation including blocking and backing, and finish work including caulking, grouting, furring, and painting adjacent surfaces as required for NIC and OFOI equipment. Confirm with Owner work to be done.
 6. Repair or replace items damaged after receipt.

1.7 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Assume full responsibility for the protection and safekeeping of tools, equipment, materials, and products under this Contract, stored on the site.
- B. Assume full responsibility for site security and safety.
- C. Limit use of Site and premises to allow:
 1. Owner occupancy.
- D. Construction Operations: Limited to areas indicated on Drawings.
 1. On-Site work hours: Work shall be only performed during hours allowed by the locality.

2. Noisy and Disruptive Operations (such as Use of Jack Hammers and Other Noisy Equipment): Not allowed in close proximity to existing building during regular hours of operation. Coordinate and schedule such operations with Owner to minimize disruptions.
 3. Provide positive means to prevent air-borne dust from dispersing into atmosphere and surrounding environment. Cover stockpiled material with tarps, wet down, and take other measures appropriate to minimize raising dust from construction operations..
- E. Time Restrictions for Performing Interior or Exterior Work: To be coordinated with the owner.
- F. Utility Outages and Shutdown:
1. Coordinate and schedule electrical and other utility outages with Owner.
 2. Outages: Allowed only at previously agreed upon times. In general, schedule outages at times when facility is not being used.
- G. Sound Level Restrictions: Comply with all applicable state and local laws, ordinances, and regulations relative to noise control. Sound pressure level measured at boundary of Site shall not exceed 60 dBA.
- H. Construction Plan: Before start of construction, post electronic file to Project website of construction plan regarding access to Work, use of Site, and utility outages for acceptance by Owner. After acceptance of plan, construction operations shall comply with accepted plan unless deviations are accepted by Owner in writing.
- I. Keep work and storage areas in a neat, clean and orderly condition at all times. Should it be necessary at any time to move materials or sheds, Contractor shall move same at his expense.
- J. Contractor is responsible for damage to existing property adjacent to the project site and at completion of all work, shall restore/return existing property to its original condition as it was prior to start of project work.
- K. Tobacco products are not permitted on grounds and construction site during the Work of this Contract

1.8 WORK SEQUENCE

- A. Construct Work in order to accommodate Owner's occupancy requirements during construction period. Coordinate construction schedule and operations with Architect/Engineer and Owner.

1.9 OWNER OCCUPANCY

- A. Owner intends to occupy and conduct normal operations the building/site during the entire period of construction.
- B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- C. Schedule the Work to accommodate Owner occupancy.

1.10 PERMITS

- A. Furnish necessary permits for construction of Work including the following:
 - 1. Electrical permit.
 - 2. Structural permit.
- B. The Owner will pay for:
 - 1. Plan check fees.
 - 2. Building Permit.

1.11 ECOLOGICAL REQUIREMENTS

- A. Conform to Washington State Department of Ecology and with local codes and guidelines regarding pollution control, waste reduction and recycling.
- B. Contractor is responsible for securing applicable environmental control permits from all authorities having jurisdiction over construction practices.

1.12 TERMS AND DEFINITIONS

- A. The term 'indicated' is a cross reference to details, notes or schedules on the drawings, other paragraphs or schedules in the Project Manual, and similar means of recording requirements in the contract documents.
- B. Where terms such as 'shown,' 'noted,' 'scheduled' and 'specified' are used in lieu of 'indicated,' it is for the purpose of helping the readers accomplish the cross reference and no limitation of location is intended except as specifically noted.
- C. Where not otherwise explained, terms such as 'directed,' 'requested,' 'authorized,' 'selected,' 'approved,' 'required,' 'accepted,' and 'permitted' mean 'directed by the Architect,' 'requested by the Architect,' etc. However, no such implied meaning will be interpreted to extend the Architect's responsibility into the Contractor's area of construction supervision.

- D. The meaning of the word 'approve,' where used in conjunction with Architect's response to submittals, requests, applications, inquiries, reports and claims by Contractor, will be held to limitations of Architect's responsibilities and duties as specified in the Conditions of the Contract. In no case will 'approval' by Architect be interpreted as a release of Contractor from responsibilities to fulfill requirements of the Contract Documents.
- E. The word 'installer' is a person or entity engaged by the Contractor or his subcontractor or sub-subcontractor for the performance of a particular unit of work at the project site, including installation, erection, application and similar required operations. It is a general requirement that Installers be recognized experts in the work they are engaged to perform.
- F. The word 'provide' means to furnish and install.

1.13 SPECIFICATION CONVENTIONS

- A. These Specifications are written in imperative mood and streamlined form. This imperative language is directed to Contractor unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 011000

SECTION 012000 - PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Schedule of Values.
- B. Application for Payment.
- C. Change procedures.
- D. Defect assessment.

1.2 SCHEDULE OF VALUES

- A. Submit electronic file to Project website of schedule on AIA G703 - Continuation Sheet for G702.
- B. Submit Schedule of Values as electronic file to Project website within 15 calendar days after date established in Notice to Proceed.
- C. Format: Use Table of Contents of this Project Manual. Identify each line item with number and title of major Specification Section. Also identify, Site mobilization, bonds and insurance.
- D. Provide at least one line item for each listed specification section beginning with Division 2. Coordinate applicable activities with Section 013216 - Construction Progress Schedule.

1.3 APPLICATION FOR PAYMENT

- A. Submit electronic file to Project website of each Application for Payment on AIA G702 - Application and Certificate for Payment and AIA G703 - Continuation Sheet for G702.
- B. Application for Initial Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 - 1. Statement of Intent to Pay Prevailing Wages on Public Works Contract on form issued by the State of Washington, Department of Labor and Industries.
 - 2. List of subcontractors including phone numbers, business address, and contact person.
 - 3. Schedule of Values.
 - 4. Contractor's Construction Schedule (preliminary if not final).
 - 5. Products list.

6. Schedule of Unit Prices, as applicable.
 7. Submittals Schedule (preliminary if not final).
 8. Initial progress report.
 9. Certificates of insurance and insurance policies.
 10. Performance and payment bonds.
 11. List of emergency contact information.
 12. Other documents as may be required in the Contract Documents.
- C. Draft Payment Application:
1. Submit prior to each application of payment.
 2. Prepare the actual payment request after the draft amounts are reviewed and agreed to by the Architect and Owner.
- D. Application for Monthly Payment: Submit on date each month as agreed between Owner and Contractor.
1. Content and Format: Use Schedule of Values for listing items in Application for Payment.
 2. Submit updated construction schedule with each Application for Payment.
 3. Payment Period: Submit at intervals stipulated in the Agreement.
 4. Submit submittals with transmittal letter as specified in Section 013300 - Submittal Procedures.
- E. Substantiating Data: When Architect/Engineer requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
1. Current construction photographs specified in Section 013300 - Submittal Procedures.
 2. Partial release of liens from major Subcontractors and vendors.
 3. Record Documents as specified in Section 017005 - Execution and 017700 - Closeout Requirements, for review by Owner, which will be returned to Contractor.
 4. Affidavits attesting to off-Site stored products.

5. Construction Progress Schedule, revised and current as specified in Section 013300 - Submittal Procedures.
- F. Contract Retainage Value: The Owner shall pay 95% of the amount due the Contractor on account of progress payments. The remaining 5% of each payment amount shall be held as retainage until Substantial Completion at which time the retained funds will be paid to the Contractor as referenced in General Conditions Article 9 Payments and Completion for additional information. Any remaining funds will be held until final completion and will be paid to the Contractor with the Final Payment.
- G. Application at time of Substantial Completion: Show one hundred percent (100%) completion for portion of the Work claimed as substantially complete.
 1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. Submit documentation that Waste Management goals (017419) have been met.
- H. Application for Final Payment:
 1. Complete and submit accepted documents as required by the General Conditions of the Contract for Construction.

1.4 CHANGE PROCEDURES

- A. Submittals: Submit name of individual who is authorized to receive change documents and is responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. Carefully study and compare Contract Documents before proceeding with fabrication and installation of Work. Promptly advise Architect/Engineer of any error, inconsistency, omission, or apparent discrepancy.
- C. Requests for Interpretation (RFI) and Clarifications: Allot time in construction scheduling for liaison with Architect/Engineer; establish procedures for handling queries and clarifications.
 1. Use AIA G716 - Request for Information for requesting interpretations.
 2. Architect/Engineer may respond with a direct answer on the Request for Interpretation form, AIA G710 - Architect's Supplemental Instruction, or AIA G709 - Work Changes Proposal Request.
- D. Architect/Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions on AIA G710.

- E. Architect/Engineer may issue AIA G709 including a detailed description of proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change. [with stipulation of overtime work required] [and] [with the period of time during which the requested price will be considered valid]. Contractor will prepare and submit estimate within 7 calendar days.
- F. Document requested substitutions according to Section 012500 - Substitution Procedures.
- G. Stipulated Sum/Price Change Order: Based on AIA G709 and Contractor's maximum price quotation [or Contractor's request for Change Order as approved by Architect/Engineer].
- H. Construction Change Directive: Architect/Engineer may issue directive, on AIA G714 - Construction Change Directive signed by Owner, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.
- I. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of the Contract. Architect/Engineer will determine change allowable in Contract Sum/Price and Contract Time as provided in Contract Documents.
- J. Maintain detailed records of Work done on time and material basis. Provide full information required for evaluation of proposed changes and to substantiate costs for changes in the Work.
- K. Document each quotation for change in Project Cost or Time with sufficient data to allow evaluation of quotation.
- L. Change Order Forms: AIA G701 - Change Order.
- M. Execution of Change Orders: Architect/Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.
- N. Correlation of Contractor Submittals:
 - 1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
 - 2. Promptly revise Progress Schedules to reflect change in Contract Time, revise sub-schedules to adjust times for other items of Work affected by the change and resubmit.
 - 3. Promptly enter changes in As-Built Documents.

1.5 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of Architect/Engineer, it is not practical to remove and replace the Work, Architect/Engineer will direct appropriate remedy or adjust payment.
- C. Defective Work will be partially repaired according to instructions of Architect/Engineer and unit sum/price will be adjusted to new sum/price at discretion of Architect/ Engineer
- D. Individual Specification Sections may modify these options or may identify specific formula or percentage sum/price reduction.
- E. Authority of Architect/Engineer to assess defects.
- F. Nonpayment for Rejected Products: Payment will not be made for rejected products for any of the following reasons:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products not completely unloaded from transporting vehicle.
 - 4. Products placed beyond lines and levels of the required Work.
 - 5. Products remaining on hand after completion of the Work.
 - 6. Loading, hauling and disposing of rejected products.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 012000

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality assurance.
- B. Product options.
- C. Product substitution procedures.
- D. Substitution Request Form.

1.2 QUALITY ASSURANCE

- A. Contract is based on products and standards established in Contract Documents without consideration of proposed substitutions.
- B. Products specified define standard of quality, type, function, dimension, appearance, and performance required.
- C. Substitution Proposals: Permitted for specified products except where specified otherwise. Do not substitute products unless substitution has been accepted and approved in writing by Owner.

1.3 DEFINITIONS AND OPTIONS

- A. Performance, Reference Standard, and Descriptive Specifications:
 - 1. Manufacturer is not specified and requirements are specified purely by descriptive requirements, design requirements, performance requirements, reference standards, or codes.
 - 2. Products and options meeting or exceeding specified provisions are accepted.
- B. Open Proprietary Specifications:
 - 1. Products by one or more manufacturers are specified and specification makes provision for substitution requests.
 - 2. Conform to provisions for making substitution request as specified by this Section.
- C. Closed Proprietary Specifications:
 - 1. Products by one or more manufacturers are specified and specification Section does include provision for substitution requests.

2. Provide work as specified. No substitution will be accepted.

D. Basis -of-Design Specifications:

1. Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.
2. Provide either the specified product or a comparable product by one of the other named acceptable manufacturers. Drawings and specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with Comparable Product definition below. Substitutions will be considered only when Section 012500 Substitution Procedures is referred to.

- E. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

1.4 SUBSTITUTION REQUESTS DURING BIDDING PHASE

- A. Submit Substitution Request to reach Architect's office before 5 p.m. at least 10 working days prior to date for receiving Bids.
- B. Bidders will be notified of accepted substitutions by Addendum. No other form of acceptance is valid, including as stated verbally, written, emailed, faxed, or implied in other manner and bidders shall not rely upon any approval not incorporated into the Contract Documents in this manner.

1.5 SUBSTITUTION REQUESTS DURING CONSTRUCTION PHASE

- A. Submit Substitution Requests directly by or through Contractor to Architect.
- B. Substitution Requests following Bid Date will not be considered, except at discretion of Owner and subject to reimbursement for Architect's review. Review fee will apply whether or not substitution request is accepted.
 1. Exception: Substitution Requests may be reviewed in the event of special circumstances beyond Contractor's control. Reason for substitution request must be submitted on the attached Substitution Request Form.
- C. Reasons for consideration of substitutions include:

1. Unavailability: Specified item has been discontinued; there are no available qualified installers; or lead-time is prohibitive relative to project schedule.
 2. Unsuitability: Subsequent information discloses specified item as unsuitable, inappropriate, unable to perform properly, or to fit designated space.
 3. Regulatory Requirements: Specified item fails to conform to building code interpretations or insurance regulations.
 4. Warranty: Manufacturer or fabricator has declared that specified item is unsuitable for intended use or refuses to certify or warrant performance of specified item for condition of use.
 5. Owner Prerogative: As requested by Owner for reduction of Contract Cost or Contract Time.
- D. Contractor will be notified by Architect on the form provided by the Contractor within two weeks of receipt of request, of decision to accept or reject Substitution Request.

1.6 PRODUCT SUBSTITUTION PROCEDURES

- A. Document each request with complete data, substantiating compliance of proposed substitution with Contract Documents, including:
1. Manufacturer's name and address, product, trade name, model, or catalog number, performance and test data, and reference standards.
 2. Itemized point-by-point comparison of proposed substitution with specified product, listing variations in quality, performance, and other pertinent characteristics.
 3. Reference to Article and Paragraph numbers in Specification Section.
 4. Cost data comparing proposed substitution with specified product and amount of net change to Contract Sum.
 5. Changes required in other Work.
 6. Availability of maintenance service and source of replacement parts as applicable.
 7. Certified test data to show compliance with performance characteristics specified.
 8. Samples when applicable or requested.
 9. Submit list of at least 3 projects where proposed substitution has been used within past 12 months. Include name, address, and telephone number of Owner and Architect.
 10. Other information as necessary to assist Architect/Engineer's evaluation.

- B. A request constitutes a representation that Bidder or Contractor:
 - 1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
 - 2. Will provide same warranty for substitution as for specified product.
 - 3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension that may subsequently become apparent.
 - 5. Will coordinate installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.
 - 6. Will reimburse Owner and Architect/Engineer for review or redesign services associated with reapproval by authorities having jurisdiction.
- C. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals without separate written request or when acceptance will require revision to Contract Documents.
- D. Substitution Submittal Procedure:
 - 1. Submit requests for substitutions on form attached to end of this Section (an electronic version of this form is available from the Architect upon request).
 - 2. Submit electronic files to Project website of Request for Substitution for consideration. Limit each request to one proposed substitution.
 - 3. Submit only 1 Substitution Request on each Substitution Request Form. Multiple Substitution Requests on a single form will not be accepted.
 - 4. Submit Shop Drawings, Product Data, and certified test results attesting to proposed product equivalence. Burden of proof is on proposer.
 - 5. Architect/Engineer will notify Contractor in writing of decision to accept or reject request.

1.7 INSTALLER SUBSTITUTION PROCEDURES

- A. Document 001000 - Bidders Requirements specifies time restrictions for submitting requests for substitutions during Bidding period.
- B. Document each request with:

1. Installer's qualifications.
 2. Installer's experience in work similar to that specified.
 3. Other information as necessary to assist Architect/Engineer's evaluation.
- C. Substitution Submittal Procedure:
1. Submit electronic files to Project website of Request for Substitution for consideration. Limit each request to one proposed substitution.
 2. Architect/Engineer will notify Contractor in writing of decision to accept or reject request.

1.8 UNACCEPTABLE SUBSTITUTIONS

- A. Substitutions not accepted in writing by Architect.
- B. Substitutions that are not submitted on Substitution Request Form or facsimile following this Section.
- C. Substitution Requests that do not provide complete, adequate, or clearly defined information for a thorough and timely evaluation.
- D. Substitutions that, if accepted, will require substantial revisions to Contract Documents.
- E. Substitutions that are shown or implied by shop drawings and other submittals.
- F. Substitutions not accepted by published Addenda during Bidding Period and not accepted in writing by Architect during Construction Period.
- G. Substitutions installed into the Work and not accepted by Architect, constitute non-conforming work and may be rejected by Owner without further discussion or explanation.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

SUBSTITUTION REQUEST FORM

TO: Integrus Architecture

PROJECT: CWU Dining Service Warehouse

SPECIFIED ITEM:

Section	Page	Paragraph	Description
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The undersigned requests consideration of the following:

PROPOSED SUBSTITUTION: _____

Attached data includes product description, specifications, drawings, photographs, performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes description of changes to Contract Documents that the proposed substitution will require for its proper installation.

Attach list of at least 3 projects where proposed substitution has been used within past 12 months. Include name, address, and telephone number of Owner and Architect.

The undersigned certifies that the following paragraphs, unless modified by attachments, are correct:

1. The proposed substitution does not affect dimensions shown on Drawings.
2. The undersigned will pay for changes to the building design, including engineering design, detailing and construction costs caused by the requested substitution.
3. The proposed substitution will have no adverse affect on other trades, the construction schedule, or specified warranty requirements.
4. Maintenance and service parts will be locally available for the proposed substitution.

The undersigned further states that the function, appearance and quality of the proposed substitution are equivalent or superior to the specified item.

Submitted by:

Name (Printed)

Signature

Firm Name

Address

City, State, Zip

Date

Telephone

For use by the A/E:

Accepted Accepted as noted

Not Accepted Received too late

By

Date

Remarks

Attachments:

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Initial Requirements
2. Initiating and Proposing Changes
3. Architect's Supplemental Instructions
4. Documentation of Change in Contract Sum and Contract Time.
5. Approval or Rejection of Proposal
6. Construction Change Directive
7. Change Order
8. Allowance for Overhead and Profit
9. Correlation of Contractor Submittals

1.2 INITIAL REQUIREMENTS

- A. Within 30 days of the Notice to Proceed, the Contractor shall submit a list of all equipment anticipated to be used on the project and whether it is owned or to be rented, using a form acceptable to the Architect and Owner. If during the construction process additional equipment is brought to the Project site, the Contractor shall submit an updated list.
- B. Submit name of individual authorized to receive Change Documents, and to be responsible for informing others in Contractor's employ and to applicable subcontractors of changes to the Work.

1.3 INITIATING AND PROPOSING CHANGES

- A. Proposal Request: Issued by the Architect to the Contractor on the Owner's behalf including a detailed description of proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change with stipulation of overtime work required and the period of time during which the requested price will be considered valid. Contractor will prepare and submit estimate within seven days.
 1. Proposal Requests are for information only. Do not consider them as an instruction (direction) either to stop work in progress or to execute the proposed change.

- B. Contractor Initiated Change Request: Describe proposed change and its full effect on the Work. Include a statement describing reason for the change, and effect on Contract Sum and Contract Time with full documentation and a statement describing effect on Work by separate or other Contractors. Document requested substitutions in accordance with Section 012500 - Substitution Procedures.
 - 1. Contractor is to do no work on the proposed change until the Change Request is formalized by a Construction Change Directive or Change Order.

1.4 ARCHITECT'S SUPPLEMENTAL INSTRUCTIONS (ASI)

- A. The Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or Contract Time, on a form prepared by the Architect. If the Contractor believes a cost is associated with the supplemental instructions, the Contractor is to provide written notice to the Architect within 7 days of receipt of the instructions, outlining all associated costs as outlined in Part 1.4 DOCUMENTATION OF CHANGE IN CONTRACT SUM.

1.5 DOCUMENTATION OF CHANGE IN CONTRACT SUM AND CONTRACT TIME

- A. Change Order Proposal (COP): Submit electronically information required for Architect's evaluation of proposed changes.
- B. Contract Time: No additional funds will be issued or considered payable to the Contractor for time extension claims prior to Substantial Completion; the end of documented Contract Time as specified in the General Conditions AIA A201.
- C. Support each lump sum proposal quotation, and each unit price (not previously established) with sufficient substantiating data.
 - 1. On request, provide additional data to support time and cost computations:
 - a. Labor required.
 - b. Equipment required.
 - c. Products required.
 - 1) Recommended source of purchase and unit cost.
 - 2) Quantities required.
 - d. Taxes, insurance, and bonds.
 - e. Documented credit for work deleted from Contract.
 - f. Overhead and profit.

- g. Justification for any change in Contract Time.
2. Submit additional substantiating data to support computations, as requested by Architect.
3. Support each proposal for additional costs, and time-and-material work, with documentation, as required for lump-sum proposal. Include additional information:
 - a. Name of Architect or Owner's authorized agent who ordered work, and date of order.
 - b. Dates and times work was performed, and by whom (firm or individual).
 - c. Time record, summary of hours worked, and hourly rates paid.
 - d. Receipts and invoices for:
 - 1) Equipment used, listing dates and times of use.
 - 2) Products used and listing of quantities.
 - 3) Subcontracted work.
4. Document Requests for Substitutions.
5. Statement as to whether overtime work is, or is not, necessary.

1.6 APPROVAL OR REJECTION OF PROPOSAL

- A. When change is initiated by Architect or Owner:
 1. Contractor to submit a detailed proposal in writing. Quotation (cost estimate) must be guaranteed for period specified in Proposal Request beginning from signing of proposal. If no period is specified, guarantee quotation for sixty (60) days from signing.
 2. Architect and/or Owner will review the proposal and respond in writing with one of the following:
 - a. Request for additional information.
 - b. Approval to be issued by CCD for subsequent inclusion in a Change Order.
 - c. Rejection of the proposal and direction to continue with contracted work.
 3. Contractor may not proceed with the proposed changed work until a signed CCD or Change Order is received from the Owner.

- B. When a change proposal is initiated by Contractor:
 - 1. The Architect and/or Owner will review it and respond in writing with one of the following:
 - a. Approve the Contractor's cost proposal;
 - b. Request additional information;
 - c. Reject the proposal.
 - 2. If the Owner responds by approving the Contractor's change proposal, a CCD will be processed.
 - a. If additional information is requested by Owner, respond in writing within fifteen (15) days of Owner's request.
- C. Concurrence of the Building Official:
 - 1. Note that all significant modifications to the Contract Documents reviewed by the AHJ, including Change Orders "approved" by the Architect and Owner, must also be approved by the Building Official.
 - 2. Any significant changes, such as structural changes and life safety modifications, will be submitted for review and approval to the AHJ. Contractor may not proceed with such work until the AHJ has reviewed the change and indicated that it is acceptable.

1.7 CONSTRUCTION CHANGE DIRECTIVE (CCD)

- A. Construction Change Directive:
 - 1. May be issued by Architect with Owner's approval, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order.
 - 2. Will describe changes in work, and will designate method of determining change in Contract Sum or Contract Time.
- B. Contractor: Promptly execute change to the Work.
- C. Claims for Adjustments to Contract Time or Contract Sum:
 - 1. Burden of proof is upon Contractor to submit data substantiating requested increase of Contract Sum and Contract Time for inclusion into approved Change Order.
 - 2. Submit claims within 30 days after completion of Construction Change Directive. Claims after this time are invalid.

- D. Overhead and Profit for Change to Contract Sum: Conform to provisions of Contract Documents, including the General Conditions.
- E. Prevailing Wages: Limit direct costs for labor, wages, and fringe benefits to amounts indicated by Conditions of the Contract including the General Conditions and prevailing wage rate requirements.

1.8 CHANGE ORDER (CO)

- A. Stipulated Sum Change Order
 - 1. Based on Proposal Request and Contractor's fixed maximum price quotation or Contractor's request for change.
 - 2. Execute Change Order for changes to the Work affecting Contract Sum or Contract Time.
- B. Time and Material Change Order
 - 1. Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of the Contract.
 - 2. Allowable Change to Contract Sum and Contract Time: As determined by Architect under provisions of Contract Documents, including the General Conditions.
 - 3. Maintain detailed records of work done on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.
- C. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in Conditions of the Contract.

1.9 CORRELATION OF CONTRACTOR SUBMITTALS

- A. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
- B. Promptly revise progress schedules and applicable sub-schedules to reflect change in Contract Time and to adjust times for other items of work affected by the change, and resubmit.
- C. Promptly enter changes in Project Record Documents.

PART 2 PRODUCTS

NOT USED

Central Washington University
Dining Service Warehouse
Contract No. 15937.02
Integrus Project No. 22281.00

CONTRACT MODIFICATION PROCEDURES

SECTION 012600

PART 3 EXECUTION

NOT USED

END OF SECTION 012600

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. Construction Organization.
2. Cooperation and Coordination of Work.
3. Project Coordination and Scheduling Control.
4. Mechanical and Electrical Coordination.
5. Job Site Field Measurements And Templates.
6. Dimensions.
7. Intent of Drawings.
8. Interferences and Right of Way.
9. Notification and Correction of Defective Work.
10. Coordination Utilities.
11. Closeout Coordination.

1.2 GENERAL COORDINATION REQUIREMENTS

- A. Coordinate scheduling, submittals and work identified in the Contract to assure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items to be installed later.
- B. Coordinate work between all Sections of Contract Documents to avoid conflicts and omissions. Take special care to coordinate work indicated as Architectural, Mechanical, Electrical and other major Divisions of the Contract Documents.
- C. Responsibility
 1. The Contractor shall be in charge of this Contract and the site, as well as the directing and scheduling of all Work. Contractor shall be on site at all times work of this Contract is in progress. Do not delegate responsibility for coordination to any subcontractor.

2. Anticipate interrelationship of all subcontractors and their relationship with the total Work.
 3. Resolve differences or disputes between subcontractors and materials suppliers concerning coordination, interference, or extent of Work between Sections. Contractor's decisions, if consistent with Contract Document requirements, shall be final.
 4. Final responsibility for the performance, interface, and completion of the Work and the Project in accordance with the Contract Documents shall be with the Contractor.
- D. Prior to any work beginning on the site, the Contractor shall submit, and receive final approval on:
1. Construction schedule;
 2. All required plans, including, but not limited to, safety, demolition, quality control, waste management and indoor air quality.
 3. All materials to be used on the project in accordance with Section 013300 - Submittal Procedures.

1.3 SPECIAL COORDINATION

- A. There are occupied spaces outside of the limits of construction. These spaces will not be vacated for construction during this contract. Any work in these surrounding areas must be coordinated with the Owner and the occupants of the adjacent areas.
- B. The Owner may require access to the site to perform work related or unrelated to the project. The Contractor shall coordinate with the Owner to accommodate such work within the contract time.
- C. Refer to Section 011000 - Summary for a description of other Contractor work for the Owner that is expected to be occurring within the building or other adjacent location to the construction limits of this Project. Cooperate with the Owner Contractors during the duration of this Project to prevent impact to this or other Owner projects.
- D. The Owner's staff will typically be working within the project site during Contractor's normal working hours. Contractor shall coordinate with the Owner to accommodate such work within the contract time.

1.4 COORDINATION SHOP DRAWINGS

- A. Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.

1. Indicate relationship of components shown on separate Shop Drawings.
2. Indicate required installation sequences.

1.5 CONSTRUCTION ORGANIZATION

- A. On-Site Lines Of Authority & Communications: Refer to Section 013115 - Communication.
- B. Intra-Project Communications:
 1. Submittals.
 2. Reports and records.
 3. Recommendations.
 4. Coordination drawings.
 5. Schedules.
 6. Resolution of conflicts.
- C. Construction Mobilization
 1. Cooperate with the Owner's Representative in allocation of mobilization areas of the site; for field offices and sheds, for access, traffic and parking facilities.
 2. Comply with Architect and Owner's Representative's procedures for intra-project communications.
 3. Coordinate field engineering and layout work under instructions of Owner's Representative.
- D. Coordination of Reports/Activities: Coordinate both the procedural timing and the listing (naming and sequencing) of reports/activities required by provisions of this Section and other sections, to afford consistency and logical coordination between submitted reports or lists. Maintain coordination and correlation between separate reports by updating at monthly or shorter time intervals. Distribute each report and updated report to entities involved in the work, including Architect and Owner's Representative. In particular, provide close coordination of Schedule of Values (see Section 012000 - Price and Payment Procedures), listing of subcontracts, schedule of submittals, progress reports, and payment requests.
- E. Coordination of Submittals
 1. Schedule and coordinate submittals specified in the Contract Documents.

2. Coordinate work of various Sections having interdependent responsibilities for installing, connecting to and placing equipment in service.
 3. Coordinate request for substitutions to assure compatibility of space, operating elements, and effect on work of other Sections.
- F. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into the Work.

PART 2 PRODUCTS

2.1 NOT USED.

PART 3 EXECUTION

3.1 COOPERATION & COORDINATION OF WORK

- A. The Contractor is responsible for the coordination of the work of all trades; coordinating the installation of their work and that of all subcontractors to ensure compliance with the Contract Documents and to expedite the progress of the Project. Contractor shall check specifications, addenda, and drawings covering all trades as the work progresses. Contractor shall promptly report to the Architect what they consider omissions, conflicts or points requiring clarification.
- B. Contractor shall prepare and distribute to each entity performing work at project site, a written memorandum of instructions on required coordination activities, including required notices, reports and attendance at meetings.
- C. Enclosure of the Work: The Contractor shall coordinate enclosure of work with required inspections and tests, so as to avoid the necessity of uncovering work for that purpose.
- D. It is the responsibility of the Contractor to ensure that the work of subcontractors complies with Conditions of the Contract, Division 1 - General Requirements, and the work of other Sections related to their own work. No additional payments or time extensions will be authorized for failure on the part of subcontractors to be familiar with and in compliance with the aforementioned specification divisions and sections.

- E. Inclusion of portions of the work under particular divisions of the specifications or sections of the drawings does not in every case conform to the categories of work customarily subcontracted to particular crafts or trades. In such cases, the Contractor shall be responsible to inform bidders, subcontractors, crafts and trades, that work assigned to them is contained in sections other than the usual. In every case, the General Contractor shall be responsible to provide at its cost, all work required in the Contract Documents.
1. Provide project interface and coordination as required to properly and accurately bring together the several parts, components, systems, and assemblies and as required to complete the Work and the Project.
 2. Provide interface and coordination of all trades, crafts, and subcontracts as required to provide correct and accurate connection of abutting, adjoining, overlapping, and related Work, and provide all anchors, fasteners, accessories, appurtenances, and incidental items as required to complete the Work properly, fully, and correctly in accordance with the Contract Documents.
 3. Provide additional structural components, miscellaneous metal, bracing, blocking, backing, clips, anchors, fasteners, and installation accessories as required to properly anchor, fasten, or attach materials, equipment, appliances, hardware, systems, assemblies, cabinets, and architectural features to the structure.
 4. Provide excavation and backfill, trenching and drilling for all trades as required for the installation of their Work.
 5. Provide concrete foundations, pads, supports, bases, and grouting for all trades as required for the installation of their Work.
 6. Provide caulking, sealing, and flashings as required to completely weatherproof the building and as required to insulate the building thermally and acoustically. Include caulking, sealing, flashings, and related work as required to prevent moisture intrusion, air infiltration, and light leakage.
 7. Provide equipment, appliances, fixtures, and systems requiring plumbing and mechanical services, rough-in, and connections, or other utilities and services, with such services, rough-in, and final connections.
 8. Provide equipment, appliances, fixtures, and systems requiring electrical and cabling services, rough-in, and connections, or other utilities and services, with such services, rough-in, and final connections.
 9. Materials, equipment, component parts, accessories, incidental items, connections, and services required to complete the Work which are not provided by subcontractors shall be provided by the Contractor.

3.2 PROJECT COORDINATION AND SCHEDULING CONTROL

- A. The Contractor shall schedule and coordinate the work of all subcontractors on the project including their use of the site. Responsibility for coordination and close adherence to time schedules rests solely with the Contractor who shall maintain coordination and scheduling control at all times.
- B. Each subcontractor responsible to the Contractor shall cooperate diligently with the Contractor in the execution of their work so as to cause no delay in the completion of the Project. This responsibility includes the completion of all work in a timely manner. All Contractors, Prime Contractor and Subcontractors, shall diligently comply with the following requirements:
 - 1. Cooperate in planning and layout of the work well in advance of operations.
 - 2. Inform other contractors of requirements at proper time to prevent delay or revisions.
 - 3. Be informed on the requirements of other contractors and check own work for conflicts with the work of other contractors.
 - 4. Insure delivery of materials and performance of work on coordinated schedule with other contractors.
 - 5. Contractor shall ensure subcontractors and equipment suppliers are responsible for compatibility and completeness of the installation and operation of the equipment in their respective Specification Sections including conformance with code requirements.
 - 6. Attend Pre-Installation meetings identified in Section 013119.
 - 7. Contractor shall be represented on the job site by his superintendent at all times when there is construction going on, including the work of his subcontractors, as well as his own.
- C. Changing Subcontractors: The General Contractor shall be responsible for all the additional expenses incurred by changing subcontractors during the course of this project. These additional expenses include, but are not limited to, A/E expenses for duplicate or redundant submittals, requests for information, or any clarifications or revisions that might occur due to the fact that new subcontractor(s) have assumed responsibility for a portion(s) of the Work.

3.3 MECHANICAL AND ELECTRICAL COORDINATION

- A. Refer to Divisions 20 - 23 for Mechanical Coordination and Divisions 26 - 28 for Electrical Coordination.

3.4 JOB SITE FIELD MEASUREMENTS AND TEMPLATES

- A. Obtain field measurements required for accurate fabrication and installation of Work included in this Contract. Exact measurements are the Contractor's responsibility.
- B. Contractor shall be responsible for field verifying actual dimensions where "+/-" dimensions are indicated, or the words "field verify."
- C. Furnish or obtain templates, patterns, and setting instructions as required for installation of all Work. Verify all dimensions in the field.

3.5 DIMENSIONS

- A. The Structural Drawings are to be used in conjunction with the Architectural, Plumbing, Mechanical and Electrical Drawings. Primary structural elements are dimensioned on the structural plans and details. Not all secondary dimensions are shown, such as exact door and window locations, wall configurations, slab slopes and depressions, curbs, etc. Coordination of the structure with the dimensions as shown on the Drawings and architectural items to be embedded into, or attached to the structure, is the responsibility of the Contractor. Any dimensional discrepancies between the Architectural, Civil, Structural, Plumbing, Mechanical and Electrical drawings shall be reported to the Owner's Representative and Architect before proceeding with the work.

3.6 INTENT OF DRAWINGS

- A. The work of the Contractor and subcontractors shall conform to the intent of the architectural and engineering drawings as reviewed by the Architect. Drawings are partly diagrammatic and do not intend to show in details all features of work. The Contractor shall carefully review the work to be performed by other trades, compare related drawings and shall thoroughly understand the building conditions affecting their work.
- B. All changes required in the work caused by failure to do so shall be at no expense to the Owner.

3.7 INTERFERENCES AND RIGHT-OF-WAY

- A. Make proper provisions to avoid interferences. Where conflicts occur, architectural and structural has right-of-way over mechanical and electrical work; concealed mechanical work has right-of-way over concealed electrical work; exposed electrical fixtures have right-of-way over mechanical fixtures.
- B. Submit conflicts which cannot be resolved by right-of-way to the Architect for direction.
- C. Submit reflected ceiling coordination plans showing work by all applicable trades for review and approval by the Architect.

3.8 NOTIFICATION & CORRECTION OF DEFECTIVE WORK

- A. Coordinate the Work of all subcontractors and make certain that, where the work of one trade is dependent upon the work of another trade, the work first installed is properly placed, installed, aligned and finished as specified or required to properly receive subsequent materials applied or attached thereto.
- B. Direct subcontractors to correct defects in substrates they install when subcontractors of subsequent materials have a reasonable and justifiable objection to such surfaces. Promptly notify the Owner's Representative and Architect of any defects or imperfections in preparatory work which will in any way affect satisfactory completion of the work.
- C. Under no condition shall a section of work proceed prior to preparatory work having been completed, cured, dried or otherwise made satisfactory to receive such related work. Do not force subcontractors to apply or install products to improperly finished product.
- D. Correction of defective work shall be the responsibility of the Contractor or subcontractor providing the defective work. Correction of work due to underlying defects shall be the responsibility of the Contractor or subcontractor providing overlying work.

3.9 COORDINATING UTILITIES

- A. Contractor shall be responsible for coordination of and shall cooperate with all utilities to be installed for service to the Project. Utilities may include, but are not limited to, natural gas, telephone, electrical, and cable television. The Contractor shall maintain communication with the utilities in order to coordinate time and requirements of the utilities' installation.
- B. Contractor shall provide all work necessary to comply with the requirements of the Contract Documents for utility work that does not meet the Contract Document requirements, or for work that is disturbed by the utility installation.

3.10 CLOSEOUT COORDINATION

- A. General
 - 1. Coordinate completion and cleanup of work by the various trades in preparation for Substantial Completion.
 - 2. After Owner occupancy of premises, coordinate access to site by the various trades involved for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.
 - 3. Assemble and coordinate closeout submittals.
- B. At completion of Work of each Subcontract, conduct inspection to assure that:
 - 1. Work is acceptable.

2. Temporary facilities and debris have been removed from site.
- C. At Substantial Completion:
1. Conduct inspection and prepare list of work to be completed or corrected.
 2. Assist Architect and Owner's Representative in inspection.
 3. Supervise correction and completion of Work as established in Architect's inspection reports ("punch lists").
 4. Obtain Certificate of Occupancy from governing authorities.
- D. At Final Completion: Assist Architect and Owner's Representative in inspection.

END OF SECTION 013100

SECTION 013115 - COMMUNICATION

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. General Communication.
 - 2. Emergency Communication.
 - 3. Correspondence.
 - 4. Request for Information.
 - 5. Non Compliance Notice.

1.2 GENERAL COMMUNICATION

- A. All telephone and electronic communication and other correspondence shall be between Contractor and Architect, unless otherwise noted below.
- B. Subcontractors are not to contact members of the design team directly unless explicitly agreed to by Contractor, Architect and Owner's Representative. All such contact and discussions are to be documented in writing by the subcontractor and submitted to the Architect and Owner's Representative through the Contractor.
- C. The General Contractor shall transmit problems or questions in writing using a Request for Information (RFI) form.
- D. On-Site Lines of Authority and Communications: Establish on-site lines of authority and communications including attendance at Pre-Construction Meeting and Progress Meetings as required by the Architect and Owner's Representative. All on-site lines of authority and communications shall be established through the Architect.
- E. The Architect and Owner's Representative, will typically be working during the Contractor's normal working hours as defined in Section 011000 - Summary. The Contractor shall anticipate that all communication and weekly construction meetings with these parties will occur between the hours of 8 a.m. and 5 p.m. Monday through Friday throughout the duration of the Project.
- F. No overtime payments will be authorized, or time delays allowed, for the Contractor or subcontractors efforts to communicate with the Architect and Owner's Representative outside of the normal working hours.

1.3 EMERGENCY COMMUNICATION

- A. Provide an Emergency Notification list to the Architect and to the Owner.
 - 1. The Contractor shall provide a list of names, pagers, wireless and traditional telephone numbers of staff who are capable of addressing an emergency issue that may occur outside of Contractor's normal working hours. The persons designated on the list shall be available at the project site within 60 minutes of being contacted. Provide two names for each of the following:
 - a. General Contractor
 - b. Mechanical subcontractor
 - c. Electrical subcontractor
 - d. Other major subcontractors
 - 2. Submit the list to the Architect 5 working days prior to the Preconstruction Meeting. The Architect will include the same information for design team members and Owner representatives and distribute the list at the Preconstruction Meeting.

1.4 CORRESPONDENCE

- A. All correspondence to and from Contractor will be routed through Architect with a copy to the Owner's Representative.
- B. Include project title and Architect's project number on all correspondence.

1.5 REQUEST FOR INFORMATION (RFI)

- A. It is the Contractor's responsibility to review Contract Documents in a timely manner so that the Architect shall have sufficient time to respond to a Request for Information prior to the start of actual construction of that part of the Work.
- B. When field conditions or Contract Document contents require clarification or verification by the Architect or Architect's sub-consultants, a written RFI is to be submitted as follows:
 - 1. Identify the nature and location of each clarification/verification using a RFI form. Provide as a minimum the following information:
 - a. Project name and number.
 - b. Date.
 - c. Date response desired.
 - d. RFI number.

- e. Subject.
 - f. Initiator of the question (individual and firm).
 - g. Indication of costs, if known.
 - h. Location on site.
 - i. Contract drawing reference.
 - j. Contract specification section and paragraph reference.
 - k. Descriptive text.
 - l. Signature of Contractor.
 - m. Attachments, including descriptive drawings, photographs, product data, submittals, dimensions, configurations, and other information needed to clarify request.
 - n. Space for reply on same page as question.
2. Number each RFI sequentially beginning with number 001 (RFI-001). Only one question per RFI.
 - a. Indicate subject by designation of GEN, MECH, ELEC, CIV, or other easily identifiable discipline abbreviation.
 - b. Single subject matter, 1 item each - architectural, civil, structural, mechanical, electrical or general.
 3. RFI may be hand-delivered, mailed, e-mailed or faxed, depending upon the urgency.

C. Uses

1. The RFI form shall be used for interpretation or clarification of the Contract Documents only.
2. Do not use the RFI form for the following. The Architect will not reply and the RFI will be returned without action.
 - a. Product or material substitutions (See Section 012500 - Substitution Procedures).
 - b. Questions relating to construction means, methods, techniques, sequences, procedures, or safety precautions. These are the Contractor's responsibilities exclusively.

- c. Questions relating to construction schedule, coordination between trades, or division of work among subcontractors. These are Contractor's responsibilities exclusively.
 - d. Questions on contract administration procedural matters, unless they require interpretation or clarifications of the Contract Documents.
 - e. Dimensions or quantities which are shown on the Contract Documents, which can be measured or calculated from the information contained in the Contract Documents where such measurement or calculation is standard construction industry practice.
 - f. Confirmation of interpretations or clarifications previously provided by the Architect.
 - g. The Contractor shall not initiate requests for interpretations or clarifications of the Contract Documents which can be reasonably derived from a review of the Contract Documents.
- D. Route RFI's in same manner as correspondence.
- E. Clarifications may be discussed on-site or by telephone with Architect or Architect's Consultants, with concurrence of the Architect. A summary of these discussions is to be incorporated into a RFI form and submitted as written confirmation, for normal RFI processing.
- F. Reply
- 1. The Architect will endeavor to reply to all RFI's as promptly as his work schedule allows, and generally no later than 7 working days from the day received. The Architect and/or its sub-consultants will attempt to expedite those RFI's indicated by the Contractor as being critical to the construction schedule.
 - 2. When an RFI involves a complex subject, extensive research or governmental agency contact, the Architect will inform the Contractor that additional time is required to prepare a reply. The Contractor shall cooperate and agree to reasonable additional time.
 - 3. The reply shall be a clarification or an interpretation of the Contract Documents; the reply is not an authorization of change in the Contract Sum or Time.
 - 4. Where Architect's action may affect Contract Time or Contract Sum:
 - a. Notify Architect in writing within 10 days of receipt.

- b. Conform to Conditions of the Contract for submittal of Change Order Proposal, Section 012600 - Contract Modification Procedures.
- G. On receipt of Architect response to RFI:
1. Update RFI log and promptly distribute RFI response to those affected by response.
 2. Review and notify Architect within 7 days if Contractor disagrees with response.
- H. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by RFI number. Submit log weekly. Include following:
1. Project Name.
 2. Name and address of Contractor.
 3. Name and address of Architect.
 4. RFI number including those that were dropped and not submitted.
 5. RFI description.
 6. Date RFI was submitted.
 7. Date Architect's response was received.
 8. Identification of related Minor Changes in the Work, Architect's Supplemental Instructions (ASI), Construction Change Directives (CCD), and Proposal Requests, as applicable.
- I. Note: Architect will respond only to requests for interpretation of Contract Documents originating from Contractor. The Contractor shall be deemed to be the author of all RFI's, whether written by him or one of his sub-contractors or suppliers. It is the Contractor's responsibility to ensure that all RFI's are complete and correct in form, and the Contractor shall be the contact for further information or explanation. All replies shall be directed to the Contractor, and it is his responsibility to ensure that the appropriate contractor personnel are copied or informed of the replies.

1.6 NON-COMPLIANCE NOTICE (NCN)

- A. Any work that is identified as “not in compliance” with the Contract Documents, either by oral discussion with the Contractor, or written communication to the Contractor, shall be removed and replaced without cost to the Owner, including removal of additional material necessary to confirm non-compliance. At its option, the Owner may accept written alternative solutions offered by the Contractor and recommended by the Architect. The Contractor shall notify the Architect and Owner in writing immediately following oral discussion or receipt of any written communication if the Contractor believes that the Work in question is in compliance with the Contract Documents. The Architect will make a determination based on the Contract Documents. If the Architect finds the work is in noncompliance, the Architect will issue a written Non-Compliance Notice (NCN). Such notice, when delivered to the Contractor at the work site, shall be deemed sufficient for the purpose of notification. Upon receipt of the NCN, the Contractor shall take immediate action to correct work. Review corrections at progress meetings for closure.
- B. If the Contractor fails to or refuses to comply promptly after the final determination of the appropriate corrective action, the Owner may:
1. Issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Owner will not pay for non-complying work or follow on work until the non-complying work is corrected or replaced. If it becomes necessary to stop work due to non-correction of non-complying work, no delay claim, time extension, or compensation will be granted.
 2. Elect to correct the non-compliant work with his own forces, or those of another contractor, and back charge the Contractor by issuing a deductive Change Order, with appropriate explanation and supporting data, which the Contractor is required to sign. Should the Contractor elect not to sign the deductive Change Order, he will be deemed to be in breach of the contract and the dispute will be subject to the Dispute Resolution Procedures of the General Conditions.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION 013115

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This Section includes administrative and procedural requirements for submittals required for performance of the Work, including the following
 - 1. Submittal procedures.
 - 2. Proposed product list.
 - 3. Product data.
 - 4. Use of electronic CAD files of Project Drawings.
 - 5. Shop Drawings.
 - 6. Other submittals.
 - 7. Test reports.
 - 8. Certificates.
 - 9. Construction photographs.
- B. Contractor review.
- C. Architect/Engineer review.
- D. Consent for release of electronic media.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect/Engineer's and Construction Manager's responsive action.
- B. Informational Submittals: Written and graphic information and physical Samples that do not require Architect/Engineer's and Construction Manager's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL PROCEDURES

- A. Before submittal of shop drawings, brochures, and lists, Contractor shall carefully review same for proper identification, completeness, correctness, dimensions, and technical applicability to the Contract Document requirements and note all corrections, items needing clarification, additional comments, and the like. Upon thorough review and subsequent acceptance by the Contractor, if so accepted, Contractor is to note its approval together with said notes or amendments thereto for compliance with the Contract Documents by suitable stamp, date and the signature of the Contractor or its authorized representative. Submittals will be returned to the Contractor without action by the Architect if the items submitted are not stamped, signed, and identified as approved or approved as noted or other similar language indicating approval by the Contractor, or if the submittal is obviously not thoroughly reviewed.
- B. Submission of shop drawings and samples shall be accompanied by a transmittal letter containing Project name, Contractor's name, number of drawings and samples, titles and other pertinent data.
- C. Many products are specified by one or more named products/manufacturers. In those circumstances where Contractor submits an unnamed, non-prior approved product/manufacture during this 'shop drawing' phase, said submittal shall be submitted in conformance with Section 012500 - Substitution Procedures.
- D. Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
 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 elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
 - a. The Contractor shall provide submittals requiring coordination with other submittals to the Architect at one time. The Architect will review submittals as received, provide comments, and return them to the Contractor. If the Contractor did not submit all submittals requiring coordination at the same time, and a later submittal identifies conflicts, the Contractor will be responsible for all costs associated with changes necessary to properly coordinate the installation of the materials.
 3. To avoid the need to delay installation as a result of the time required to process submittals, the Contractor shall anticipate the review times noted in this section and anticipate the possibility of a resubmittal or rejected submittal and the effect that action would have on the Project schedule.

- a. All required submittals shall be initially received by the Architect within 60 days following the Notice to Proceed date, or sooner as required by the following submittal review times, to meet the Construction Schedule need for materials related to the submittals. Submittals received after these time periods shall not be a cause for delay claims to the Project. Architect will not accelerate review time for submittals received after the indicated time periods, regardless of any potential impact to the Contractor's schedule.
 - b. Submittals requiring color selection and material selection are interdependent on receiving all submittals at the same time that have such selection requirements. Allow 20 working days from the date of receipt of the last such submittal by the Contractor for the Architect to complete color selections and mail out from the Architect's office.
 - c. Allow additional 5 working days for submittals requiring Architect consultant review.
 - d. For all other submittals allow 10 working days, after receipt by the Architect, to complete the initial review and mail out from the Architect's office.
 - e. If the Architect must delay processing a submittal to permit coordination with subsequent submittals, the 10 working days will begin upon receipt of the last such coordination submittal from the Contractor.
 - f. If several submittals are provided by the Contractor at the same time, allow 20 working days after receipt by the Architect to complete the initial review and respond. Provide an "Order of Priority List" to the Architect with the submittal.
 - g. If an intermediate submittal is necessary, process the same as the initial submittal.
 - h. Allow 10 working days for reprocessing each submittal after receipt unless noted otherwise.
- E. Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block. Consecutively number each submittal beginning with the number 001.
1. Provide adequate space for the Contractor's stamp and approval, plus a space approximately 4 by 5 inches each on the label or beside the title block on Shop Drawings to record the Architect's review and approval markings and the action taken.
 2. Include the following information on the label or title block for processing and recording action taken.

- a. Project name and job number.
 - b. Date.
 - c. Name and address of the Architect.
 - d. Name and address of the Contractor, subcontractor, supplier and manufacturer as appropriate.
 - e. Number and title of appropriate Specification Section.
 - f. Drawing number and detail references, as appropriate.
- F. Package each submittal appropriately for transmittal and handling. Transmit each submittal from the Contractor to the Architect using a transmittal form. Submittals received from sources other than the Contractor will be returned through the Contractor without action. Submittals not requested will be returned unprocessed.
1. Address no more than one topic or related topics on a single transmittal (i.e. mechanical items shall not be submitted under same transmittal with electrical items, even though the same Contractor/subcontractor may be responsible for both).
 2. Record relevant information, deviations, and requests for data, including minor variations and limitations from the Contract Documents.
 3. Shop drawings, product data, samples, and mock-up as required for submissions by the technical specification sections are to be submitted for Architect's review/approval until "No Exception Taken" or "Make Corrections Noted" is obtained. The number of submittals required is noted in parenthesis.
 - a. Shop Drawings: (2) sets; plus one (1) additional set for Structural, Mechanical and Electrical submittals. Or one PDF if transmitted electronically (PDF method preferred).
 - b. Product Data: (2) copies; plus one (1) additional copy for Structural, Mechanical and Electrical submittals. Or one PDF if transmitted electronically (PDF method preferred).
 - c. Samples: (3) each.
 - d. Mock-ups: As required by any technical specification section.
 - e. Reference applicable mechanical and electrical technical specifications' sections for additional submittal requirements.
 4. Material and Color Submittal: Submit samples of actual colors of materials.

5. Number submittals as follows: Numerical Order, Spec Section and Revision.
6. In the event of the need to "Revise and Resubmit" a submittal, resubmit same in acceptable form/content, clearly identifying deviations from previous submittal content.
- G. Do not transmit submittals directly to Architect's consultants. Architect will review and transmit submittals to consultants for their review.
- H. Prior to submitting transmittals required by Building Code to building code officials and other Authorities Having Jurisdiction (AHJ), transmit submittals to Architect for review and approval.
- I. Maintain copy in project Field Office of each submittal, regardless of status, along with a current Submittal Log,

1.4 PROPOSED PRODUCT LIST

- A. Within 15 days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name and model number of each product.
- B. For products specified only by reference standards, indicate manufacturer, trade name, model or catalog designation and reference standards.

1.5 PRODUCT DATA

- A. Product Data: Submit to Architect/Engineer for review for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Submit electronic submittals via email as PDF electronic files.
- C. Mark each copy to identify applicable products, models, options and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. Indicate product utility and electrical characteristics, utility connection requirements and location of utility outlets for service for functional equipment and appliances.
- E. After review, distribute according to "Submittal Procedures" Article and for record documents described in Section 017005 - Execution and 017700 - Closeout Requirements.

1.6 ELECTRONIC CAD FILES OF PROJECT DRAWINGS

- A. Electronic CAD Files of Project Drawings: May only be used to expedite production of Shop Drawings for the Project. Use for other Projects or purposes is not allowed.
- B. Electronic CAD Files of Project Drawings: Distributed only under the following conditions:

1. Use of files is solely at receiver's risk. Architect/Engineer does not warrant accuracy of files. Receiving files in electronic form does not relieve receiver of responsibilities for measurements, dimensions and quantities set forth in Contract Documents. In the event of ambiguity, discrepancy or conflict between information on electronic media and that in Contract Documents, notify Architect/Engineer of discrepancy and use information in hard-copy Drawings and Specifications.
2. CAD files do not necessarily represent the latest Contract Documents, existing conditions, and as-built conditions. Receiver is responsible for determining and complying with these conditions and for incorporating addenda and modifications.
3. User is responsible for removing information not normally provided on Shop Drawings and removing references to Contract Documents. Shop Drawings submitted with information associated with other trades or with references to Contract Documents will not be reviewed and will be immediately returned.
4. Receiver shall not hold Architect/Engineer responsible for data or file clean-up required to make files usable, nor for error or malfunction in translation, interpretation or use of this electronic information.
5. Receiver shall understand that even though Architect/Engineer has computer virus scanning software to detect presence of computer viruses, there is no guarantee that computer viruses are not present in files or in electronic media.
6. Receiver shall not hold Architect/Engineer responsible for such viruses or their consequences and shall hold Architect/Engineer harmless against costs, losses or damage caused by presence of computer virus in files or media.
7. The Contractor is to obtain a Consent for Release of Electronic Media per attached form (an electronic version of this form is available upon request). Subcontractors are to obtain this information from the Contractor and their use of the electronic files is subject to the same conditions.

1.7 SHOP DRAWINGS

- A. Shop Drawings: Submit to Architect/Engineer for assessing conformance with information given and design concept expressed in Contract Documents.
- B. Submit drawings drawn to accurate scale. Shop drawings are not intended to change the design. Do not reproduce Contract documents or copy standard information for use as Shop Drawings. Standard information prepared without specific references to the project is not a Shop Drawing.
- C. Provide fabrication and installation drawings, setting diagrams, schedules, patterns, templates, and similar drawings. Include the following information:

1. Dimensions.
 2. Identification of products and materials included.
 3. Compliance with specified standards.
 4. Notation of coordination requirements.
 5. Notation of dimensions established by field measurements.
 6. Any deviation from contract drawings or specifications.
 7. Date when review has to be finalized to meet schedule.
- D. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- E. When required by individual Specification Sections, provide Shop Drawings signed and sealed by a professional Engineer responsible for designing components shown on Shop Drawings.
1. Include signed and sealed calculations to support design.
 2. Submit Shop Drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
 3. Make revisions and provide additional information when required by authorities having jurisdiction.
- F. All items shown on shop drawings that do not conform to plans and specifications shall be specifically noted as such (flagged) and brought to the Architect's attention. In any case, the Architect's stamp of review shall not include approval of unauthorized changes in the Contract Documents, except where specific written approval is given.
- G. Contractor is responsible for obtaining and distributing required shop drawings to its subcontractors and material suppliers after, as well as before, final review by the Architect. Prints or PDF's of reviewed shop drawings shall be made from approved submittals which carry the Contractor's and Architect's appropriate stamps. Architect/Owner and applicable consultants and AHJ shall retain copies of each shop drawing submittal.
- H. Submit electronic submittals via email as PDF electronic files.

1.8 OTHER SUBMITTALS

- A. Closeout Submittals: Comply with Section 017005 - Execution and 017700 - Closeout Requirements.

1.9 TEST REPORTS

- A. Informational Submittal: Submit reports for Architect/Engineer's knowledge as Contract administrator or for Owner.
- B. Submit test reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

1.10 CERTIFICATES

- A. Informational Submittal: Submit certification by manufacturer, installation/application Subcontractor, or Contractor to Architect/Engineer, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product but must be acceptable to Architect/Engineer.

1.11 CONSTRUCTION PHOTOGRAPHS

- A. Provide photographs of Site and construction throughout progress of Work produced by an experienced photographer acceptable to Architect/Engineer.
- B. Submit photographs with Application for Payment.
- C. Photographs: One print; black and white, matte; 8 x 10 inch size; mounted on 8-1/2 x 11-inch soft card stock, with left edge binding margin for three-hole punch. Digital images, as indicated for the record documents, may be substituted if approved on a project by project basis.
- D. Take sufficient Site photographs from different directions and sufficient interior photographs indicating relative progress of the Work, 5 days maximum before submitting pay request, to confirm progress.
- E. Identify each print on back, identify digital prints with file name. Identify name of Project, contract number, orientation of view, date and time of view and photographer's numbered identification of exposure.
- F. Digital Images: Deliver complete set of digital image electronic files on CD-ROM or other approved media to Architect with project record documents. Identify electronic media with date photographs were taken (not necessary on digital prints). Submit images that have same aspect ratio as sensor, uncropped.

1. Digital Images: Uncompressed JPG or other approved format, produced by a digital camera with minimum sensor size of 4.0 megapixels, and image resolution of not less than 1024 by 768 pixels.

1.12 CONTRACTOR REVIEW

- A. Review for compliance with Contract Documents and approve submittals before transmitting to Architect/Engineer.
- B. Contractor: Responsible for:
 1. Determination and verification of materials including manufacturer's catalog numbers.
 2. Determination and verification of field measurements and field construction criteria.
 3. Checking and coordinating information in submittal with requirements of Work and of Contract Documents.
 4. Determination of accuracy and completeness of dimensions and quantities.
 5. Confirmation and coordination of dimensions and field conditions at Site.
 6. Construction means, techniques, sequences and procedures.
 7. Safety precautions.
 8. Coordination and performance of Work of all trades.
- C. Stamp, sign or initial and date each submittal to certify compliance with requirements of Contract Documents.
- D. Do not fabricate products or begin Work for which submittals are required until approved submittals have been received from Architect/Engineer.

1.13 ARCHITECT/ENGINEER REVIEW

- A. Do not make "mass submittals" to Architect/Engineer. "Mass submittals" are defined as six or more submittals or items in one day or 20 or more submittals or items in one week. If "mass submittals" are received, Architect/Engineer's review time stated above will be extended as necessary to perform proper review. Architect/Engineer will review "mass submittals" based on priority determined by Architect/Engineer after consultation with Owner and Contractor.
- B. Informational submittals and other similar data are for Architect/Engineer's information, do not require Architect/Engineer's responsive action and will not be reviewed or returned with comment.

- C. Submittals made by Contractor, which are not required by Contract Documents, may be returned without action.
- D. Architect review of submittals does not relieve the Contractor from his responsibilities for conformance with the Contract Documents, proper installation, compliance with applicable codes, or coordination of the Work.
- E. Submittal approval does not authorize changes to Contract requirements unless accompanied by: Change Order, Architect's Supplemental Instruction, Field Order, Substitution Request or Construction Change Directive.
- F. Owner may withhold monies due to Contractor to cover additional costs beyond the second submittal review.
- G. The Architect will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be marked to indicate the action to be taken.
- H. The Architect will distribute the reviewed submittals to:
 - 1. Architect project file and/or Owner.
 - 2. AHJ (as required)
 - 3. Architect sub-consultants.
 - 4. Contractor.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 013300

**CONSENT FOR THE RELEASE
OF ELECTRONIC MEDIA**

Project:	CWU Dining Service Warehouse	Recipient:	
Architect's Project No.:	22281.00	Date:	

The Recipient and the Architect hereby approve the release of electronic media as follows:

1. The Recipient agrees, to the fullest extent permitted by law, to indemnify and hold the Architect and its Consultants harmless from any damage, liability, or cost, including reasonable attorney's fees and cost of defense arising from any reuse or modifications of the electronic media by the Recipient or any person or entity which acquires or obtains the electronic media from or through the Recipient. In no event shall the Architect or its Consultants be liable for any loss of profit or any damages.
2. The Architect and Consultants make no warranties, either express or implied, of merchantability and fitness for any particular purpose.
3. Files are recognized to be subject to alteration, degradation, erosion and erasure. The Recipient is advised to check all electronic media for computer viruses before loading the files. The Recipient agrees to indemnify and hold harmless the Architect and its Consultants from and against all claims of any kind put forth by the Recipient or others as a result of inadvertent viruses transmitted with the electronic files.
4. The electronic files are provided as a convenience to the Recipient and are not considered the Contractual Instruments of Service nor considered "Contract Documents" or "Drawings of Record" or "Construction Documents" or "As-Built Drawings."
5. The Architect and Consultants shall be deemed the authors of the transferred media, and will retain all common law, statutory and other reserved rights, in addition to the copyright. Each party shall have the right to alter, modify or delete materials without consequence to the other party, as long as the changes are not attributed to the other party.
6. The information is for use on this project only and not to be used for other purposes.
7. Recipient agrees to compensate Architect and Consultant reasonable costs for preparation of the electronic files as agreed upon.

Approved by Owner:			
Name:		By:	
Date:		Title:	
Approved by Architect:		Accepted by Recipient:	
Name:	Integrus Architecture, P.S.	Name:	
By:		By:	
Title:		Title:	
Date:		Date:	

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality control.
- B. Tolerances.
- C. References.
- D. Labeling.
- E. Testing and inspection services.
- F. Manufacturers' field services.

1.2 QUALITY CONTROL

- A. Monitor quality control over suppliers, manufacturers, products, services, Site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with specified standards as the minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- C. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
- D. Perform Work using persons qualified to produce required and specified quality.
- E. Products, materials, and equipment may be subject to inspection by Architect/Engineer and Owner at place of manufacture or fabrication. Such inspections shall not relieve Contractor of complying with requirements of Contract Documents.
- F. Supervise performance of Work in such manner and by such means to ensure that Work, whether completed or in progress, will not be subjected to harmful, dangerous, damaging, or otherwise deleterious exposure during construction period.
- G. Comply fully with manufacturers' instructions, including each step in sequence.

1. Should manufacturers' instructions conflict with Contract Documents; request clarification from Architect before proceeding.
- H. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Submit schedule within thirty (30) days of date established for the Notice to Proceed.
 1. Distribution: Distribute schedule to Owner, Architect testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.3 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' recommended tolerances and tolerance requirements in reference standards. When such tolerances conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.
- D. Allow tolerances for thermal expansion and effects of mechanical vibration.

1.4 REFERENCES

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of standard except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current as of date of Contract Documents except where specific date is established by code.
- C. Obtain copies of standards and maintain on Site when required by product Specification Sections.
- D. When requirements of indicated reference standards conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- E. Neither contractual relationships, duties, or responsibilities of parties in Contract nor those of Architect/Engineer shall be altered from Contract Documents by mention or inference in reference documents.

- F. Abbreviations and Names: Abbreviations and acronyms are frequently used in the Specifications and other Contract Documents to represent the name of a trade association, standards developing organization, authorities having jurisdiction, or other entity in the context of referencing a standard or publication. Where abbreviations and acronyms are used in the Specifications or other Contract Documents, they mean the recognized name of the entities. Refer to Gale Research's "Encyclopedia of Associations" or Columbia Books' "National Trade and Professional Associations of the U.S.," which are available in most libraries or a search engine dedicated to construction industry data such as <http://www.4specs.com> or <http://www.arcat.com>.

1.5 LABELING

- A. Attach label from agency approved by authorities having jurisdiction for products, assemblies, and systems required to be labeled by applicable code.
- B. Label Information: Include manufacturer's or fabricator's identification, approved agency identification, and the following information, as applicable, on each label:
1. Model number.
 2. Serial number.
 3. Performance characteristics.
- C. Manufacturer's Nameplates, Trademarks, Logos, and Other Identifying Marks on Products: Not allowed on surfaces exposed to view in public areas, interior or exterior.

1.6 TESTING AND INSPECTION SERVICES

- A. Owner will employ and pay for specified services of an independent firm to perform testing and inspection.
- B. Independent firm will perform tests, inspections, and other services specified in individual Specification Sections and as required by Architect/Engineer, Owner or authorities having jurisdiction.
1. Laboratory: Authorized to operate at Project location.
 2. Laboratory Staff: Maintain full-time specialist on staff to review services.
 3. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to National Bureau of Standards or accepted values of natural physical constants.
- C. Testing, inspections, and source quality control may occur on or off Project Site. Perform off-Site testing as required by Architect/Engineer or Owner.

- D. Reports shall be submitted by independent firm to Architect/Engineer, Contractor and authorities having jurisdiction, in PDF format indicating observations and results of tests and compliance or noncompliance with Contract Documents.
1. Submit final report indicating correction of Work previously reported as noncompliant.
- E. Employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work according to requirements of Contract Documents.
- F. The Contractor shall arrange and pay for all inspection and testing required by the Contract Documents except for tests specifically indicated herein as the responsibility of the Owner. The Contractor shall also be responsible for all costs of all inspections and testing including, but not limited to, the following:
1. Re-inspection and/or retesting of Owner provided inspections or testing due to failure.
 - a. Retesting or re-inspection required because of nonconformance with specified or indicated requirements shall be performed by same independent firm on instructions from Architect/Engineer. Payment for retesting or re-inspection will be charged to Contractor by deducting testing charges from Contract Sum/Price.
 2. Concrete testing for qualifications of materials and for Contractor's convenience.
 3. Testing required because of changes in materials or proportions at the request of the Contractor.
 4. Contractor's duties for owner provided inspections and tests, as specified.
- G. Agency Responsibilities:
1. Test Samples of mixes submitted by Contractor.
 2. Provide qualified personnel at Site. Cooperate with Architect/Engineer and Contractor in performance of services.
 3. Perform indicated sampling and testing of products according to specified standards.
 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 5. Promptly notify Architect/Engineer and Contractor of observed irregularities or nonconformance of Work or products.
 6. Perform additional tests required by Architect/Engineer.
 7. Attend preconstruction meetings and progress meetings.

- H. Agency Reports: After each test, promptly submit PDF copies of report to Architect/Engineer, Contractor, and authorities having jurisdiction. When requested by Architect/Engineer, provide interpretation of test results. Include the following:
1. Date issued.
 2. Project title and number.
 3. Name of inspector.
 4. Date and time of sampling or inspection.
 5. Identification of product and Specification Section.
 6. Location in Project.
 7. Type of inspection or test.
 8. Date of test.
 9. Results of tests.
 10. Conformance with Contract Documents.
- I. Limits on Testing Authority:
1. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 2. Agency or laboratory may not approve or accept any portion of the Work.
 3. Agency or laboratory may not assume duties of Contractor.
 4. Agency or laboratory has no authority to stop the Work.
- J. Approved Fabricator Shop Certificate: Special inspection per IBC Section 1704 shall not be required where the work is done on the premises of a fabricator registered and approved by the Building Official to perform such work without special inspection. Provide a certificate from the Building Official which shows the shop approval.
- K. Non-Approved Fabricator Special Inspection: The Contractor shall reimburse the Owner for the costs incurred for special inspection of fabrication in a non-approved shop.

1.7 MANUFACTURER'S FIELD SERVICES

- A. When specified in individual Specification Sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe Site conditions, conditions of surfaces and installation, quality of workmanship, startup of equipment, testing, adjusting, and balancing of equipment and commissioning as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Architect/Engineer 30 days in advance of required observations. Observer is subject to approval of Architect/Engineer.
- C. Report observations and Site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturer's written instructions.
- D. Refer to Section 013300 - Submittal Procedures, "Manufacturer's Field Reports" Article.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Prepare a record of tests and inspections. Include the following:
 - 1. Date test or inspection was conducted.
 - 2. Description of the Work tested or inspected.
 - 3. Date test or inspection results were transmitted to Architect.
 - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project Site. Post changes and modifications as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

3.2 ACCEPTABLE TESTING AGENCIES

- A. Testing Agency used to be approved by Owner and Architect.

3.3 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Comply with the Contract Document requirements. See Section 017005 – Execution and 017700 - Closeout Requirements.
- B. Protect construction exposed by or for quality-control service activities.

Central Washington University
Dining Service Warehouse
Contract No. 15937.02
Integrus Project No. 22281.00

QUALITY REQUIREMENTS

SECTION 014000

- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Product delivery requirements.
- C. Product storage and handling requirements.
- D. Product options.
- E. Damaged Products.
- F. General Product Requirements
- G. Equipment electrical characteristics and components.

1.2 PRODUCTS

- A. At minimum, comply with specified requirements and reference standards.
- B. Specified products define standard of quality, type, function, dimension, appearance and performance required.
- C. Furnish products of qualified manufacturers that are suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise. Confirm that manufacturer's production capacity can provide sufficient product, on time, to meet Project requirements.
- D. Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product (and manufacturer) that complies with other specified requirements.
 - 1. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, or texture from manufacturer's product line that does not include premium items.
 - 2. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, or texture from manufacturer's product line that includes both standard and premium items.

1.3 PRODUCT DELIVERY REQUIREMENTS

- A. Comply with delivery requirements in Section 017419 - Construction Waste Management and Disposal.
- B. Schedule delivery of products affecting Progress Schedule critical path to complete project within time of completion stated in the Agreement. Associated cost increases due to failure to meet accelerated delivery schedules and deliveries of long lead time products are responsibility of Contractor.
- C. Coordinate to avoid conflict with work and site conditions. Limit long term site storage, overcrowding of limited storage space, and conflict with available equipment and personnel for handling Products.
- D. Coordinate delivery to limit storage time for Products that are flammable, hazardous, easily damaged, subject to deterioration, or liable for theft or loss.
- E. Transport and handle products according to manufacturer's instructions.
- F. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products; use methods to prevent soiling, disfigurement, or damage.

1.4 PRODUCT STORAGE REQUIREMENTS

- A. Store and protect products according to manufacturer's instructions.
- B. Store products with seals and labels intact and legible.
- C. Store sensitive products in weathertight, climate-controlled enclosures in an environment suitable to product.
- D. For exterior storage of fabricated products, place products on sloped supports aboveground.
- E. Provide bonded off-Site storage and protection when Site does not permit on-Site storage or protection.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store products; use methods to prevent soiling, disfigurement, or damage.

- I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT HANDLING REQUIREMENTS

- A. Provide equipment and personnel necessary to handle Products, including those furnished by Owner, by methods to prevent soiling, damage, or loss of Products and protective packaging.
- B. Provide additional protection during handling as necessary to prevent scraping, marring, and other damage to Products and surrounding surfaces.
- C. Handle Products by methods to prevent bending or overstressing.
- D. Lift heavy components only at designated lifting points.

1.6 DAMAGED PRODUCTS

- A. Promptly remove damaged and deteriorated Products from premises. Replace with new undamaged materials conforming to Contract Documents.

1.7 PRODUCT OPTIONS

- A. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit Request for Substitution for any manufacturer not named, according to Section 012500 - Substitution Procedures.

PART 2 PRODUCTS

2.1 GENERAL PRODUCT REQUIREMENTS

- A. Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, new at the time of installation.
 1. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for a complete installation and the intended use and effect.
 2. Standard Products: Where available, provide standard products of types which have been produced and used previously and successfully on other projects and in similar application.
 3. Color and Appearance Consistency of Finish Materials: All finish materials of their respective kinds, in regards to construction phasing, shall be consistent in color and appearance throughout the total Project and shall be purchased out of one dye lot, production run, batch, etc., as applicable, for the total Project for each respective material.
- B. Additional Requirements: Material and equipment incorporated in to the work:

1. Shall conform to applicable specifications and standards.
2. Shall comply with size, make, type and quality specified or as specifically approved in writing by Architect.
3. Shall be free of ASBESTOS, FORMALDEHYDE and LEAD.
4. Manufactured and Fabricated Products:
 - a. Manufacture like parts of duplicate units to standard sizes and gauges; parts to be interchangeable.
 - b. Two or more items of the same kind to be identical and by same manufacturer (whether furnished under one Section or more).
 - c. Products shall be suitable for service conditions. Adhere to indicated equipment capacities, sizes, and dimensions unless variations are specifically approved in writing.
 - d. Except where field finishing is specified or otherwise required, products and fabricated items shall be pre-finished off-site.
 - e. Do not use materials and equipment for other than designed or specified purposes and uses.

2.2 EQUIPMENT ELECTRICAL CHARACTERISTICS AND COMPONENTS

- A. Wiring Terminations: Furnish terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Include lugs for terminal box.
- B. Cord and Plug: Furnish minimum 6-foot long cord and plug including grounding connector for connection to electric wiring system. Cord of longer length may be specified in individual Specification Sections or required for actual connection.

PART 3 EXECUTION - NOT USED

END OF SECTION 016000

SECTION 017005 - EXECUTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Starting of systems.
- B. Testing, adjusting, and balancing.
- C. Project record documents.
- D. ExecutionCutting and patching.
- E. Special Procedures
- F. Protecting installed construction.

1.2 STARTING OF SYSTEMS

- A. Coordinate schedule for startup of various equipment and systems.
- B. Notify Architect/Engineer seven days prior to startup of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions which may cause damage.
- D. Verify that tests, meter readings, and electrical characteristics agree with those required by equipment or system manufacturer.
- E. Verify that wiring and support components for equipment are complete and tested.
- F. Execute startup under supervision of manufacturer's representative or Contractors' personnel according to manufacturer's instructions.
- G. When specified in individual Specification Sections, require manufacturer to provide authorized representative who will be present at Site to inspect, check, and approve equipment or system installation prior to startup and will supervise placing equipment or system in operation.
- H. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- I. Starting Systems: The Commissioning Agent shall witness all Startups of equipment required to be commissioned.

- J. Submit a report, PDF format preferred according to Section 013300 - Submittal Procedures that equipment or system has been properly installed and is functioning correctly.

1.3 TESTING, ADJUSTING, AND BALANCING

- A. Owner will appoint, employ, and pay for services of independent firm to perform testing, adjusting, and balancing.
- B. Reports will be submitted by independent firm to Architect/Engineer indicating observations and results of tests and indicating compliance or noncompliance with requirements of Contract Documents.
- C. International Energy Conservation Code (IECC)
 - 1. C104.2.1.1 Wall Insulation Inspection
 - 2. C104.2.1.2 Glazing Inspection.
 - 3. C105.2.1.3 Exterior Roofing Insulation
 - 4. C104.2.1.4 Slab/Floor Insulation Inspection
 - a. Building Envelope Air Leakage Test (Refer to Section 014100):
 - 5. Conform to 2015 Washington State Energy Code C402.4.1.2.3 for maximum 0.40 cfm/sf at a pressure differential of 0.3 inches water gauge, as tested to ASTM E779 or an equivalent method approved by the Code Official.
 - 6. Conduct testing at a mutually agreeable point of construction as determined by the Owner and Contractor. Testing agency to be employed by Owner.
 - 7. A report that includes the tested surface area, floor area, air by volume, stories above grade, and leakage rates shall be submitted to the Owner and the Code Official.
 - 8. If the tested rate exceeds the allowable amount, a visual inspection of the air barrier shall be conducted and any leaks noted shall be sealed to the extent practicable. An additional report identifying the corrective actions taken to seal air leaks shall be submitted to the Owner and Code Official. Upon submission of corrective actions report to Owner and Code Official, any further requirements to meet the air leakage rate specified in C402.4.1.2.3 will be waived.

1.4 PROJECT RECORD DOCUMENTS

- A. Maintain on Site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.

2. Specifications.
 3. Addenda.
 4. Change Orders and other modifications to the Contract.
 5. Reviewed Shop Drawings, product data, and Samples.
 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress, not less than weekly.
- E. Specifications: Legibly mark and record, at each product Section, description of actual products installed, including the following:
1. Manufacturer's name and product model and number.
 2. Product substitutions or alternates used.
 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction as follows:
1. Include Contract modifications such as Addenda, supplementary instructions, change directives, field orders, minor changes in the Work, and change orders.
 2. Include locations of concealed elements of the Work.
 3. Identify depth of buried utility lines and provide dimensions showing distances from permanent facility components that are parallel to utilities.
 4. Dimension ends, corners, and junctions of buried utilities to permanent facility components using triangulation.
 5. Identify and locate existing buried or concealed items encountered during Project.
 6. Measured depths of foundations in relation to finish floor datum.
 7. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 8. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.

9. Field changes of dimension and detail.
 10. Details not on original Drawings.
 11. Provide photographs of congested areas before closed in by Gyp or finishes.
- G. Submit PDF electronic files of marked-up documents to Architect/Engineer before Substantial Completion.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that existing Site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual Specification Sections.
- D. Verify that utility services are available with correct characteristics and in correct locations.
- E. Installer's Inspection of Conditions
 1. Require Installer of each major unit of work to inspect substrate to receive the work, and conditions under which the work will be performed, and to report (in writing to Contractor) unsatisfactory conditions.
 2. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to Installer.
- F. Contractor's Inspection. Inspect each item of material or equipment immediately prior to installation, and reject damaged and defective items.

3.2 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance according to manufacturer's instructions.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer-required or -recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

3.3 EXECUTION

- A. Comply with manufacturer's installation instructions, performing each step in sequence. Maintain one set of manufacturer's installation instructions at Project Site during installation and until completion of construction.
- B. When manufacturer's installation instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
 - 1. Do not omit any preparatory step or installation procedure unless it is:
 - a. Verified with and accepted by Architect in writing.
 - b. Specifically modified or exempted by Contract Documents.
- C. Perform additional requirements that are specified which are greater than the manufacturer's requirements and do not have a deleterious effect on the product being installed.
- D. Verify that field measurements are as indicated on approved Shop Drawings or as instructed by manufacturer.
- E. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.
 - 1. Secure Work true to line and level and within specified tolerances, or if not specified, industry-recognized tolerances.
 - 2. Physically separate products in place, provide electrical insulation, or provide protective coatings to prevent galvanic action or corrosion between dissimilar metals.
 - 3. Exposed Joints: Provide uniform joint width and arrange to obtain best visual effect. Refer questionable visual-effect choices to Architect/Engineer for final decision.
- F. Allow for expansion of materials and building movement.
- G. Climatic Conditions and Project Status: Install each unit of Work under conditions to ensure best possible results in coordination with entire Project.
 - 1. Isolate each unit of Work from incompatible Work as necessary to prevent deterioration.
 - 2. Coordinate enclosure of Work with required inspections, photographs and tests to minimize necessity of uncovering Work for those purposes.
- H. Mounting Heights: Where not indicated, mount individual units of Work at industry recognized standard mounting heights for particular application indicated.

1. Refer questionable mounting heights choices to Architect/Engineer for final decision.
 2. Elements Identified as Accessible to Handicapped: Comply with applicable codes and regulations.
- I. Adjust operating products and equipment to ensure smooth and unhindered operation.
 - J. Clean and perform maintenance on installed Work as frequently as necessary through remainder of construction period. Lubricate operable components as recommended by manufacturer.
- 3.4 CUTTING AND PATCHING
- A. Employ skilled and experienced installers to perform cutting and patching.
 - B. Submit request in advance of cutting or altering elements affecting:
 1. Structural integrity of element.
 2. Integrity of weather-exposed or moisture-resistant elements.
 3. Efficiency, maintenance or safety of element.
 4. Visual qualities of sight-exposed elements.
 5. Work of Owner or separate contractor.
 - C. Execute cutting, fitting, and patching, including excavation and fill to complete Work and to:
 1. Fit the several parts together, to integrate with other Work.
 2. Uncover Work to install or correct ill-timed Work.
 3. Remove and replace defective and nonconforming Work.
 4. Remove samples of installed Work for testing.
 5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
 - D. Structural Work: Conform to Structural requirements for cutting of structural members. Do no cutting of structural elements that could reduce structural load capacity, deflection ratio, or integrity of structural systems without prior direction from Structural Engineer.
 - E. Plumbing, Heating, Ventilating and Air Conditioning, and Electrical Work: Refer to Division 22, Division 23, and Division 26.

- F. Execute Work by methods to avoid damage to other Work and to provide proper surfaces to receive patching and finishing.
- G. Cut masonry and concrete materials using masonry saw or core drill.
- H. Restore Work with new products according to requirements of Contract Documents.
- I. Fit Work tight to pipes, sleeves, ducts, conduits and other penetrations through surfaces.
- J. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- K. At penetrations of fire-rated walls, partitions, ceiling, or floor construction, completely seal voids with material according to Section 078400 - Firestopping, to full thickness of penetrated element.
- L. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for assembly, refinish entire unit.
- M. Identify hazardous substances or conditions exposed during the Work to Architect/Engineer for decision or remedy.
- N. Leave areas clean and free from debris. Remove spillage, soiling, sealants and overspray from finished surfaces.

3.5 PROTECTING INSTALLED CONSTRUCTION

- A. In-Place Protection
 - 1. General
 - a. During handling and installation of work at project site, clean and protect work in progress and adjoining work on a basis of perpetual maintenance.
 - b. Clean and perform maintenance on newly installed work as frequently as necessary through remainder of construction period.
 - c. Adjust and lubricate moving components to ensure operability without damaging effects. Contractor is responsible for function, condition and unblemished appearance of all work on Project, and any item or work judged defective by Architect shall be subject to replacement at no additional cost to Owner.
- B. To extent possible through reasonable control and protection methods, supervise performance of work in a manner and by means which will ensure that none of the work, whether completed or in progress, will be subjected to harmful, dangerous, damaging, or otherwise deleterious exposures during construction period.

- C. Protect installed Work and provide special protection where specified in individual Specification Sections.
- D. Provide temporary and removable protection for installed products. Control activity in immediate Work area to prevent damage.
- E. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- F. Use durable sheet materials to protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects.
- G. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- H. Prohibit traffic from landscaped areas.
- I. Remove protective devices when no longer needed, prior to completion of work

3.6 SPECIAL PROCEDURES

- A. Materials: As specified in product sections; match existing with new products and salvaged products for patching and extending work.
- B. Employ skilled and experienced installer to perform alteration work.
- C. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.
- D. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.
- E. Remove debris and abandoned items from area and from concealed spaces.
- F. Prepare surface and remove surface finishes to permit installation of new work and finishes.
- G. Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity.
- H. Remove, cut, and patch Work in manner to minimize damage and to permit restoring products and finishes to original condition.
- I. Refinish existing visible surfaces to remain in renovated rooms and spaces, to specified condition for each material, with neat transition to adjacent finishes.
- J. Where new Work abuts or aligns with existing, provide smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.

- K. When finished surfaces are cut so that smooth transition with new Work is not possible, terminate existing surface along straight line at natural line of division and submit recommendation to Architect for review.
- L. Where change of plane of 1/4 inch or more occurs, submit recommendation for providing smooth transition to Architect for review.
- M. Trim existing doors to clear new floor finish. Refinish trim to original condition.
- N. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.
- O. Finish surfaces as specified in individual product sections.

END OF SECTION 017005

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Closeout procedures.
- B. Demonstration and instructions.
- C. Operation and maintenance data.
- D. Manual for materials and finishes.
- E. Manual for equipment and systems.
- F. Spare parts and maintenance products.
- G. Product warranties and product bonds.
- H. Maintenance service.
- I. Final cleaning.

1.2 CLOSEOUT PROCEDURES

- A. Prerequisites to Substantial Completion: Complete following items before requesting Certification of Substantial Completion, either for entire Work or for portions of Work:
 - 1. Submit maintenance manuals, Project record documents, digital images of construction photographs and other similar final record data in compliance with this Section.
 - 2. Complete facility startup, testing, adjusting, balancing of systems and equipment, demonstrations and instructions to Owner's operating and maintenance personnel as specified in compliance Contract Documents.
 - 3. Conduct inspection to establish basis for request that Work is substantially complete. Create comprehensive list (initial punch list) indicating items to be completed or corrected, value of incomplete or nonconforming Work, reason for being incomplete, and date of anticipated completion for each item. Include copy of list with request for Certificate of Substantial Completion.
 - 4. Obtain and submit releases enabling Owner's full, unrestricted use of Project and access to services and utilities. Include certificate of occupancy, operating certificates, and similar releases from authorities having jurisdiction and utility companies.

5. Insurance: Advise Owner of insurance change-over requirements.
 6. Deliver tools, spare parts, extra stocks of material, and similar physical items to Owner.
 7. Make final change-over of locks and transmit keys directly to Owner. Advise Owner's personnel of change-over in security provisions.
 8. Discontinue or change over and remove temporary facilities and services from Project Site, along with construction tools, mockups, and similar elements.
 9. Perform final cleaning according to this Section.
- B. Substantial Completion Inspection:
1. When Contractor considers Work to be substantially complete, submit to Architect/Engineer:
 - a. Written certificate that Work, or designated portion, is substantially complete.
 - b. List of items to be completed or corrected (initial punch list).
 2. Within seven days after receipt of request for Substantial Completion, Architect/Engineer will make inspection to determine whether Work or designated portion is substantially complete.
 3. Should Architect/Engineer determine that Work is not substantially complete:
 - a. Architect/Engineer will promptly notify Contractor in writing, stating reasons for its opinion.
 - b. Contractor shall remedy deficiencies in Work and send second written request for Substantial Completion to Architect/Engineer.
 - c. Architect/Engineer will re-inspect Work.
 - d. Redo and Inspection of Deficient Work: Repeated until Work passes Architect/Engineer's inspection.
 4. When Architect/Engineer finds that Work is substantially complete, Architect/Engineer will:
 - a. Prepare Certificate of Substantial Completion on AIA G704 - Certificate of Substantial Completion, accompanied by Contractor's list of items to be completed or corrected as verified and amended by Architect/Engineer and Owner (final punch list).

- b. Submit Certificate to Owner and Contractor for their written acceptance of responsibilities assigned to them in Certificate.
 5. After Work is substantially complete, Contractor shall:
 - a. Allow Owner occupancy of Project under provisions stated in Certificate of Substantial Completion.
 - b. Complete Work listed for completion or correction within time period stipulated.
 6. Owner will occupy portions of building as specified in Section 011000 - Summary.
- C. Prerequisites for Final Completion: Complete following items before requesting final acceptance and final payment.
 1. When Contractor considers Work to be complete, submit certification that:
 - a. Contract Documents have been reviewed.
 - b. Work has been examined for compliance with Contract Documents.
 - c. Work has been completed according to Contract Documents.
 - d. Work is completed and ready for final inspection.
 2. Submittals: Submit following:
 - a. Final punch list indicating all items have been completed or corrected.
 - b. Final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 - c. Specified warranties, workmanship/maintenance bonds, maintenance agreements, and other similar documents.
 - d. Accounting statement for final changes to Contract Sum.
 - e. Contractor's affidavit of payment of debts and claims on AIA G706 - Contractor's Affidavit of Payment of Debts and Claims.
 - f. Contractor affidavit of release of liens on AIA G706A - Contractor's Affidavit of Release of Liens.
 - g. Consent of surety to final payment on AIA G707 - Consent of Surety to Final Payment Form.

- B. Demonstrate Project equipment instructed by qualified representative who is knowledgeable about the Project.
- C. Video Recordings: Provide high-quality color video recordings of demonstration and instructional sessions. Engage approved videographer to record sessions. Include classroom instructions, demonstrations, board diagrams, and other visual aids.
- D. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- E. Use operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.
- F. Demonstrate startup, operation, control, adjustment, troubleshooting, servicing, maintenance, and shutdown of each item of equipment at agreed time, at designated location.
- G. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
- H. Required instruction time for each item of equipment and system is specified in individual Specification Sections.
- I. At each training session, provide a sign-in sheet for signature of all Owner staff in attendance. Identify the sign-in sheet with the training being provided and the date of the training. Submit the sign-in sheet(s) before Final Acceptance.

1.4 OPERATION AND MAINTENANCE DATA

- A. Submit PDF copy of preliminary draft prior to Substantial Completion. Architect/Engineer will review draft and return one copy with comments. Revise content of document sets as required prior to final submission.
- B. Submit final copy in PDF composite electronic indexed file at Substantial Completion.
- C. Prepare media cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS," title of Project.
- D. Internally subdivide media contents with permanent page dividers, logically organized as described below.
- E. Drawings: Provide scalable PDF copies in media requested.
- F. Contents: Prepare table of contents for media, with each product or system description identified, in three parts as follows:

1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, Subcontractors, and major equipment suppliers.
2. Part 2: Operation and maintenance instructions, arranged by Section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Include the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions for finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
 - g. Safety precautions to be taken when operating and maintaining or working near equipment.
3. Part 3: Project documents and certificates, including the following:
 - a. Shop Drawings and product data.
 - 1) Air and water balance reports.
 - b. Certificates.
 - c. PDF copies of warranties and bonds. Deliver original to Owner in separate bound folder in CSI format.

1.5 MANUAL FOR MATERIALS AND FINISHES

- A. Submit PDF copy of preliminary draft before Substantial Completion. Architect/Engineer will review draft and return one copy with comments. Revise content of document sets as required prior to final submission.
- B. For equipment or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.
- C. Submit in PDF composite electronic indexed file of final manual at Substantial Completion Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations. Include information for re-ordering custom-manufactured products.

- D. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- E. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Include recommendations for inspections, maintenance and repair.
- F. Additional Requirements: As specified in individual product Specification Sections.

1.6 MANUAL FOR EQUIPMENT AND SYSTEMS

- A. Submit PDF copy of preliminary draft before Substantial Completion. Architect/Engineer will review draft and return one copy with comments.
- B. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit PDF documents within ten days after acceptance.
- C. Submit in PDF composite electronic indexed file of final manual at Substantial Completion.
- D. Each Item of Equipment and Each System: Include description of unit or system and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.
- E. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
- F. Include color-coded wiring diagrams as installed.
- G. Operating Procedures: Include startup, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shutdown, and emergency instructions. Include summer, winter and special operating instructions.
- H. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing and checking instructions.
- I. Include servicing and lubrication schedule and list of lubricants required.
- J. Include manufacturer's printed operation and maintenance instructions.
- K. Include sequence of operation by controls manufacturer.
- L. Include original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

- M. Include control diagrams by controls manufacturer as installed.
- N. Include Contractor's coordination drawings with color-coded piping diagrams as installed.
- O. Include charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- P. Include list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- Q. Include test and balancing reports as specified in Section 014000 - Quality Requirements.
- R. Additional Requirements: As specified in individual product Specification Sections.
- S. Include listing in table of contents for design data with tabbed dividers and space for insertion of data.

1.7 SPARE PARTS AND MAINTENANCE PRODUCTS

- A. Furnish spare parts, maintenance, and extra products in quantities specified in individual Specification Sections.
- B. Deliver to place in location as directed by Owner; obtain receipt prior to final payment.

1.8 PRODUCT WARRANTIES AND PRODUCT BONDS

- A. Obtain warranties and bonds executed by responsible Subcontractors, suppliers and manufacturers within ten days after completion of applicable item of Work.
- B. Execute and assemble transferable warranty documents and bonds from Subcontractors, suppliers, and manufacturers.
- C. Verify documents are in proper form, contain full information and are notarized.
- D. Co-execute submittals when required.
- E. Include table of contents and assemble in three D side ring binder with durable plastic cover. Maintain a PDF copy for O&M manual at project closeout.
- F. Submit prior to final Application for Payment.
- G. Warranties shall be dated for length of time specified from date of Substantial Completion and will be rejected if dated otherwise.
- H. Time of Submittals:

1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within ten days after acceptance.
2. Make other submittals within ten days after date of Substantial Completion, prior to final Application for Payment.
3. For items of Work for which acceptance is delayed beyond Substantial Completion, submit within ten days after acceptance, listing date of acceptance as beginning of warranty or bond period.

1.9 MAINTENANCE SERVICE

- A. Furnish service and maintenance of components during Manufacturer's warranty period.
- B. Examine system components at frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
- C. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by manufacturer of original component.
- D. Do not assign or transfer maintenance service to agent or Subcontractor without prior written consent of Owner.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 FINAL CLEANING

- A. Execute final cleaning prior to final Project assessment.
 1. Employ experienced personnel or professional cleaning firm.
- B. Clean interior and exterior glass and surfaces exposed to view; remove temporary labels, stains, and foreign substances; polish transparent and glossy surfaces; and vacuum carpeted and soft surfaces.
- C. Clean equipment and fixtures to sanitary condition with appropriate cleaning materials.
- D. Replace filters of operating equipment.
- E. Clean debris from roofs, gutters, downspouts and drainage systems.
- F. Clean Site; sweep paved areas, rake clean landscaped surfaces.
- G. Remove waste and surplus materials, rubbish, and construction facilities from Site.

3.2 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit final accounting statement to Architect making final adjustments to original Contract Sum.
- B. Indicate Original Contract Sum and determine Total Adjusted Contract Sum from additions and deductions resulting from previous Change Orders, Alternates, Unit prices, and other adjustments.
- C. Deduct previous payments from adjusted Contract Sum to determine Total Contract Sum remaining due.
- D. Architect will prepare final Change Order reflecting approved adjustments to Contract Sum not previously made by other Change Orders.

3.3 FINAL APPLICATION FOR PAYMENT

- A. Submit final Application for Payment in accordance with the Contracting Requirements, and procedures and requirements of Owner, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

END OF SECTION 017700

DIVISION 28
ELECTRONIC SAFETY AND SECURITY

PART 1 GENERAL

1.1 RELATED SECTIONS

- A. Division 01 Requirements
- B. Conduit – On Drawings

1.2 SYSTEM DESCRIPTION

- A. Furnish a complete Fire Alarm System as described herein. Include a Fire Alarm Control Panel, manual pull stations, automatic fire detectors, combination horn/strobes, annunciator, and remote control devices. Use closed loop initiating device circuits with individual zone supervision, individual indicating appliance circuit supervision, and incoming and standby power supervision.
- B. Allow for loading or editing special instructions and operating sequences in the Fire Alarm Control Panel as required. Provide a system capable of on-site programming to accommodate and facilitate expansion, building parameter changes or changes as required by the Owner, authorities having jurisdiction and code requirements. Provide storage for fire alarm system software operations in a non-volatile, programmable memory within the Fire Alarm Control Panel. Loss of primary and secondary power will not erase the instructions stored in memory.
- C. Incorporate in the resident software programming of the system the full ability for selective input/output control functions based on ANDing, Oring, NOTing, timing and special coded operations, logical operations involving lists of points, and unlimited grouping of input and output points. The resident software shall support two separate operating programs. Only one program shall be operable at one time.
- D. Provide a system that communicates with initiating and control devices individually on a IDNet signaling line circuit. Annunciate initiating and control devices individually at the Fire Alarm Control Panel. Include the following annunciation conditions for each point:
 - 1. Alarm
 - 2. Trouble
 - 3. Open
 - 4. Short
 - 5. Ground
 - 6. Device Fail/or Incorrect Device
- E. Provide a system capable of individually disabling or enabling all addressable devices. Field configure devices to allow for the addition of devices on a circuit after the initial installation.
- F. Provide a system capable of multi-dropping up to 250 addressable devices in any combination of device types from a single pair of wires. Provide 25% spare capacity for addressable circuits and 25% spare capacity on indicating circuits.

Integrus Project No. 22281.00

- G. Provide a system capable of having software programming modified and initiating or control devices added or deleted in the field. Systems that require factory reprogramming to add or delete devices are unacceptable.
- H. Provide a system with a completely digital, poll/response protocol communications format. System is to use parity data bit error-checking routines for address codes and check sum routines for the data transmission protocol to achieve a high degree of communication reliability. Systems that do not utilize full digital transmission protocol; i.e. that may use time pulse width methods to transmit data are not acceptable.
- I. Provide a system where each addressable device is uniquely identified by an address code entered with switches on the base of each device at time of installation. The use of jumpers or mechanical tabs to set address will not be acceptable due to the potential of vibration and poor contact. Specialized equipment to accomplish addressing is not acceptable.
- J. Provide a system capable of supporting up to 10,000 feet wire length of 18 AWG or smaller initiating circuit loop, or signaling line circuit.

1.3 ALARM SEQUENCE

- A. The system alarm operation subsequent to the alarm activation of any manual station, or automatic detection device is to be as follows:
 - 1. Sound a continuous fire alarm signal on audible alarm indicating appliances until silenced by the alarm silence switch at the Fire Alarm Control Panel or the remote annunciator(s).
 - 2. Flash strobes continuously on visual alarm indicating appliances until System is reset.
 - 3. Transmit alarm signal using cellular path via Telguard TG-7FP communicator to monitoring station.
 - 4. Activate/deactivate mechanical controls on the air handling system per specifications of the Owner and in accordance with NFPA 72, 90A, 92A, UFC.
 - 5. For Mechanical Shutdown Initiation:
 - a. When a general alarm is activated shut down all required fans 30 to 60 seconds before closing associated fire smoke dampers.
 - b. Dampers shall be grouped on an air system basis, for example, if any smoke is sensed in AHU-1A ducting system, the fan shall be de-energized first and then after the 30-60 second delay the dampers shall be closed in that system. It shall be similar for all other air handling systems.
 - c. The HVAC-FACP relay monitored by the HVAC controls contractor shall change state to notify the BAS system and initiate an orderly shutdown of all air equipment.
 - 6. For Mechanical Restart:
 - a. The HVAC-FACP relay shall change state to notify the BAS system and initiate an orderly shutdown of air equipment.
 - b. The FACP may release both FSD relays and AHU relays simultaneously on a return to normal.
 - 7. Display an alarm condition on the Fire Alarm Control Panel display per 2.3A of these specifications. Flash the alarm LED on the Fire Alarm Control Panel and the remote

Integrus Project No. 22281.00

- annunciator(s) until the alarm has been acknowledged at the Fire Alarm Control Panel or the remote annunciator(s). Latch the alarm LED on upon alarm acknowledgment. After the alarm has been acknowledged, flash the alarm LED on the Fire Alarm Control Panel and the remote annunciator(s) again upon receipt of a subsequent alarm from another device/zone. Display the new alarm information on the Fire Alarm Control Panel display.
8. Provide a pulsing alarm tone that will occur within the Fire Alarm Control Panel and the remote annunciator(s) until acknowledged. Provide a pulsing alarm tone that is capable of being disabled or removed if so specified by the Owner.
- B. Provide a manual evacuation switch to operate the systems alarm indicating appliances and other control circuits.
 - C. Override the automatic alarm functions either selectively or throughout the system upon activation of auxiliary bypass keys located on the control panel or by bypass groups.
 - D. Immediately display alarm and trouble conditions on the Fire Alarm Control Panel front alphanumeric display. If more alarm or trouble conditions are present in the system, the operator may scroll the display view all alarms.
 - E. Provide a system with a list key that will allow the operator to display all alarms, troubles, and supervisory service conditions with the time of occurrence. This shall allow for the determination of not only the most recent alarm but also may indicate the path that the fire is taking.

1.4 SUPERVISION

- A. Provide a system with Class "B" independently supervised initiating circuits so that a fault in any one zone/device does not affect any other zone/device and so that an alarm activation of any initiating circuit does not prevent the subsequent alarm operation of any other initiating circuit.
- B. Provide independently supervised and independently fused indicating appliance circuits for horns and strobes. Disarrangement conditions of any of these circuits will not affect the operation of other circuits.
- C. Supervise all auxiliary manual controls so that all switches must be returned to the normal automatic position to clear system trouble.
- D. Include a discrete Fire Alarm Control Panel readout for each independently supervised circuit to indicate disarrangement conditions per circuit.
- E. Supervise the incoming power to the system so that any power failure must be audibly and visually indicated at the Fire Alarm Control Panel. A green "power on" LED shall be displayed continuously while incoming power is present.
- F. Supervise the system batteries so that a low battery condition or disconnection of the battery shall be audibly and visually indicated at the Fire Alarm Control Panel.

Integrus Project No. 22281.00

- G. Supervise any system expansion modules for module placement. Should a module become disconnected from the controls, the system trouble indicator must illuminate and audible trouble signal must sound.
- H. Provide a separate annunciator trouble readout that will illuminate and LED and sound an audible trouble signal at the Fire Alarm Control Panel upon the detection of an open or ground condition.
- I. Provide discrete trouble panel readout per output circuit for indication. Provide indication of a common ground trouble on the Fire Alarm Control Panel in the presence of a ground condition of the air handling control output wiring.
- J. Supervise all slave module LED's for burnout or disarrangement. Should a problem occur, the Fire Alarm Control Panel shall display the module and the LED location numbers to facilitate location of that LED.

1.5 POWER REQUIREMENTS

- A. Provide the Fire Alarm Control Panel with 120VAC power via a dedicated fused disconnect circuit.
- B. Provide the system with sufficient battery capacity to operate the entire system upon loss of normal 120VAC power in supervisory mode for a period of twenty-four (24) hours followed by (5) minutes of alarm operation with full output load. Automatically transfer the system to the standby batteries upon primary power failure. All battery charging and recharging operations shall be automatic. Provide appropriately sized batteries and, if needed, battery cabinet to provide this operation.
- C. Provide 24VDC from the Fire Alarm Control Panel to all circuits requiring system operating power. Individually fuse all these circuits at the Fire Alarm Control Panel.
- D. Furnish and install Simplex #2081-9028 Isolated Loop Circuit Protectors (ICLP) on all communication, addressable, SCU/RCU, initiating, indicating, and signaling lines, including shields, on all circuits that extend beyond the building by any means.
- E. Provide a continuous connection to the building's mechanical control system. The connection is to establish the fire alarm system is operational. Loss of this signal will indicate to the mechanical control system the fire alarm system is not operational.

1.6 QUALITY ASSURANCE

- A. All items of the Fire Alarm System shall be listed under the appropriate category by Underwriters Laboratories, Inc. (UL) and bearing the "UL" label. Provide control equipment that is all listed under UL category UOJZ as a single control unit. Partial listing is NOT acceptable.
- B. Provide Fire Alarm System components that are the products of a single manufacturer (independent dealers and/or distributors will NOT be considered). The manufacturer must have engaged in the production of this type of equipment (software driven) for at least 10 years, and have a fully equipped service organization within two hundred (200) miles of this

Integrus Project No. 22281.00

- installation. The supplier's technicians performing the panel terminations, programming, startup, checkout, and acceptance testing shall be factory trained and certified to perform such activities. This individual must possess at a minimum Level II certification from NICET in the Fire Alarm System field.
- C. Provide system controls that are UL listed for Power Limited Applications per NEC 760 (latest adopted edition), in addition to the UL-UOJZ requirement mentioned above.
 - D. Provide transient protection devices on all control equipment to comply with UL864 requirements.
 - E. Additional transient protection must be provided for each circuit, where fire alarm circuits leave the building. Provide devices that are UL listed under Standard 497B (Isolated Loop Circuit Protectors).
 - F. Audibility shall be 15 dBA above ambient and 75 dBA minimum in occupied areas. NFPA 72 requires audible devices to be heard above the ambient noise levels in all areas of the building. Audible devices shown on the drawings represent a generic layout. Different devices have varying dB output levels and may not provide the performance required by NFPA 72 based on the device layout shown on the drawings. The Simplex System Vendor shall review the layout with his fire alarm supplier prior to bidding, and if necessary, add additional audible devices to meet the alerting requirements of NFPA 72. This is a performance specification. Any additional devices required shall be shown on a plan and submitted with the shop drawings. Shop drawing checking by the Owner/Engineer will be only for aesthetic coordination and not for performance as a warning system.
 - G. All addressable devices shall be clearly labeled with their unique address in 1/4" high numerals. Labels shall be mechanically produced. Numbering hand written on the device shall not be acceptable.

1.7 SUBMITTALS

- A. Submit complete fire alarm layout drawings with equipment cut sheets and operational matrix. Depict on the layout drawings all equipment and field devices, routing of wiring, connection information, IDNet identification number for each device, etc. These drawings shall be AutoCad 2004 generated.
- B. Submit the manufacturer's installation manual & equipment specific startup documents as a part of the initial equipment submittal.
- C. Submit the manufacturer's operating and maintenance manual as a part of the initial equipment submittal
- D. Submittal Data: The following documents shall be submitted for review:
 - 1. Catalog Sheets.
 - 2. Plan drawings.
 - 3. Interconnect drawings.
 - 4. Wiring diagrams.
 - 5. Equipment mounting details.

Integrus Project No. 22281.00

6. Battery Calculations.
7. Operation and maintenance manuals.
8. Record drawings.
9. Monitoring company contract.

E. Documentation Requirements

1. General: Prepare drawings with drafters under the supervision of engineering level personnel. Drawings shall be drawn on 24" x 36" reproducible media. Drawings shall be prepared in AutoCAD 2004.
2. Catalog Sheets: Show the color, configuration, and dimensions of the equipment or device described. Provide technical specifications, such as operating voltage, operating temperature, and humidity limitations, mounting and wiring information, and a description of the function and operation of the devices.
3. Layout plan drawings: Show every device provided under this section at its relative spatial location. Routing of conduit, wiring, and exact quantity of conductors shall be shown on the as-built drawings.
4. Interconnect drawings; Show only external connections between equipment and devices. All wires shall be identified with alphanumeric designators and all termination points shall show the correct terminal identification.
5. Wiring diagrams: Show the general physical arrangement of the component parts of the equipment and the connection of all internal wiring. All components, wires, terminal strips and terminals shall be identified with alphanumeric designators.
6. Equipment mounting details: Show the mounting location for all floor and wall mounted equipment including distance from floor and column lines and fabrication details for all special mounting brackets. Details shall also provide any special installation instructions. These details may be included on the plan drawings if the space allows.
7. Battery calculations: Calculations shall document the basis for selecting battery size. The calculations shall include an itemization of all battery loads under standby and alarm conditions.
8. Monitoring company contract: A copy of the signed monitoring company contract shall be submitted upon final inspection or sooner if available. Monitoring company shall be certified and proof of that shall be furnished. This may be submitted any time prior to completion.

F. Submit Operation and Maintenance data in accordance with Division 1.

G. Submit the manufacturer's installation manual & equipment specific startup documents as a part of the initial equipment submittal.

H. Submit the manufacturer's operating and maintenance manual as a part of the initial equipment submittal

1.8 WARRANTY

- A. Provide a warranty for the completed fire alarm system wiring and equipment to be free from inherent mechanical, electrical, and software programming defects for a period of one (1) year from the date of the completed and certified test by the Authority Having Jurisdiction.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURES

- A. Central Washington University presently has a Simplex fire alarm system network installed on campus. As such, the catalog numbers specified under this section are those of Simplex. Since only the Simplex fire alarm control panels are capable of communicating on the Simplex fire alarm system network, no substitutions will be allowed. Contact Jerry Dolph at (509) 993-8453.

2.2 EQUIPMENT

A. FIRE ALARM CONTROL PANEL

1. Provide the Fire Alarm Control Panel called for in these specifications. Provide a Fire Alarm Control Panel with modular, solid state, microprocessor based electronics. Provide a Fire Alarm Control Panel that displays only those primary controls and displays essential to operation during a fire alarm condition. Fire Alarm Control Panel keyboards or keypads are not to be visible or required to operate the system during fire alarm conditions. Although the keypad/keyboard can be used for control (fire fighters/emergency) of the entire system, it will only be used for maintenance purposes. Provide 4007ES Fire Alarm Control Unit. To include only UL Listed Compatible Modules and Devices.
 - a. Power Limited base panel with red cabinet and door, 120 VAC input power.
 - b. Capability to support up to 250 addressable devices, up to 32 non-addressable zones (IDC's) and up to 127 addressable notification appliances.
 - c. 4 Amp Power Supply minimum with temperature compensated, dual-rate battery charger capable of charging up to 33 Ah batteries without a separate external battery charger. Battery charger voltage and amperage values shall be accessible on the FACU LCD display.
 - d. 2 Amp output programmable for 24 VDC Reverse Polarity NAC or Auxiliary Power output with electronic overload protection, automatic restoral, and programmable operation for four-wire detector reset operation.
 - e. Addressable device capacity shall be a minimum of 100 addressable points of manual pull stations, automatic heat or smoke detectors, addressable monitor an/control modules of any individual device limit up to the capacity of the SLC.
 - f. Optional SLC expander modules shall be available to increase the panel capacity to the full capacity of 250 addressable points. Each SLC expansion module shall provide a separate isolated loop for a total of up to (3) isolated loops. Each expansion module shall provide an additional 75 addressable points to the SLC channel capacity. The addressable point mix can be spread across the isolated loops as desired, e.g. 185, 55, 10, or in any combination up to a total of 250 addressable devices with all (3) SLC expansion modules installed.
 - g. Strobe Sync Module: During testing verify that all notification devices are in sync and this will verify the accuracy of the sync module.
 - h. Panel shall be capable of adding up to 32 conventional zone circuits to connect to existing system devices including compatible 2-wire detectors for ease in retrofit applications.
 - i. One (1) Class B addressable notification appliance Signaling Line Circuits (SLC; rated 3A @ 29VDC, resistive). Addressable notification SLC shall maintain a

Integrus Project No. 22281.00

- constant 29 volts during full alarm, trouble, or standby battery operation. Up to 127 addressable notification appliances shall be supported on SLC.
- j. Remote Unit Interface: supervised Class B (Style 4) or Class X (Style 7) signaling line circuit (SLC) for control and monitoring of remotely located annunciators and I/O modules.
 - k. Programmable DACT for per Point Reporting.
 - l. Include Telguard TG-7FP communicator for cellular alarm communications for FACP to use as sole path to deliver alarm messages. These will be transmitted over digital cellular network to Telguard Communication Center (TCC).
2. Provide a Fire Alarm Control Panel with a locally audible device that will sound during Alarm, Trouble, or Supervisory conditions. This audible device shall sound differently during each condition to distinguish one condition from another without having to view the Fire Alarm Control Panel display. This audible device shall also sound differently during each key press to provide an audible feedback (chirp) to ensure that the key has been pressed properly.
 3. To conserve power, when the display has not been touched and no new system status has occurred for 60 seconds, the back light shall dim to 20% of normal brightness. If there is no activity in the system (System is Normal), the standby screen shall display the current time and date to verify proper operation. If an event occurs or the screen is touched, the backlight shall return to full intensity.
 4. Provide a display that supports both upper and lower case letters. Lowercase letters will be used for soft key titles and prompting the user. Uppercase letters will be used for system status information. A cursor will be visible when entering information.
 5. Module level ground fault searching shall be provided to assist installation and service personnel by locating and isolating modules with grounded wiring.
 6. Cabinet: Lockable steel enclosure. Arrange unit so all operations required for testing or for normal care and maintenance of the system are performed from the front of the enclosure.
 7. Alphanumeric Display and System Controls: The user interface shall be a 4.3” diagonal color touch screen LCD with separate status LEDs for Alarm (red), Priority 2 (red), Supervisory (yellow), Trouble (yellow), Alarm Silenced (yellow) and AC Power (green).
 - a. The Touch Screen LCD display shall indicate alarm, supervisory, and component status messages and shall include capability for entering and executing control commands through a convenient and detailed operator information display.
 - b. The display shall simultaneously display two individual conditions including all information associated for the conditions with the ability to scroll up or down for display of additional system conditions. Alarms, Priority 2, Supervisory, and Troubles shall be able to be selected and displayed individually.
 - c. The operator display shall utilize a logical, menu-driven touch screen display with password access control. All system operator functions shall be available through this display. Display shall support dual language selection, including Unicode character language sets.
 - d. Alarm, Priority 2, Supervisory, Trouble, and Alarm Silenced conditions shall be indicated by dedicated LED’s and a tone-alert audible indication. Each condition will cause the display to present a dedicated acknowledge push-button “switch” that shall silence the tone-alert but shall leave the LED on until all conditions in that category are restored to normal.

Integrus Project No. 22281.00

- e. Three programmable control switches with status LED's and provisions for custom labeling shall be provided as part of the display. The display menu shall provide a lamp test feature that when selected, shall activate the panel LED's for 5 seconds. Dual-color LED's shall blink alternately.
- f. The display shall support a custom background image that can be displayed on each of the remote color touch screen annunciators when status is normal. File types supported shall be JPG, BMP, GIF, and PNG. Image type is to be JPG, and minimum image size shall be 480 x 240, with a file size limit of 100 kb.
- g. Password access shall provide for; System Information, Panel Setup, Alarm and Trouble Logs, Reset, Diagnostics, setting User Access Level, Lamp Test and Reports Menu. User password access shall be programmable.
- h. Alarm and Trouble History Logs (up to 1000 entries for each, 2000 total events) shall be available for viewing from the display or available to be downloaded to USB drive where it can be inserted into a PC for printing or saved to another PC storage device for archiving and record keeping.

B. Fire Alarm Control Panel Operation

1. Display a "SYSTEM NORMAL" message and the current time and date under normal conditions on the display on the front of the Fire Alarm Control Panel.
2. Flash the appropriate LED (Alarm, Supervisory, or Trouble) when an abnormal condition is detected. Pulse the Fire Alarm Control Panel locally audible signal for alarm conditions and sound steadily for trouble and supervisory conditions.
3. Allow acknowledgment of alarm, supervisory or trouble conditions by pressing separate acknowledge buttons. Allow the points to be viewed without acknowledging them. If the acknowledge functions are passcode protected, indicate with a message on the Fire Alarm Control Panel display insufficient privilege to acknowledge such conditions. If the acknowledge functions are not passcode protected or the user has sufficient privilege to acknowledge, display a message informing the user that the condition has been acknowledged.
4. Display the following information on an 80-character LCD display relative to the abnormal condition of a point in the system:
 - a. Custom location label (40 characters minimum)
 - b. Type of device (i.e. smoke, pull station, water flow)
 - c. Point Status (i.e. alarm, trouble)
5. Display these three characteristics relative to an abnormal condition of a point simultaneously.
6. After all the points have been acknowledged, allow the appropriate LEDs to glow steady and the Fire Alarm Control Panel audible signal to be silenced. Display the total number of alarms, supervisory, and trouble conditions along with a prompt to review each list chronologically. Indicate the end of the list.
7. Provide a dedicated supervisory service LED and a dedicated supervisory service acknowledge switch on the Fire Alarm Control Panel.
 - a. Activate the system supervisory audible signal and illuminate the supervisory LED upon activation of any standpipe or sprinkler valve tamper switch.
 - b. Provide differentiation between valve tamper activation, opens, and grounds on fire alarm initiating circuit wiring.
 - c. Upon activation of the Supervisory Service Acknowledge button, silence the supervisory audible signal while maintaining the Supervisory Service LED "ON"

Integrus Project No. 22281.00

- to indicate the tamper contact is still in the off-normal state.
 - d. Upon restoration of the valve to a normal position, pulse the Supervisory Service audible signal and extinguish the Supervisory Service LED to indicate restoration to normal position.
 - e. Fire Alarm Control Panel shall provide for continuous, real-time status monitoring and display of any selected point.
- 8. Alarm Silencing
 - a. Silence all audible signals upon activation of the “Alarm Silence” button. Continue to flash visual signals until the fire alarm system is reset.
 - b. Override signal silence in the alarm silence inhibit mode.
- 9. System Reset
 - a. Activating the “System Reset” button will return the system to its normal state after an alarm condition has been remedied. Step the user through the reset process with simple English language messages on the Fire Alarm Control Panel display. Provide user assurance messages outlining the sequential steps (i.e. “IN PROGRESS”, “RESET COMPLETED”, and “SYSTEM NORMAL”) as they occur, should all alarm conditions be cleared.
 - b. Maintain the system in an abnormal state should an alarm condition continue to exist. Prohibit reset of system control relays. Maintain the appropriate LED in the on state. Indicate failure to reset with a pulse of the Fire Alarm Control Panel locally audible signal. Display the total number of alarms and troubles present in the system along with a prompting to review the points. These points will not require acknowledgment if they were previously acknowledged.
 - c. Ignore “System Reset” key press while the alarm silence inhibit function is active. Display “RESET INHIBITED” for a short time to indicate the “System Reset” action was not taken. Display a “RESET NO LONGER INHIBITED” message when the inhibit function times out.
 - d. Permit restarting of air handler units that have been shut down when “System Reset” is initiated. Sequencing of air handler start-up shall be by Division 23.
- 10. Function Keys
 - a. Provide additional function keys to access status data for all system points. Include Disable/Enable Status, Verification Tallies of Initiating Devices, Acknowledge Status, etc.
- 11. History Logging
 - a. Provide an Fire Alarm Control Panel with the ability to store a minimum of six hundred (600) events in an alarm log and a minimum of six hundred (600) events in a separate trouble log, in addition to any required printer output. Store the logs of these events in a battery protected random access memory (RAM).
- 12. Walk Test with History Logging
 - a. Provide a system capable of being tested by one person. While in testing mode, silently log as an alarm condition in the historical data file the alarm activation of an initiating device circuit. Have the Fire Alarm Control Panel automatically reset itself after logging of the alarm.
 - b. Activate the “Walk Test” mode of the system upon the actuation of the “enable walk test” program at the Fire Alarm Control Panel. Cause the following to

occur after doing so:

- 1) Bypass the central monitoring connection
 - c. Bypass control relay functions
 - d. Show a trouble condition on the Fire Alarm Control Panel
 - e. Silently log as a trouble condition in the historical data file the momentary disconnection of an initiating or indicating device circuit. Have the Fire Alarm Control Panel automatically reset itself after logging of the trouble condition.
 - f. Revert the Fire Alarm Control Panel to the normal operations mode automatically when the walk test feature has been on for an inappropriate amount of time. This amount of time shall be programmable.
 - g. Provide up to eight (8) separate testing groups whereby one group of points may be in a testing mode and the other (non-testing) groups may be active and operate as programmed per normal system operation. After testing is considered complete, testing data may be retrieved from the system in chronological order to ensure device/circuit activation.
 - h. Have the Fire Alarm Control Panel perform all standard programmed alarm sequences should an alarm condition occur from an active point, not in walk test mode.
13. System Trouble Reminder
- a. If the trouble audible signal is silenced, resound it, at pre-programmed time intervals, to act as a reminder that the fire alarm system is not 100% operational. Both the time interval and the trouble reminder signal shall be programmable to suit the Owner's application.
14. Access Levels
- a. Provide a minimum of four (4) access levels. Passcodes may consist of up to ten (10) digits. Passcode changes may only be made by authorized personnel.
 - b. In order to maintain security when entering a passcode, the digits entered will not be displayed. All key presses will be acknowledged by local audible momentary tones.
 - c. Display "ACCESS GRANTED" when a correct passcode is entered. The new access level shall be in effect until the operator leaves the keypad inactive for ten (10) minutes or manually log out.
 - d. Notify the operator with a message should an invalid code be entered. Allow the operator up to three chances to enter a valid code. After three (3) unsuccessful attempts, display and "ACCESS DENIED" message.
 - e. Access to a level will only allow the operator to perform all actions within that level and all actions of lower levels, not higher levels.
 - f. Provide access levels for the following keys/switches:
 - 1) Alarm Silence-Level 1
 - 2) System Reset-Level 1
 - 3) Set Time/Date-Level 3
 - 4) Manual Control-Level 3
 - 5) On/Off/Auto Control-Level 3
 - 6) Disable/Enable-Level 3
 - 7) Clear Historical Alarm Log-Level 3
 - 8) Clear Historical Trouble Log-Level 3

Integrus Project No. 22281.00

- 9) Walk Test-Level 3
- 10) Change Alarm Verification-Level 3

- g. Activating acknowledge keys to acknowledge points requires privileged access. Display an error message if the operator presses an acknowledge key with insufficient access. The points will scroll with each key press to view the points on the list, but the points will not get acknowledged in the database.

15. Smoke Sensor Operation

- a. Provide photoelectric smoke sensors that are smoke density measuring devices having no self-contained alarm set point (fixed threshold). Determine the alarm decision for each at the Fire Alarm Control Panel. The Fire Alarm Control Panel will determine the condition of each sensor by comparing the sensor value to the stored values.
- b. Maintain a moving average of the sensor's smoke chamber value to automatically compensate (move the threshold) for dust and dirty conditions that could affect detection operations in the Fire Alarm Control Panel. Automatically maintain constant smoke obscuration sensitivity for each sensor (via the floating threshold) by compensating, in the Fire Alarm Control Panel, for environmental factors at the individual sensor's location. Have the smoke obscuration sensitivity be adjustable to with 0.3% of either limit of the UL window (0.5% to 4.0%) to compensate for any environment.
- c. Automatically indicate at the Fire Alarm Control Panel when an individual sensor needs cleaning. Audibly and visually indicate a "DIRTY SENSOR" trouble condition for the individual sensor when a sensor's average value reaches a predetermined value for the individual sensor. Additionally, the LED on the sensor base shall glow steady giving a visible indication at the sensor location. Automatically indicate an "EXCESSIVELY DIRTY SENSOR" trouble condition at the Fire Alarm Control Panel if a "DIRTY SENSOR" is left unattended, and its average value increases to a second predetermined value for the individual detector. To prevent false alarms, these "DIRTY" conditions will in no way decrease the amount of smoke obscuration necessary for system activation.
- d. With entry of an appropriate passcode the Fire Alarm Control Panel can be commanded to print and/or entry into the trouble historical log a list there of any sensors that are within 10 analog units of causing a "DIRTY SENSOR" trouble. The "ALMOST DIRTY SENSOR" log shall list only the devices with the above condition, not a list of the analog value of every sensor.
- e. The Fire Alarm Control Panel shall perform an automatic self-test routine, which functionally tests the electronics of each sensor at least once every minute to insure the accuracy of the values being transmitted to the Fire Alarm Control Panel. Any sensor failing this test shall cause a "Self-Test Abnormal" trouble condition to be displayed for that device at the Fire Alarm Control Panel.
- f. Provide manual access to the following information for each detector to an operator at the Fire Alarm Control Panel that has a proper access level:
 - 1) primary status
 - 2) device type
 - 3) present average value
 - 4) present sensitivity selected
 - 5) peak detection values
 - 6) detector range (normal, dirty, etc.)

Integrus Project No. 22281.00

- g. Values shall be in “percent of smoke obscuration” format so that the operator requires no interpretation.
 - h. Provide manual control of the following function for each detector to an operator at the Fire Alarm Control Panel that has a proper access level:
 - 1) clear peak detection values
 - 2) enable or disable the point
 - 3) clear verification tally
 - 4) control a sensor’s relay driver output
 - i. Provide the capability to program the Fire Alarm Control Panel to automatically change the sensitivity settings of each sensor based on time-of-day and day-of-week; e.g. for a sensor to be sensitive during unoccupied times and less sensitive during occupied periods. Provide seven (7) sensitivity settings for each sensor.
 - j. Provide the Fire Alarm Control Panel with the capability of being programmed for a pre-alarm or two-stage function. This function allows an indication when a sensor reaches programmed percentage of its selected smoke obscuration threshold.
 - k. Support, within a single Fire Alarm Control Panel, up to 2000 individually identified sensors as well as conventional initiating device and indicating appliance circuits.
 - l. Provide the Fire Alarm Control Panel with the capability of performing alarm verification as described in this section. For increased smoke detection assurances, provide all individually addressed smoke sensors (except those listed below) with alarm verification:
 - m. Initiate the Alarm Verification operation upon the activation of any system smoke sensor. Process the alarm as described previously if, within one (1) minute after resetting, a second alarm is reported from the same or any other smoke sensor or initiating device. Resume normal operation of the system if no second alarm occurs within one (1) minute. Alarm Verification is for smoke sensor alarms only. Process all other activated initiating devices immediately. The alarm verification operation is to be selectable by device. ONLY initiate the receipt of a verified smoke alarm condition. Provide the Fire Alarm Control Panel the capability to display the number of times a smoke sensor has gone into Alarm Verification mode.
 - n. Provide programmable alarm verification by individual device or by at least eight (8) groups.
16. Auxiliary Bypass Keys
- a. Provide five (5) auxiliary bypass keys on the Fire Alarm Control Panel. Activation of these keypads to be password protected. When activated, the normal alarm sequence operations of the programmed devices/control functions will not occur. Upon activation of these keys, a trouble condition will be present on the Fire Alarm Control Panel. Indicate on the Fire Alarm Control Panel one (1) trouble condition for each signal circuit/type of device/control function that is affected by the bypass.
 - b. Program the keys to accommodate bypassing the following devices/control functions in the order from top to bottom:
 - 1) Air Handling Unit Shutdown and Fire/smoke dampers
 - 2) Audible and Visual Signaling Devices

Integrus Project No. 22281.00

3) City Reporting

17. Device Bypass Groups

- a. Provide a Fire Alarm Control Panel with the capability of supporting separate lists of device groups whereby particular groups of devices may be bypassed and the rest of the system will remain active and operate as programmed per normal system operation. Program groups to operate upon activation of a single point, negating the need to deactivate/reactive each individual device in the group.

18. RS-232-C Output

- a. The Fire Alarm Control Panel shall be capable of operating remote CRT's and/or printers. The output shall be paralleled ASCII from an EIA RS-232C connection with an adjustable baud rate of 300, 1200, 2400, 4800, and 9600 to allow use of any commonly available CRT or printer.

C. Remote Annunciator(s)

1. Provide LCD type, remote annunciator(s) with two lines of 40 characters each, and four programmable control switches. Transmit information from the Fire Alarm Control Panel to the remote annunciator(s) over one twisted, shielded pair. Provide the remote annunciator(s) with 24VDC power. Provide Simplex #4603-9101. Provide microphone at main building entry remote annunciator location.

D. Non-Addressable Peripheral Devices

1. Fire Alarm Auxiliary Relay #2088-9008

- a. Provide a single pole, double throw relay switch for loads up to 120VAC to 10A. Coil input shall accept 24VDC/DC, 115VAC/DC, or 230VAC/DC and have internal blocking diodes to allow for operation/supervision via a style Y signal circuit. Provide power to this relay from the 24VDC power from the fire alarm control panel that controls the relay if a Relay IAM is used, or operate relay directly from a style Y signal circuit.
- b. Provide relays for interfacing the fire alarm system with the following equipment:
 - 1) Air handling system motor control centers
 - 2) Fire/smoke dampers
- c. Locate relays within 3 feet of equipment/circuit served by the relay. Route circuits from controlled equipment and fire alarm device (signal circuit or ZAM) into relay box. Orient relay so any 120VAC (or greater) circuit does not cross the 24VDC fire alarm circuit inside the relay box. Route ONLY 24VDC into the fire alarm device boxes. Identify breaker panel and breaker number supplying power to the relay.
- d. Provide a toggle switch within 3 feet of each fire/smoke damper to disconnect power for testing and maintenance. Coordinate with Division 23.
- e. Provide wiring from Fire Alarm auxiliary relays to the associated VFD or motor starter/controller for run inhibit.

Integrus Project No. 22281.00

E. ADDRESSABLE DEVICE TYPES

1. General: The system Fire Alarm Control Panel, over its two-wire multi-drop channel, must be capable of communicating with the types of addressable devices specified below in any combination up to the full point capacity of the loop.
2. Addressable Sensor Bases-#4098-9792
 - a. Provide sensor bases containing an integral LED that will flash each time the Fire Alarm Control Panel (once every 4 seconds) scans it. Turn the sensor base LED "ON" when the Fire Alarm Control Panel determines that a sensor is in the alarm or a trouble state. Sensor bases that do not provide a visible indication of an abnormal condition at the sensor location will not be acceptable.
3. TrueAlarm Smoke Sensors #4098-9714
 - a. Provide photoelectric type, addressable smoke sensors that communicate actual smoke chamber values to the system Fire Alarm Control Panel. Provide solid state, photoelectric type sensors containing no radioactive material. Use a pulsed infrared LED light source and be sealed against rear airflow entry for sensor operation.
4. Activate the supervisory function of the fire alarm detection loop upon removal of the detector head and cause a trouble signal at the Fire Alarm Control Panel. Provide a plug-in sensor unit that mounts to a twist-lock base.
5. Provide sensors with a UL #268 listing and documented as compatible with the control equipment to which they are connected. Provide sensors listed for both ceiling and wall mount applications. Provide sensors containing a magnetically actuated test switch to provide for easy alarm testing at the sensor location.
6. Scan each sensor by the Fire Alarm Control Panel for its type identification to prevent inadvertent substitution of another sensor type. Permit continued operation of the Fire Alarm Control Panel but initiate a "Wrong Device" trouble condition until the proper type is installed or the programmed sensor type is changed. The Fire Alarm Control Panel shall operate the "Wrong Device" as a default sensitivity for that type of device to provide for initiating and alarm from that device.
7. Provide sensors with electronics immune to false alarms caused by EMI and RFI.
8. Provide sensors that fit into a base that is common with both the heat detector and photoelectric type detector and non-addressable bases capable of being monitored by a Zone Adapter Module (ZAM) or Individual Addressable Module (IAM). Provide sensors compatible with other addressable manual station, and addressable Zone Adapter Modules on the same circuit.
9. Addressable Thermal Detector Head- #4098-9733
 - a. Provide UL listed combination rate-or-rise and fixed temperature type, automatically restorable thermal sensing heads. Each device shall be programmable for rate-of-rise rates of 15 or 20 degrees F per minute and programmable for fixed temperatures of 135 degrees F or 155 degrees F. Activate the supervisory function of the fire alarm detection loop upon removal the heat sensor head and cause a trouble signal at the Fire Alarm Control Panel.
 - b. The Fire Alarm Control Panel shall be able to utilize the heat detector as a temperature monitor with direct temperature redundant and 1 degree Fahrenheit resolution.
 - c. Provide a plug-in heat sensor that mounts to a twist-lock base. Provide sensors listed for both ceiling and wall mount applications.

Integrus Project No. 22281.00

- d. Provide heat sensor units with a UL#268 listing and documented as compatible with the control equipment to which they are connected.
 - e. Scan each sensor by the Fire Alarm Control Panel for its type identification to prevent inadvertent substitution of another sensor type. Permit continued operation of the Fire Alarm Control Panel but initiate a “Wrong Device” trouble condition until the proper type is installed or the programmed sensor type is changed. The Fire Alarm Control Panel shall operate the “Wrong Device” as a default sensitivity for that type of device to provide for initiating a alarm from that device.
 - f. Provide sensors with electronic immune to false alarms cause by EMI and RFI.
10. Addressable Linear Heat Detection-SafeCable System
- a. Provide SafeCable linear heat detection system as called for on the plans to include; addressable module (Class B monitor ZAM # 4090-9101), leader wires (Min. 18 AWG) in conduit, standard junction box (Part No. # TC1000), end of line resistor junction box (ELR-Box), ThermoCable, and accessories.
 - b. ThermoCable shall be installed in accordance with manufacturer’s instructions.
 - c. ThermoCable shall be supported utilizing installation hardware as identified in SafeCable Installation and Operation Manual (Publication#: 32502 – Rev. 2, 7/07) and depending on the location cable is to be installed.
11. Addressable Pull Stations-Model #4099-9006
- a. Provide double action, push-pull type, and addressable pull stations containing electronics that communicate the station’s status (alarm, normal) to the Fire Alarm Control Panel over two wires which also provide power to the pull station. Set the address for the device on the station itself. Provide pull stations manufactured from high impact red Lexan with raised lettering painted white with a UL listing for the device intended purpose.
 - b. Provide pull stations with a “front” that is hinged to a back plate assembly that will mechanically latch upon operation and remain so until manually reset by opening with a key common to all pull stations. Provide pull stations with Simplex “B” key lockset. Stations which use Allen wrenches special tools to reset are NOT acceptable.
 - c. Provide an addressable pull station capable of field programming its “address location on an addressable signaling line circuit. Pull station must be directly addressable. Monitoring of a conventional pull station by an addressable module is not acceptable.
 - d. There will be no limit to the number of stations that may be activated or “in alarm” simultaneously.
12. Visual Flashing Lamps – Simplex 49VO series TrueAlert, addressable series.
- a. Provide, UL Listed, entirely solid state, visual-only indicating appliances comprised of a synchronized xenon flash tube, compatible with ADA requirements for the occupancy in which the device are installed. Synchronize all strobes to flash simultaneously. Strobes shall be sized for the area as prescribed by NFPA 72.
13. Addressable Notification Appliances
- a. Monitoring: The FACU shall monitor individual addressable notification appliances for status, condition, type of appliance, and configured appliance

Integrus Project No. 22281.00

settings. A fault in any individual appliance shall automatically report a trouble condition on the FACU.

- b. Individual Appliance Custom Label: Each addressable appliance shall have its own 40-character custom label to identify the location of the appliance and to aid in troubleshooting fault conditions.
- c. Individual Appliance Information Display:
 - 1) The FACU shall be capable of calling up detailed information for each addressable appliance including the appliance location, status, condition, type of appliance, and configured appliance settings.
 - 2) Notification appliances that are not capable of communicating and reporting their individual location, status, condition, type of appliance, and configured appliance settings to the FACU shall not be accepted.
- d. Programmable Appliance Settings:
 - 1) The selectable operation of each addressable notification appliance shall be capable of being configured by the FACU without having to replace or remove the appliance from the wall or ceiling.
 - 2) Programmable appliance settings for applicable addressable notification appliances shall include:
 - (1) Operation:
 - (2) General Evac
 - (3) Alert
 - (4) User Defined
 - (5) Style:
 - (6) Indoor
 - (7) UL Weatherproof
 - (8) Candela Selections:
 - (9) Indoor: 15, 30, 75, 110, 135, or 185 cd (per UL1971)
 - (10) UL Weatherproof: 15 or 75 cd (per UL1971), and 75 or 185 cd (per UL1638)
 - (11) Horn Volume:
 - (12) Hi
 - (13) Low
 - (14) Horn Cadence:
 - (15) Temporal 3
- e. Programmable Notification Zones:
 - 1) Changing the notification zone assigned to a notification appliance shall be configurable by the FACU and shall not require additional circuits or wiring.
 - 2) Where required, notification appliances for purposes not related to fire alarm shall be capable of:
 - 3) being connected to the same circuit as the fire alarm appliances, and
 - 4) being individually configured for their intended use without requiring additional circuits or wiring.
- f. Addressable Notification Appliance Automated Self-Test:
 - 1) The fire alarm control unit shall be capable of performing a UL verified automated functional self-test of all self-test notification appliances and

- meet the requirements in NFPA 72,14.2.8 Automated Testing and Table 14.4.3.2 testing requirements.
- 2) Test results for each self-test notification appliance shall be stored in non-volatile memory at the fire alarm control unit.
 - 3) The fire alarm control unit shall be capable of running a functional automated test for all self-test notification appliances in a general alarm group or for all self-test appliances within a specific notification zone.
 - 4) The duration required to complete the automated functional test for all self-test notification appliances shall be accomplished in 2 minutes or less.
 - 5) The automated test results for all self-test notification appliances shall be available from the fire alarm control unit within 4 minutes from the start of the test.
 - 6) If any notification appliance fails its automated functional self-test an audible and visual trouble signal shall be annunciated at the fire alarm control unit.
 - 7) The self-test trouble signal shall be a latching trouble signal which requires manual restoration to normal.
- g. Addressable Notification Appliance Reports:
- 1) The fire alarm control unit shall maintain configuration and test data for each self-test addressable notification appliance.
 - 2) The fire alarm control unit shall be capable of generating configuration, self-test, and deficiency reports, that can be viewed through the fire alarm control unit user interface or download to a USB drive where they can be printed on a PC printer.
 - 3) At minimum, the configuration report shall include the following information applicable for each addressable notification appliance:
 - (1) Point ID
 - (2) Custom Label
 - (3) Device Type
 - (4) Candela Setting
 - 4) At minimum, the self-test report shall include the following information applicable for each self-test notification appliance:
 - (1) Point ID
 - (2) Custom Label
 - (3) Time and Date of last test
 - (4) Pass / Fail results of last visual test
 - (5) Pass / Fail results of last audible test
 - 5) The fire alarm control unit shall also be capable of providing a deficiency report that includes a list of all self-test notification appliances that have failed self-test.
- h. Magnet test: When the control unit is in diagnostic mode, the appliances shall be capable of being tested with a magnet. The magnet diagnostics shall:
- 1) Pulse the appliance LED to indicate appliance address, and
 - 2) briefly sound the individual horn to confirm the audible appliance operation, and
 - 3) briefly flash the individual strobe to confirm visible appliance operation.

Integrus Project No. 22281.00

14. Individual Adapter Module (IAM), Simplex #4090-9001

- a. Use Individual Adapter Modules for monitoring water flow switches, valve tamper switches and (if called for) non-addressable detectors.
- b. Use IAMs for conventional 2-wire detection devices and/or contact devices monitored with Style Y monitoring. These IAMs will monitor and communicate the device/zone's status (normal, alarm, and trouble) to the Fire Alarm Control Panel.
- c. Uniquely identify IAMs at the Fire Alarm Control Panel. Transmit device identification to the Fire Alarm Control Panel for processing according to the program instructions. Should an IAM become non-operational, tampered with, or removed, a discrete trouble signal, unique to the device, shall be transmitted to, and annunciated at, the Fire Alarm Control Panel.
- d. Provide the capability of programming IAMs for their "address" location on the addressable device signaling line circuit. IAMs are to be compatible with addressable manual stations and addressable detectors on the same addressable circuit.
- e. Supervise the IAM for all trouble conditions. Indicate the type of trouble condition (open, short, device missing/failed) at the Fire Alarm Control Panel. Should an IAM fail, it will not hinder the operation of other system devices.

15. Zone Adapter Module (ZAM)

Monitor ZAM #4090-9101
Relay IAM #4090-9002
4-20ma AMZ #4190-9050

Provide three (3) types of devices:

Type 1: Monitor ZAM

Type 2: Relay IAM

Type 3: 4-20 ma AMZ (analog monitor ZAM)

- a. Use Type 1 ZAMs for monitoring conventional 2-wire detection devices and/or contact device monitoring with Style D monitoring. Use these types of ZAMs to monitor and communicate a zone's status (normal, alarm, and trouble) to the Fire Alarm Control Panel.
- b. Use Type 2 Relay IAMs as addressable control devices for air handler unit shut down, elevator recall, and door holder control via #2088-9008 relays. These relay IAMs will communicate with the Fire Alarm Control Panel and will receive a command to transfer the relay from the Fire Alarm Control Panel. Provide supervision of the 24 VDC riser feeding these Relay IAMs when connected to non-failsafe devices.
- c. Use Type 3 ZAMs for monitoring analog processes that provide a 4-20 ma analog current loop output.
- d. Uniquely identify devices at the Fire Alarm Control Panel. Transmit device identification to the Fire Alarm Control Panel for processing according to the program instructions. Should the ZAM become non-operational, tampered with, or removed, transmit a discrete trouble signal, unique to the device, to the Fire Alarm Control Panel.
- e. Provide the capability to program the ZAMs or IAMs for their "address" location

Integrus Project No. 22281.00

on the addressable device signaling line circuit. Provide ZAMs compatible with addressable manual stations and addressable detectors on the same addressable circuit.

- f. Supervise the ZAM for all trouble conditions. Indicate at the Fire Alarm Control Panel the type of trouble condition (open, short, device missing/failed). Should a ZAM fail, it will not hinder the operation of the other devices.

F. EQUIPMENT ENCLOSURES

1. Provide cabinet (s) of sufficient size to accommodate the fire alarm equipment.
2. Standard NEMA enclosure with glass front cover with “knock outs” for easy conduit access and flexibility of installation. Provide Simplex “B” keys to all equipment enclosures common to the fire alarm system.
3. Provide a fire alarm wiring terminal cabinet on all floors. Label all conductors and terminals.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Wiring and conduit arrangement shall be supplied by vendor in shop drawings. Wire installed must be approved for “Power Limited” fire alarm use under Article 760 of the National Electrical Code.
 1. Wiring shall be installed in conduit.
 2. Splicing of conductors with wire nuts is prohibited. Where splicing is required, it shall be done on an appropriately labeled terminal strip in a NEMA enclosure.
- B. Complete conduit pathway system with labeled pull strings shall be provided by the Div. 26 contractor in accordance with the Simplex system vendor supplied shop drawings and these specifications. Simplex system vendor shall perform required testing of the installed system.
- C. The wiring network shall be tested and verified with a Simplex TrueStart test meter prior to terminating any wiring within the fire alarm control panel or installing any of the smoke heads in their bases. Provide one such meter for this purpose. The meter shall become the property of CWU after testing has been completed.
- D. Upon completion of the installation and after testing and demonstration, the Simplex System Vendor shall submit to the Architect a signed statement substantially in the form as follows:
 1. The undersigned having been engaged as the Simplex System Vendor for the CWU Dining Warehouse Fire Alarm System project confirms that the fire alarm equipment was installed in accordance with the plans and specifications and in accordance with the wiring diagrams and directions provided to us by the manufacturer and that all wire installed is approved for “Power Limited Fire Alarm” use under Article 760 of the National Electrical Code.
 2. It has been completely tested and demonstrated to the Owner’s representative and accepted by the Code Enforcing Authority having jurisdiction.”
- E. Pull Stations

Integrus Project No. 22281.00

1. Mount on recessed (finished areas) or surface (unfinished, mechanical areas) mounted box.

F. Signals

1. Install audible and visible notifiers as shown on the plans.
2. Install audio and visual signals on common housing.
3. Identify wires with numbered labels in junction boxes, device boxes, main panels.
4. Numbers shall be consistent with as-built drawings.

G. Detectors

1. Ceiling Mounting Detectors
 - a. Mount detector bases on flush mounted outlet boxes.
 - b. Mount detector on bases after building interior finishes have been completed and cleaned.

H. Fire Alarm Terminal Cabinets

1. Surface mounted terminal cabinets on wall with top 60" above the finish floor.

I. Devices installed above false ceilings or otherwise usually obstructed from corridor floor.

1. Provide red sticker on the ceiling T-bar.
2. Install device address label on red sticker.

J. Furnish and install Isolated Loop Circuit Protectors (ICLP) on all communication, IDNet II SCU/RCU and signaling lines, including shields on all circuits that extend beyond the building by any means. The ICLP shall be located as close as practicable to the point at which the circuits enter or leave a building. The ICLP grounding conductor shall be #12 AWG wire having a maximum length of 28 feet in as straight a line as practicable and connected to the building unified ground per Article 800-40 of the NEC.

3.2 TESTING

- A. System final acceptance is subject to wiring inspection (by electrical inspector), supervisory tests and proper functioning of components. This inspection shall be conducted before the completed system test.
- B. The completed system shall be subjected to one required acceptance test. The test shall be witnessed by the owner's representative and the AHJ. This test shall be completed after the system has been on line for minimum of seven (7) days. Should the results not be satisfactory to either the CWU representative or the AHJ, then corrections will be made and a retest will be required at the Simplex System Vendor's expense. A Simplex representative and Simplex Vendor supplied fire alarm technician shall be present for all testing. The fire alarm technician shall conduct the test. Should a commissioning agent be involved with the project, and a second test is required for his benefit, it shall be included in the base price. At acceptance testing a report shall be required from the monitoring company. Inspections must be scheduled at least two weeks in advance
- C. The test shall be in accordance with a written Acceptance Test Procedure (ATP) to demonstrate and certify proper system operation. The ATP shall be prepared by the Simplex

Integrus Project No. 22281.00

System Vendor and submitted to the Owner for approval six (6) weeks or more prior to the performance of the ATP. As a minimum provide a detailed method of testing of the following to demonstrate to the Owner that the system functions as intended by the design:

1. Fan and damper control
2. Transfer to battery backup

3.3 SERVICE

- A. The system vendor must employ factory trained technicians and maintain a service organization within 200 miles of the project and be capable of responding to service calls within 24 hours.
- B. This organization must have a minimum of 5 years experience in servicing systems of the type specified above.

3.4 TRAINING

- A. The Simplex System Vendor shall, after two weeks (minimum) provide written notification to CWU to conduct a training session during which all maintenance and operational aspects of the system (including training in the use of programming software system troubleshooting) will be described and demonstrated to personnel selected by the Owner. The sessions shall be conducted by a manufacturer's representative thoroughly familiar with the characteristics of the installed system.
- B. Required Instruction Time: Provide a total of up to four hours of instruction time during regular work hours on such date and time as are selected by CWU. All training provided for under this requirement shall be considered to take place at a single session.

3.5 OTHER ITEMS

- A. At the completion of the installation when the as-built drawings have been submitted and accepted, the Simplex System Vendor shall submit a letter to the CWU certifying that the fire alarm system is completely functional and conforms to all applicable codes, ordinances, and requirements of the contract.

3.6 PROJECT COMPLETION

- A. Project completion and payment will be based on completing of the following.
 1. Completion and approval of acceptance tests.
 2. Completion of punch list items.
 3. Delivery and acceptance of the as-built drawings and operation and maintenance manuals.
 4. Cleanup of installation site to the satisfaction of the Owner's Representative.

3.7 EQUIPMENT MANUFACTURER'S AND CONTRACTOR'S PARTICIPATION IN PROJECT COMMISSIONING

- A. Assist in developing the final functional test procedures.

CWU Dining Service
Warehouse Contract No.
15937.02

FIRE ALARM SYSTEMS (SIMPLEX)
SECTION 283110

Integrus Project No. 22281.00

- B. Provide authorized startup technician to perform functional performance.

PROVIDE BUILDING COMMISSIONING SUPPORT

END OF SECTION 283110

