PROJECT MANUAL

For

TCT WILSON HALL RENOVATION DESIGN
TRI-COUNTY TECHNICAL COLLEGE
Pendleton, South Carolina

H59-N903-PD

January 22, 2016
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**PROJECT NUMBER:** H59-D865-PD

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SE-655
INVITATION FOR CONSTRUCTION SERVICES
INDEFINITE DELIVERY CONTRACT

PROJECT NAME: TCTC General Construction IDC
PROJECT NUMBER: H59-D865-PD - (H59-N903-PD)
DESCRIPTION OF CONSTRUCTION SERVICES (Include Contractor License category/subcategory): General construction and renovations - License Classification BD5
PROJECT LOCATION: Tri County Technical College Campus- Anderson, Pickens and Oconee Counties

BID SECURITY REQUIRED? Yes ☒ No ☐

BIDDING DOCUMENTS/PLANS MAY BE OBTAINED FROM:
http://www.tctc.edu/About_TCTC/PurchasingSolicitation/Solicitation.xml

PLAN DEPOSIT AMOUNT: $500.00 IS DEPOSIT REFUNDABLE Yes ☐ No ☐ NA ☒

Bidders must obtain Bidding Documents/Plans from the above listed source(s) to be listed as an official plan holder. Only those Bidding Documents/Plans obtained from the above listed source(s) are official. Bidders that rely on copies of Bidding Documents/Plans obtained from any other source do so at their own risk. All written communications with official plan holders & bidders WILL ☒ WILL NOT ☐ be via email or website posting.

IN ADDITION TO THE ABOVE OFFICIAL SOURCE(S), BIDDING DOCUMENTS/PLANS ARE ALSO AVAILABLE AT:

AGENCY: Tri County Technical College
AGENCY PROJECT COORDINATOR: Richard Macbeth
ADDRESS: Street/PO Box: PO Box 587
City: Pendleton State: SC ZIP: 29670-
EMAIL: rmacbeth@tctc.edu
TELEPHONE: 864-646-3067 FAX: 864-646-1891

PRE-BID CONFERENCE: Yes ☒ No ☐ MANDATORY ATTENDANCE: Yes ☐ No ☒
PRE-BID DATE: 4/7/16 TIME: 1400 PLACE: TCTC Physical Plant Conf Room
BID CLOSING DATE: 4/21/16 TIME: 1400 PLACE: TCTC Physical Plant Conf Room

BID DELIVERY ADDRESSES:
HAND-DELIVERY:
Attn: Richard Macbeth
TCTC Physical Plant
7900 Hwy 76, Pendleton SC 29670

MAIL SERVICE:
Attn: Richard Macbeth
PO Box 587
Pendleton SC 29670

APPROVED BY: [Signature] (OSE Project Manager) DATE: 3/31/16
SE-656
INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION SERVICES INDEFINITE DELIVERY CONTRACT

AGENCY: Tri County Technical College

PROJECT NUMBER: H59-D865-PD

PROJECT NAME: TCTC General Construction IDC

PROJECT LOCATION: TCTC Campus Anderson, Pickens & Oconee Counties

DESCRIPTION OF CONSTRUCTION SERVICES (Include Contractor License category/subcategory): General Construction and renovations - Classification BD5

The above named Agency hereby solicits bids for the Construction Services Indefinite Delivery Contract shown above. The Invitation for Bids includes the advertisement (SE-655), bid form, Notice of Intent to Award Indefinite Delivery Contract (SE-670), Construction Services Indefinite Delivery Contract (SE-680), General Conditions to Construction Services Indefinite Delivery Contract (SE-685), drawings and specifications (if applicable), and all addenda issued prior to bid opening, all of which are collectively referred to herein as the Solicitation Documents.

The Invitation for Bids is issued pursuant to South Carolina Code § 11-35-3310 and the Manual for Planning and Execution of State Permanent Improvements, Part II (Manual).

1. GENERAL INFORMATION

1.1 Agency may award up to 5 Indefinite Delivery Contract(s) (IDC) under this solicitation provided the Agency receives and adequate number of responsive and responsible bids. In no event, will the Agency award more contracts than the number set forth in the previous sentence.

1.2 Work is to be performed at the following location(s): (Agency inserts location of work, e.g. a particular campus or campuses)

TCTC Campuses Oconee, Pickens and Anderson Counties

1.3 The awarded IDC will be for a period not to exceed 2 years (may not exceed 2 years).

1.4 The awarded IDC allows the Agency to award a total amount of work not to exceed $1,000,000.

1.5 Work awarded under the IDC will be awarded using form SE-690, Construction Services IDC Delivery Order.

1.6 The Agency may only award one Delivery Order per project to the contractor. However, a Delivery Order may be amended. A Delivery Order may only be amended in writing signed by both parties using form SE-695, Construction Services Delivery Order Modification.

1.7 Work awarded under the IDC for a single project may not exceed $250,000.

1.8 Projects and Delivery Orders may not be divided to avoid the limits set forth in 1.6 and 1.7 above.

1.9 (Agency, check the block for the provision applicable to this solicitation)

☐ The minimum amount of work to be awarded under the IDC is $__________________________.

☑ Agency does not guarantee a minimum amount of work, nor does it guarantee the size or quantity of any work that is awarded under the IDC.

☐ Agency will provide IDC awardees the opportunity to bid on all Delivery Orders for the services set forth in this Invitation.
INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION SERVICES
INDEFINITE DELIVERY CONTRACT

1.10 Bidders will agree to perform work for the advertised discipline in the following manner: *(Agency check one)*

☐ The cost of the work to the Agency will be determined using a Multiplier times the cost of the work (unit prices) times the quantity of the work to be performed. Bidders agree to use the following published cost data guide to determine applicable unit prices; *(Name of cost data guide)*

☐ The cost of the work to the Agency will be determined using unit prices listed by the Bidder on its Bid Form. No other additions to the cost of the work will be permitted except the cost of Performance and Payment Bonds if required for specific Delivery Orders; or

☒ The cost of the work to the Agency will be determined by competitive bidding of each Delivery Order among all contractors having an active contract that the Agency awarded pursuant to this Invitation for Bids.

1.11 Bidders must be properly licensed in the discipline and the Group Classification to permit an award up to the maximum individual project award set forth in 1.7. Successful bidder(s) must maintain this license for the term of the contract.

2. SOLICITATION DOCUMENTS

2.1 All persons obtaining Bidding Documents from the issuing office designated in the advertisement shall provide that office with Bidder’s contact information to include the Bidder’s name, telephone number, mailing address, and email address. Agency will send all addenda modifying the Solicitation Documents to all plan holders of record.

2.2 By submitting a bid, Bidder represents that it has read and understands the Solicitation Documents. Bidders are expected to examine the Solicitation Documents thoroughly and should request an explanation of any ambiguities, discrepancies, errors, omissions, or conflicting statements. Failure to do so will be at the Bidder’s risk. Bidder assumes responsibility for any patent ambiguity that Bidder does not bring to the Agency’s attention prior to bid opening. Bidder shall make any requests for substitution, questions, clarifications, or interpretations of the bid documents in writing to the Agency at least 10 days before the Bid Date. The Agency will not give oral instruction prior to bidding nor will any oral instructions to bidders be binding on the Agency.

2.3 The Agency will make corrections, interpretations, or changes that modify the Solicitation Documents by written addendum. As provided in Regulation 19-445.2042(B), if this solicitation provides for a pre-bid conference, nothing stated at the pre-bid conference shall change the Solicitation Documents unless a change is made by written addendum.

2.4 The Agency will not issue addenda later than 120 hours before the date and time specified in the advertisement for receipt of Bids except to withdraw the Invitation for Bids or to extend the date for receipt of bids.

2.5 When the date for receipt of Bids is postponed and there is insufficient time to issue a written Addendum prior to the original Bid Date, Agency will notify prospective Bidders by telephone or other appropriate means with immediate follow up with a written Addendum. This Addendum will verify the postponement of the original Bid Date and establish a new Bid Date. The new Bid Date will be no earlier than the fifth (5th) calendar day after the date of issuance of the Addendum postponing the original Bid Date.

3. BID PREPARATION

3.1 Bidder shall submit its bid using the bid form included in the Solicitation Documents. Bidder shall fill in any blanks on the bid form legibly using an indelible medium. Bidder shall sign its bid in ink or other indelible media. Sums shall be expressed in figures.

3.2 Bidder shall not make stipulations or qualify its bid in any manner not permitted on the bid form. An incomplete Bid or information not requested that is written on or attached to the bid form that could be considered a qualification of the Bid, may be cause for rejection of the Bid.

3.3 Pursuant to Title 11, Chapter 35, Section 3020(b)(i) of the South Carolina Code of Laws, as amended, the bid form may set forth a list of subcontractor specialties for which Bidder is required to list only the subcontractors Bidder will use to perform the work of each listed specialty. Bidder must follow the Instructions in the Bid Form for filling out this section of the Bid Form. Failure to properly fill out this Section may result in rejection of Bidder’s bid as non-responsive.
INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION SERVICES
INDEFINITE DELIVERY CONTRACT

3.4 Bid Security: (Agency, check the block for the provision applicable to this solicitation)

☐ Bidder is not required to submit Bid Security with its bid.

☒ Bid shall be accompanied by a Bid Security in an amount of not less than ___%___. The Bid Security shall be a bid bond or a certified cashier’s check made payable to the Agency.

3.4.1 The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and will, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Failure of the Bidder to enter into a contract with the Agency, furnish such bonds if required, or to correct any Bid deficiencies allowed by law, shall cause bid security to be forfeited to the Agency as liquidated damages, not as a penalty.

3.4.2 If Bidder submits a bid bond as its bid security, the bond shall be written on AIA Document A310, Bid Bond. The bid bond must be accompanied by a certified and current Power of Attorney for the attorney-in-fact who executes the bond on behalf of the surety company. The Bid Bond shall:

a. Be issued by a Surety Company licensed to do business in South Carolina;

b. Be issued by a Surety Company having, at a minimum, a “Best Rating” of “A” as stated in the most current publication of “Best’s Key Rating Guide, Property-Casualty,” which company shows a financial strength rating of at least five (5) times the contract price.

c. Be enclosed in the bid envelope at the time of Bid Opening, either in paper copy or as an electronic bid bond authorization number provided on the Bid Form and issued by a firm or organization authorized by the Surety to receive, authenticate and issue binding electronic bid bonds on behalf the Surety.

3.4.3 By submitting a Bid Bond via an electronic bid bond authorization number on the Bid Form and signing the Bid Form, the Bidder certifies that an electronic bid bond has been executed by a Surety meeting the standards required by the Bidding Documents and the Bidder and Surety are firmly bound unto the State of South Carolina under the conditions provided in this Section 3.4.

3.4.4 The Agency will retain the Bid Security of those Bidders being considered for award until an IDC has been executed, all bids are rejected, or the time specified in the Solicitation Documents for holding bids open has elapsed, whichever is earlier.

3.5 Submission of Bids: The Bidders shall submit their Bid, Bid Security, if any, and any other documents required by the Solicitation Documents to be submitted with the Bid, in a sealed opaque envelope. Unless hand delivered by the Bidder, the sealed envelope must be addressed to the Agency’s designated purchasing office as shown in the advertisement. The envelope shall be identified on the outside with the Project Name and Number, and the Bidder’s name and address. If the Bidder sends its bid to the Agency by mail or special delivery service (UPS, Federal Express, etc.), the envelope should be labeled “BID ENCLOSED” on the face thereof. Bidders hand delivering their bids shall deliver bids to the place of the bid opening as shown in the advertisement. Whether or not Bidders attend the bid opening, they shall give their bids to the Agency’s procurement officer or his/her designee as shown in the Advertisement prior to the time of the bid opening.

3.5.1 Each copy of the Bid submitted to the Agency shall be signed by the person(s) legally authorized to bind the Bidder to a contract. If the Bid is submitted by an agent of the Bidder, a current Power of Attorney certifying the agent’s authority to bind the Bidder shall be attached to the Bid.

3.5.2 The Agency must receive Bids at the designated location before the time and date specified in the Solicitation Documents for receipt of Bids. The Agency will return bids received after the time and date for receipt of Bids unopened.

3.5.3 The official time for receipt of Bids will be determined by reference to the clock designated by the Agency’s Procurement Officer or his/her designee. The Procurement Officer conducting the Bid Opening will determine and announce that the deadline has arrived and no further Bids or bid modifications will be accepted. All Bids and bid modifications in the possession of the Procurement Officer at the time the announcement is completed will be timely, whether or not the bid envelope has been date/time stamped or otherwise marked by the Procurement Officer.
3.5.4 If an emergency or unanticipated event interrupts normal government processes so that Bids cannot be received at the government office designated for receipt of Bids by the exact time specified in the solicitation, the time specified for receipt of Bids will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal government processes resume. In lieu of an automatic extension, an Addendum may be issued to reschedule bid opening. If state offices are closed at the time a pre-bid or pre-proposal conference is scheduled, an Addendum will be issued to reschedule the conference.

4. **CONDUCT OF BID OPENING AND CONSIDERATION OF BIDS**

4.1 **Bid Opening:**

4.1.1 Agency will publicly open and read aloud Bids received on time.

4.1.2 At Bid Opening, Agency will announce the date and location of the posting of the Notice of Intent to Award IDC.

4.1.3 Agency will send a copy of the final Bid Tabulation to all Bidders within ten (10) working days of the bid opening.

4.1.4 If Agency determines to make an award, Agency will, after posting a Notice of Intent to Award IDC, send a copy of the Notice to all Bidders.

4.1.5 If only one Bid is received, Agency will open and consider the Bid.

4.2 Agency intends to award contracts in the number set forth in the Solicitation Documents to the lowest responsive and responsible bidders.

4.3 **Bid Rejection:** The Agency reserves the right to reject any and all bids.

4.3.1 **Responsiveness:**

4.3.1.1 The reasons for which the Agency will reject Bids include, but are not limited to:

a. Failure by a Bidder to be represented at a Mandatory Pre-Bid Conference or site visit;

b. Failure to deliver the Bid on time;

c. Failure to comply with Bid Security requirements, except as expressly allowed by law;

d. Listing an invalid electronic Bid Bond authorization number on the bid form;

e. Failure to bid an alternate, except as expressly allowed by law;

f. Failure to list qualified Subcontractors as required by law;

g. Showing any material modification(s) or exception(s) qualifying the Bid;

h. Faxing a Bid directly to the Agency or their representative; or

j. Failure to include a properly executed Power-of-Attorney with the Bid Bond.

4.3.1.2 The Agency may reject a Bid as nonresponsive if the prices bid are materially unbalanced between line items or sub line items. A Bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and if there is a reasonable doubt that the bid will result in the lowest overall cost to the Agency, even though it may be the low evaluated bid, or if it is so unbalanced as to be tantamount to allowing an advance payment.

4.3.2 **Bidder Responsibility:** Agency will make a determination of Bidder’s responsibility before awarding a contract. Bidder shall provide all information and documentation requested by the Agency to support the Agency’s evaluation of responsibility. Failure of Bidder to provide requested information is cause for the Agency, at its option, to determine the Bidder to be non-responsible.

4.4 **Clarification:** Pursuant to Section 11-35-1520(8), the Procurement Officer may elect to communicate with a Bidder after opening for the purpose of clarifying either the Bid or the requirements of the Invitation for Bids. Such communications may be conducted only with Bidders who have submitted a Bid which obviously conforms in all material aspects to the Invitation for Bids and only in accordance with Appendix D (Paragraph A(6)) to the Manual for Planning and Execution of State Permanent Improvement, Part II. Clarification of a Bid must be documented in writing and included with the Bid. Clarifications may not be used to revise a Bid or the Invitation for Bids. [Section 11-35-1520(8); R.19-445.2080]
5. TENDERING CONTRACT, CERTIFICATES OF INSURANCE, AND PERFORMANCE AND PAYMENT BONDS

5.1 After expiration of the protest period, the Agency will tender a signed IDC to the successful Bidder(s). The Bidder(s) shall return the fully executed IDC to the Agency within seven (7) days thereafter. The Bidder(s) shall deliver the required proof of insurance and bonding capacity to the Agency not later than three (3) days following the date of execution of the IDC. Failure to deliver these documents as required shall entitle the Agency to consider the Bidder’s failure as a refusal to enter into a contract in accordance with the terms and conditions of the Bidder’s bid and to make claim on the bid security.

5.2 The IDC will be written on OSE form SE-680, Construction Services Indefinite Delivery Contract.

5.3 After the IDC is fully executed, the Agency may award work to the successful Bidder(s) by issuing a Delivery Order in the manner described in the SE-680 and SE-685, General Conditions to the SE-680.

6. BIDDER CERTIFICATIONS

6.1 Certification of Independent Price Determination

GIVING FALSE, MISLEADING, OR INCOMPLETE INFORMATION ON THIS CERTIFICATION MAY RENDER YOU SUBJECT TO PROSECUTION UNDER SECTION 16-9-10 OF THE SOUTH CAROLINA CODE OF LAWS AND OTHER APPLICABLE LAWS.

(a) By submitting a bid, the Bidder certifies that—

(1) The prices in this Bid have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other Bidder or competitor relating to—

(i) Those prices;
(ii) The intention to submit a bid; or
(iii) The methods or factors used to calculate the prices offered.

(2) The prices in this Bid have not been and will not be knowingly disclosed by the Bidder, directly or indirectly, to any other Bidder or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the Bidder to induce any other concern to submit or not to submit a Bid for the purpose of restricting competition.

(b) Each signature on the Bid is considered to be a certification by the Signatory that the Signatory—

(1) Is the person in the Bidder’s organization responsible for determining the prices being offered in this Bid, and that the Signatory has not participated and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this certification; or

(2) (i) Has been authorized, in writing, to act as agent for the Bidder’s principals in certifying that those principals the prices offered in this Bid];

(ii) As an authorized agent, does certify that the principals referenced in subdivision (b)(2)(i) of this certification have not participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this certification; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to paragraphs (a)(1) through (a)(3) of this certification.

(c) If the Bidder deletes or modifies paragraph (a)(2) of this certification, the Bidder must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

6.2 Drug Free Workplace: By submitting a bid, the Bidder certifies that Bidder will maintain a drug free workplace in accordance with the requirements of Title 44, Chapter 107 of South Carolina Code of Laws, as amended.
6.3 Certification Regarding Debarment and Other Responsibility Matters:
   (a) (1) By submitting an Bid, Bidder certifies, to the best of its knowledge and belief, that-
      (i) Bidder and/or any of its Principals-
         (A) Are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any state or federal agency;
         (B) Have not, within a three-year period preceding this Bid, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of bids; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and
         (C) Are not presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (a)(1)(i)(B) of this provision.
      (ii) Bidder has not, within a three-year period preceding this bid, had one or more contracts terminated for default by any public (Federal, state, or local) entity.
   (2) “Principals,” for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).
   (b) Bidder shall provide immediate written notice to the Procurement Officer if, at any time prior to contract award, Bidder learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
   (c) If Bidder is unable to certify the representations stated in paragraphs (a)(1), Bid must submit a written explanation regarding its inability to make the certification. The certification will be considered in connection with a review of the Bidder’s responsibility. Failure of the Bidder to furnish additional information as requested by the Procurement Officer may render the Bidder nonresponsible.
   (d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of a Bidder is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
   (e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Bidder knowingly or in bad faith rendered an erroneous certification, in addition to other remedies available to the State, the Procurement Officer may terminate the contract resulting from this solicitation for default.

6.4 Ethics Certification: By submitting a bid, the Bidder certifies that the Bidder has and will comply with, and has not, and will not, induce a person to violate Title 8, Chapter 13 of the South Carolina Code of Laws, as amended (ethics act). The following statutes require special attention: Section 8-13-700, regarding use of official position for financial gain; Section 8-13-705, regarding gifts to influence action of public official; Section 8-13-720, regarding offering money for advice or assistance of public official; Sections 8-13-755 and 8-13-760, regarding restrictions on employment by former public official; Section 8-13-775, prohibiting public official with economic interests from acting on contracts; Section 8-13-790, regarding recovery of kickbacks; Section 8-13-1150, regarding statements to be filed by consultants; and Section 8-13-1342, regarding restrictions on contributions by contractor to candidate who participated in awarding of contract. The state may rescind any contract and recover all amounts expended as a result of any action taken in violation of this provision. If contractor participates, directly or indirectly, in the evaluation or award of public contracts, including without limitation, change orders or task orders regarding a public contract, contractor shall, if required by law to file such a statement, provide the statement required by Section 8-13-1150 to the procurement officer at the same time the law requires the statement to be filed.
INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION SERVICES
INDEFINITE DELIVERY CONTRACT

6.5 Restrictions Applicable to Bidders and Gifts: Violation of these restrictions may result in disqualification of your bid, suspension or debarment, and may constitute a violation of the state Ethics Act. (a) After issuance of the solicitation, bidder agrees not to discuss this procurement activity in any way with the Owner or its employees, agents or officials. All communications must be solely with the Procurement Officer. This restriction may be lifted by express written permission from the Procurement Officer. This restriction expires once a contract has been formed. (b) Unless otherwise approved in writing by the Procurement Officer, bidder agrees not to give anything to the Owner, any affiliated organizations, or the employees, agents or officials of either, prior to award. (c) Bidder acknowledges that the policy of the State is that a governmental body should not accept or solicit a gift, directly or indirectly, from a donor if the governmental body has reason to believe the donor has or is seeking to obtain contractual or other business or financial relationships with the governmental body. Regulation 19-445.2165(C) broadly defines the term donor.

6.6 Iran Divestment Act Certification: (a) The Iran Divestment Act List is a list published by the State Fiscal Accountability Authority pursuant to Section 11-57-310 that identifies persons engaged in investment activities in Iran. The list is available at the following URL: http://procurement.sc.gov/PS/PS-Iran-divestment plaint(. Section 11-57-310 requires the government to provide a person ninety days written notice before he is included on the list. The following representation, which is required by Section 11-57-330(A), is a material inducement for the State to award a contract to you. (b) By signing your Offer, you certify that, as of the date you sign, you are not on the then-current version of the Iran Divestment Act List. (c) You must notify the Procurement Officer immediately if, at any time before posting of a final statement of award, you are added to the Iran Divestment Act List.

6.7 Open Trade Representation (Jun 2015): By submitting an Offer, Offeror represents that Offeror is not currently engaged in the boycott of a person or an entity based in or doing business with a jurisdiction with whom South Carolina can enjoy open trade, as defined in SC Code Section 11-35-5300. [02-2A083-1]

7. MISCELLANEOUS PROVISIONS

7.1 Non-Resident Taxpayer Registration Affidavit - Income Tax Withholding:

IMPORTANT TAX NOTICE - NONRESIDENTS ONLY

Withholding Requirements for Payments to Nonresidents: Section 12-8-550 of the South Carolina Code of Laws requires persons hiring or contracting with a nonresident conducting a business or performing personal services of a temporary nature within South Carolina to withhold 2% of each payment made to the nonresident. The withholding requirement does not apply to (1) payments on purchase orders for tangible personal property when the payments are not accompanied by services to be performed in South Carolina, (2) nonresidents who are not conducting business in South Carolina, (3) nonresidents for contracts that do not exceed $10,000 in a calendar year, or (4) payments to a nonresident who (a) registers with either the S.C. Department of Revenue or the S.C. Secretary of State and (b) submits a Nonresident Taxpayer Registration Affidavit - Income Tax Withholding, Form I-312 to the person letting the contract.

For information about other withholding requirements (e.g., employee withholding), contact the Withholding Section at the South Carolina Department of Revenue at 803-898-5383 or visit the Department’s website at: www.sctax.org

This notice is for informational purposes only. This Owner does not administer and has no authority over tax issues. All registration questions should be directed to the License and Registration Section at 803-898-5872 or to the South Carolina Department of Revenue, Registration Unit, Columbia, SC 29214-0140. All withholding questions should be directed to the Withholding Section at 803-898-5383.

PLEASE SEE THE “NONRESIDENT TAXPAYER REGISTRATION AFFIDAVIT INCOME TAX WITHHOLDING” FORM (FORM NUMBER 1-312) LOCATED AT: http://www.sctax.org/Forms+and+Instructions/withholding/default.htm

7.2 Contractor Licensing: Contractors and Subcontractors listed on the Bid Form who are required by the South Carolina Code of Laws to be licensed, must be licensed at the time of bidding.
7.3 Submitting Confidential Information: For every document Bidder submits in response to or with regard to this solicitation or request, Bidder must separately mark with the word “CONFIDENTIAL” every page, or portion thereof, that Bidder contends contains information that is exempt from public disclosure because it is either (a) a trade secret as defined in Section 30-4-401(a)(1), or (b) privileged and confidential, as that phrase is used in Section 11-35-410. For every document Bidder submits in response to or with regard to this solicitation or request, Bidder must separately mark with the words “TRADE SECRET” every page, or portion thereof, that Bidder contends contains a trade secret as that term is defined by Section 39-8-20 of the Trade Secrets Act. For every document Bidder submits in response to or with regard to this solicitation or request, Bidder must separately mark with the word “PROTECTED” every page, or portion thereof, that Bidder contends is protected by Section 11-35-1810. All markings must be conspicuous; use color, bold, underlining, or some other method in order to conspicuously distinguish the mark from the other text. Do not mark your entire bid as confidential, trade secret, or protected! If your bid, or any part thereof, is improperly marked as confidential or trade secret or protected, the State may, in its sole discretion, determine it nonresponsive. If only portions of a page are subject to some protection, do not mark the entire page. By submitting a response to this solicitation, Bidder (1) agrees to the public disclosure of every page of every document regarding this solicitation or request that was submitted at any time prior to entering into a contract (including, but not limited to, documents contained in a response, documents submitted to clarify a response, & documents submitted during negotiations), unless the page is conspicuously marked “TRADE SECRET” or “CONFIDENTIAL” or “PROTECTED,” (2) agrees that any information not marked, as required by these bidding instructions, as a “TRADE SECRET” is not a trade secret as defined by the Trade Secrets Act, and (3) agrees that, notwithstanding any claims or markings otherwise, any prices, commissions, discounts, or other financial figures used to determine the award, as well as the final contract amount, are subject to public disclosure. In determining whether to release documents, the State will detrimentally rely on Bidder’s marking of documents, as required by these bidding instructions, as being either “CONFIDENTIAL” or “TRADE SECRET” or “PROTECTED”. By submitting a response, Bidder agrees to defend, indemnify & hold harmless the State of South Carolina, its officers & employees, from every claim, demand, loss, expense, cost, damage or injury, including attorney’s fees, arising out of or resulting from the State withholding information that Bidder marked as “CONFIDENTIAL” or “TRADE SECRET” or “PROTECTED”.

7.4 Posting of Notice of Intent to Award IDC:
Notice of Intent to Award, SE-670, will be posted at the following location:

    Room or Area of Posting: RH114

    Building Where Posted: Ruby Hicks

    Address of Building: 7900 Hwy 76, Pendleton SC 29670

WEB site address (if applicable): http://tetc.edu/About_TTC/PurchasingSolicitation/Award_Postings.xml

Posting date will be announced at bid opening. In addition to posting the notice, the Owner will promptly send all responsive bidders a copy of the notice of intent to award and the final bid tabulation

7.5 Protest of Solicitation or Award: Any prospective bidder, offeror, contractor or subcontractor who is aggrieved in connection with the solicitation of a contract shall protest within fifteen days of the date of issuance of the applicable solicitation document at issue. Any actual bidder, offeror, contractor or subcontractor who is aggrieved in connection with the intended award or award of a contract shall protest within ten (10) days of the date notification of intent to award is posted in accordance with Title 11, Chapter 35, Section 4210 of the South Carolina Code of Laws, as amended. A protest shall be in writing, shall set forth the grounds of the protest and the relief requested with enough particularity to give notice of the issues to be decided, and must be received by the State Engineer within the time provided. Any protest must be addressed to the CPO, Office of State Engineer, and submitted in writing (a) by email to protest-ose@mno.sc.gov, (b) by facsimile at 803-737-0639, or (c) by post or delivery to 1201 Main Street, Suite 600, Columbia, SC 29201. By submitting a protest to the foregoing email address, you (and any person acting on your behalf) consent to receive communications regarding your protest (and any related protests) at the e-mail address from which you sent your protest.

7.6 Solicitation Information From Sources Other Than Official Source: South Carolina Business Opportunities (SCBO) is the official state government publication for State of South Carolina solicitations. Any information on State agency solicitations obtained from any other source is unofficial and any reliance placed on such information is at the bidder’s sole risk and is without recourse under the South Carolina Consolidated Procurement Code.
INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION SERVICES
INDEFINITE DELIVERY CONTRACT

7.7 Installation Floater/Builder’s Risk Insurance: Agency insures its property through the South Carolina Insurance Reserve Fund. The Insurance Reserve Fund will not name a third party as an additional insured nor will it allow the Agency to waive subrogation. Pursuant to Section H of the SE-680, Agency may require Bidder to provide an installation floater or builder’s risk insurance when issuing a Delivery Order under the IDC.

7.8 Tax Credit for Subcontracting with Disadvantaged Small Businesses: Pursuant to Section 12-6-3350, a taxpayer having a contract with this State who subcontracts with a socially and economically disadvantaged small business is eligible for an income tax credit equal to four percent of the payments to that subcontractor for work pursuant to the contract. The subcontractor must be certified as a socially and economically disadvantaged small business as defined in Section 11-35-5010 and regulations pursuant to it. The credit is limited to a maximum of fifty thousand dollars annually. A taxpayer is eligible to claim the credit for ten consecutive taxable years beginning with the taxable year in which the first payment is made to the subcontractor that qualifies for the credit. After the above ten consecutive taxable years, the taxpayer is no longer eligible for the credit. A taxpayer claiming the credit shall maintain evidence of work performed for the contract by the subcontractor. The credit may be claimed on Form TC-2, “Minority Business Credit.” A copy of the subcontractor’s certificate from the Governor’s Office of Small and Minority Business (OSMBA) is to be attached to the contractor’s income tax return. Questions regarding the tax credit and how to file are to be referred to: SC Department of Revenue, Research and Review, Phone: (803) 898-5786, Fax: (803) 898-5888. Questions regarding subcontractor certification are to be referred to: Governor’s Office of Small and Minority Business Assistance, Phone: (803) 734-0657, Fax: (803) 734-2498.

7.9 Performance & Payment Bonds: Pursuant to SC Code Ann § 11-35-3030, when the Agency awards a Delivery Order to the Indefinite Delivery Contractor in excess of $50,000, the Contractor shall provide Performance and Payment Bonds each in the amount of 100% of the delivery order price. See Section H of the SE-680 for more details.

7.10 Other Special Conditions:

NA

____

____

____

7.11 Special documents required to be submitted with the bid for this project include:

NA

____

____

____
Bid Bond

CONTRACTOR:  
(Name, legal status and address)  
TBD  
TBD

SURETY:  
(Name, legal status and principal place of business)  
TBD  
TBD

OWNER:  
(Name, legal status and address)  
TBD  
TBD

BOND AMOUNT:  

PROJECT:  
(Name, location or address, and Project number, if any)  
TBD  
TBD

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety’s consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor’s bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this day of

(Witness)  

(Principal)  
(Seal)

(Witness)  

(Title)

(Witness)  

(S surety)  
(Seal)

(Witness)  

(Title)
CONSTRUCTION SERVICES INDEFINITE DELIVERY CONTRACT
REPRESENTATIVE PROJECT BID FORM

Bidders shall submit bids on only Bid Form SE-659.

BID SUBMITTED BY: ________________________________
(Bidder's Name)

BID SUBMITTED TO: TriCounty Technical College - Att R Macbeth
(Owner's Name)

FOR: PROJECT NAME: DOT - Wilson Hall

PROJECT NUMBER: H59-N903-PD

OFFER

§ 1. In response to the Invitation for Indefinite Delivery of Construction Services and in compliance with the Instructions to Bidders for the above-named Project, the undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into a Contract with the Owner on the terms included in the Bidding Documents, and to perform all Work as specified or indicated in the Bidding Documents, for the prices and within the time frames indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

§ 2. Pursuant to Section 11-32-3030(1) of the SC Code of Laws, as amended, Bidder has submitted Bid Security as follows in the amount and form required by the Bidding Documents:

- [ ] Bid Bond with Power of Attorney
- [ ] Electronic Bid Bond
- [ ] Cashier's Check

(Bidder check one)

§ 3. Bidder acknowledges the receipt of the following Addenda to the Bidding Documents and has incorporated the effects of said Addenda into this Bid:

(Bidder, check all that apply. Note, there may be more boxes than actual addenda. Do not check boxes that do not apply)

ADDENDA: 
- [ ] #1
- [ ] #2
- [ ] #3
- [ ] #4
- [ ] #5

§ 4. Bidder accepts all terms and conditions of the Invitation for Bids, including, without limitation, those dealing with the disposition of Bid Security. Bidder agrees that this Bid may not be revoked or withdrawn after the opening of bids, and shall remain open for acceptance for a period of 60 Days following the Bid Date, or for such longer period of time that Bidder may agree to in writing upon request of the Owner.

§ 5. Bidder herewith offers to provide all labor, materials, equipment, tools of trades and labor, accessories, appliances, warranties and guarantees, and to pay all royalties, fees, permits, licenses and applicable taxes necessary to complete the following items of construction work:

§ 6.1 REPRESENTATIVE PROJECT WORK DESCRIPTION (as indicated in the Bidding Documents and generally described as follows): Convert ~ 2450 sqft in Wilson Hall. Includes construction, electrical and HVAC modifications.

$______________________, which sum is hereafter called the Base Bid.

(Bidder - insert Bid Amount for Representative Project on line above)

This bid price will be used to determine which bidders will receive award of an Indefinite Delivery Contract. The lowest responsive and responsible bidder will also receive a Delivery Order to perform the above described work at the price bid. Award and pricing of subsequent Delivery Orders shall be determined by competitive bidding between Indefinite Delivery Contractors receiving an award of an Indefinite Delivery Contract pursuant to this solicitation.
SE-659
CONSTRUCTION SERVICES INDEFINITE DELIVERY CONTRACT
REPRESENTATIVE PROJECT BID FORM

§ 6.2 BID ALTERNATES as indicated in the Bidding Documents and generally described as follows:

ALTERNATE # 1 (Brief Description): Drop in ceiling in Binder lab incl HVAC and lighting modifications

☐ ADD TO or ☐ DEDUCT FROM BASE BID: $____________

(Bidder to Mark appropriate box to clearly indicate the price adjustment offered for each alternate)

ALTERNATE # 2 (Brief Description):

☐ ADD TO or ☐ DEDUCT FROM BASE BID: $____________

(Bidder to Mark appropriate box to clearly indicate the price adjustment offered for each alternate)

ALTERNATE # 3 (Brief Description):

☐ ADD TO or ☐ DEDUCT FROM BASE BID: $____________

(Bidder to Mark appropriate box to clearly indicate the price adjustment offered for each alternate)

§ 7. LISTING OF PROPOSED SUBCONTRACTORS PURSUANT TO SECTION 3020(b)(i), CHAPTER 35, TITLE 11 OF THE SOUTH CAROLINA CODE OF LAWS, AS AMENDED: (Owner check box that applies.)

☐ Bidder shall list on Appendix A to this bid form those subcontractors which bidder intends to use to perform the work requiring the license classification and/or subclassification listed therein. Bidder shall only use the listed subcontractors in performance of such licensed work.

☐ Bidder is not required to list subcontractors.

§ 8. TIME OF CONTRACT PERFORMANCE AND LIQUIDATED DAMAGES – INDEFINITE DELIVERY CONTRACT

Bidder agrees that the Date of Commencement of any contract awarded pursuant to the Invitation for Bids shall be established in the Agreement for Indefinite Delivery of Construction Services to be executed by the Owner and the successful Bidder. Bidder also agrees that individual Delivery Orders, if any, shall establish the Date of Commencement, the time to complete the Work included in the Delivery Order (or the completion date), and the amount, if any, the Owner shall retain from the compensation to be paid as Liquidated Damages for each calendar day the actual construction time required to complete the Work exceeds the specified or adjusted time for completion as provided in the Contract Documents.

§ 8.1 TIME OF CONTRACT PERFORMANCE AND LIQUIDATED DAMAGES - REPRESENTATIVE PROJECT

a) CONTRACT TIME: Bidder agrees that the Date of Commencement of the Work shall be established in a Notice to Proceed to be issued by the Owner. Bidder agrees to substantially complete the Work within _______ Calendar Days from the Date of Commencement, subject to adjustments as provided in the Contract Documents.

b) LIQUIDATED DAMAGES: Bidder further agrees that from the compensation to be paid, the Owner shall retain as Liquidated Damages the amount of $_________ for each Calendar Day the actual construction time required to achieve Substantial Completion exceeds the specified or adjusted time for Substantial Completion as provided in the Contract Documents. This amount is intended by the parties as the predeterimed measure of compensation for actual damages, not as a penalty for nonperformance.
CONSTRUCTION SERVICES INDEFINITE DELIVERY CONTRACT
REPRESENTATIVE PROJECT BID FORM

§ 9. AGREEMENTS
a) Bidder agrees that this bid is subject to the requirements of the laws of the State of South Carolina.

b) Bidder agrees that at any time prior to execution of the Construction Services Indefinite Delivery Contract for this Project, this Project may be canceled for the convenience of, and without cost to, the State.

c) Bidder agrees that neither the State of South Carolina nor any of its agencies, employees or agents shall be responsible for any bid preparation costs, or any costs or charges of any type, should all bids be rejected or the Project canceled for any reason prior to execution of the Construction Services Indefinite Delivery Contract.

§ 10. ELECTRONIC BID BOND
By signing below, the Principal is affirming that the identified electronic bid bond has been executed and that the Principal and Surety are firmly bound unto the State of South Carolina under the terms and conditions of the AIA Document A310, Bid Bond, included in the Bidding Documents.

ELECTRONIC BID BOND NUMBER: ____________________________
SIGNATURE AND TITLE: __________________________________________

CONTRACTOR'S CLASSIFICATIONS AND SUBCLASSIFICATIONS WITH LIMITATION
SC CONTRACTOR'S LICENSE NUMBER(S): __________________________
CLASSIFICATION(S) & LIMITS: ___________________________________
SUBCLASSIFICATION(S) & LIMITS: ________________________________

By signing this Bid, the person signing reaffirms all representation and certification made by both the person signing and the Bidder, including without limitation, those appearing in Article 2 of the Instructions to Bidders, is expressly incorporated by reference.

BIDDER'S LEGAL NAME: _______________________________________

ADDRESS: ____________________________________________________

TELEPHONE: ____________________________

EMAIL: ________________________________

SIGNATURE: __________________________ DATE: __________

PRINT NAME: ______________________________________________

TITLE: _______________________________________________________

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SE-659
**SE-659 – APPENDIX A**

**CONSTRUCTION SERVICES INDEFinite DELIVERY CONTRACT**

**REPRESENTATIVE PROJECT BID FORM**

**LISTING OF PROPOSED SUBCONTRACTORS PURSUANT TO SECTION 3020(b)(i), CHAPTER 35, TITLE 11 OF THE SOUTH CAROLINA CODE OF LAWS, AS AMENDED.**

<table>
<thead>
<tr>
<th>SUBCONTRACTOR'S PRIME CONTRACTOR'S NAME</th>
<th>SUBCONTRACTOR'S PRIME CONTRACTOR'S SC LICENSE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CLASSIFICATION</strong></td>
<td><strong>BASE BID</strong></td>
</tr>
<tr>
<td>By License Classification</td>
<td></td>
</tr>
<tr>
<td>and/or Subclassification</td>
<td></td>
</tr>
<tr>
<td>(Completed by Owner)</td>
<td></td>
</tr>
</tbody>
</table>

**INSTRUCTIONS FOR SUBCONTRACTOR LISTING**

1. Completing the form above:
   a. **First Column**: The Owner fills out this column which identifies the contractor/subcontractor specialties for which the bidder must list either a subcontractor or himself as the entity that will perform this work. Subcontractor specialties are identified by contractor license classifications or sub classifications listed in Title 40 of the South Carolina Code of laws. If the owner has not identified a specialty, the bidder does not list a subcontractor.
   b. **Second and Third Columns**: In these columns the Bidder identifies the subcontractors it will use for the work of each specialty listed by the Agency in the First Column. Bidder must identify only the subcontractor(s) who will perform the work and no others. Bidders should make sure that their identification of each subcontractor is clear and unambiguous. A listing that could be any number of different entities may be cause for rejection of the bid as non-responsive. For example, a listing of M&M without more may be problematic if there are multiple different licensed contractors in South Carolina whose names start with M&M.

2. **Subcontractor Defined**: For purposes of subcontractor listing, a Subcontractor is an entity who will perform work or render service to the prime contractor or about the construction site. Material suppliers, manufacturers, and fabricators that will not perform physical work at the site of the project but will only supply materials or equipment to the bid or proposed subcontractor(s) are not subcontractors and Bidder should not insert their names in the spaces provided on the Bid Form. Likewise, Bidder should not insert the names of sub-subcontractors in the spaces provided on the Bid Form but only the names of those entities with which Bidder will contract directly.

3. **Subcontractor Qualifications**: Bidder must only list subcontractors who are qualified to perform the work of the listed specialties as specified in the Bidding Documents and who possess a South Carolina Contractor's license with the license classification and/or subclassification identified by the Owner in the first column on the left. If Bidder lists a subcontractor who is not qualified to perform the work, the Bidder will be rejected as non-responsive.

4. **Use of Own forces**: If under the terms of the Bidding Documents, Bidder is qualified to perform the work of a classification listed and Bidder does not intend to subcontract such work, but to use Bidder's own employees to perform such work, the Bidder must insert its own name in the space provided for that classification.

5. **Use of Multiple Subcontractors**:
   a. If Bidder intends to use multiple subcontractors to perform the work of a single classification listing, Bidder must insert the name of each subcontractor Bidder will use, preferably separating the names of each by the word “and”. If Bidder intends to use both his own employees to perform a part of the work of a single classification listing and to use one or more subcontractors to perform the remaining work for that classification listing, Bidder must insert his own name and the name of each subcontractor, preferably separating the name of each with the word “and”.
   b. **Optional Listing Prohibited**: Bidder may not list multiple subcontractors for a classification listing, in a form that provides the Bidder the option, after bid opening or award, to choose to use one or more but not all the listed subcontractors to perform the work for which they are listed. A listing, which on its face requires subsequent explanation to determine whether it is an optional listing, is non-responsive. If Bidder intends to use multiple entities to perform the work for a single classification listing, Bidder must clearly set forth on the bid form such intent. Bidder may accomplish this by simply inserting the word “and” between the names of each entity listed for that specialty. Owner will reject as non-responsive a listing that contains the names of multiple subcontractors separated by a blank space; the word “or”, a virgule (that is a ‘/’), or any separator that the Owner may reasonably interpret as an optional listing.

6. If Bidder is awarded the contract, Bidder must use the listed entities to perform the work for which they are listed. Bidder will not be allowed to substitute another entity as subcontractor in place of a subcontractor listed in Appendix A of the Bid Form except for one or more of the reasons allowed by the SC Code of Laws.

7. Bidder's failure to identify an entity (subcontractor or himself) to perform the work of a subcontractor specialty listed in the first column on the left will render the Bid non-responsive.

SE-659 – App A
SE-680
CONSTRUCTION SERVICES INDEFINITE DELIVERY CONTRACT

AGENCY: Tri County Technical College
PROJECT NAME: TCTC General Construction IDC
PROJECT NUMBER: H59-D865-PD
AGENCY PROCUREMENT OFFICER: Kristal Doherty

THIS AGREEMENT is made this the day of in the year Two Thousand by and between

NAME: TriCounty Technical College
ADDRESS: 7900 Hwy 76
Pendleton SC 29670
hereinafter called the “Agency”, and

NAME: 
ADDRESS:

hereinafter called the “Contractor.”

WHEREAS, the Agency solicited bids for construction services, for the work description below, for projects to be determined, on an as-needed basis:

WORK DESCRIPTION: General construction and renovation - BD5

WHEREAS, Contractor submitted a successful bid to provide the services described above on an as-needed basis.

NOW THEREFORE, in consideration of the mutual covenants and obligations set forth herein, the Agency and Contractor (hereinafter jointly referred to as the “parties”) agree as follows:

A. Contract Term:
1. The effective date of this agreement shall commence as of the date at the top of this page and the term shall extend until (not to exceed two (2) years). The parties may not renew this agreement for an additional term nor may they extend the duration of this agreement by amendment or waiver.

2. Contractor proposals accepted by the Agency within the time limits of the contract may be completed by the Contractor even though the completion date may extend beyond the term of the contract.

B. Contract Documents:
1. Documents forming a part of the contract are:
   a. This Agreement for Indefinite Delivery of Construction Services;
   b. Invitation for Construction Services Indefinite Delivery Contract dated ;
   c. General Conditions to Construction Services Indefinite Delivery Contract, SE-685 (General Conditions);
   d. Contractors completed IDC Bid Form SE-6 ;
   e. Agency requests for proposals for construction services made pursuant to this contract;
   f. Proposals issued by the contractor in response to the Agency’s request for proposals;
   g. Delivery Orders (SE-690) and Modifications (SE-695) issued by the Agency pursuant to this contract;
   h. Project Manual issued with the Invitation for Construction Services Indefinite Delivery Contract, if any;
   i. Addenda to the Invitation for Construction Services Indefinite Delivery Contract issued prior to the date of bid opening;
   j. The following other documents:

2. The contract is the entire and integrated agreement between the parties and supersedes prior negotiations, representations, or agreements, whether written or oral.
C. **The Work:**
   1. The Agency will request proposals for construction services on an as-needed basis. The scope of services will be within the general description of work set forth above and within the expenditure limits set forth in the Invitation for Construction Services Indefinite Delivery Contract. The Agency will award work by issuing the contractor a Delivery Order using form SE-690, Construction Services IDC Delivery Order. The method for requesting proposals and awarding Delivery Orders shall be in accordance with the procedures set forth in Part 4 of the General Conditions.
   2. The Contractor shall not incur any expense chargeable to the Agency on or about the work of any Delivery Order assigned to this contract until the Delivery Order has been awarded and fully executed by both the Agency and the Contractor.

D. **Payment:**
   Contractor shall make application for payment for work performed under Delivery Orders and the Agency shall make payment in the form and manner set forth in Part 4.3 of the General Conditions.

E. **Termination:**
   The parties may terminate the contract only in the manner provided in Part 9 of the General Conditions.

F. **Dispute Resolution:**
   The parties shall resolve all disputes in the manner provided in Part 5 of the General Conditions.

G. **Representatives:**
   1. Agency’s Representative:
      Agency designates the individual listed below as its Representative, which individual has the authority and responsibility set forth in Part 2.2 of the General Conditions:
      
      NAME: Kristal Doherty  
      TITLE: Purchasing Manager  
      ADDRESS: PO Box 587, Pendleton SC 29670  
      TELEPHONE: 864 646 1795  
      FAX: 864 646 1331  
      EMAIL: kdoherty@tcctc.edu
   2. Contractor’s representative:
      Contractor designates the individual listed below as its Contractor’s Representative, which individual has the authority and responsibility set forth in Part 3.2 of the General Conditions:
      
      NAME:  
      TITLE:  
      ADDRESS:  
      TELEPHONE:  
      FAX:  
      EMAIL:  
   3. Neither the Agency nor the Contractor shall change their representatives without ten days written notice to the other party.

II. **Insurance and Performance & Payment Bonds:**
   The Contractor shall purchase and maintain insurance and provide Performance and Payment Bonds as set forth in Parts 3.18 and 3.19 of the General Conditions.

AGENCY: 
BY:  
(Signature of Representative)
PRINT NAME:  
PRINT TITLE:  
DATE: 

CONTRACTOR: 
BY:  
(Signature of Representative)
PRINT NAME:  
PRINT TITLE:  
DATE: 

2 of 2 SE-680
GENERAL CONDITIONS TO CONSTRUCTION SERVICES INDEFINITE DELIVERY CONTRACT

AGENCY: Tri County Technical College

PROJECT NAME: TCTC General Construction IDC

PROJECT NUMBER: H59-D865-PD

CONTRACTOR:

1. GENERAL INFORMATION
1.1 Contract Documents: The Contract Documents are identified in the Construction Services Indefinite Delivery Contract (the “Contract”). The Contract can only be modified by written agreement signed by both the Agency and the Contractor. The Contract Documents do not create a contractual relationship between the Contractor and any separate Contractor having a contract with the Agency; between the Agency and any subcontractor to the Contractor of any tier; or between any persons or entities other than the Agency and the Contractor.

1.2 Delivery Order: A Delivery Order is a written order issued by the Agency to the Contractor under the terms and conditions of the Contract, directing the Contractor to perform the work described therein. The Agency shall issue the Delivery Order on the SE-690, Construction Services IDC Delivery Order.

1.3 Contractor shall not incur any expense chargeable to the Agency on or about the work of any Delivery Order assigned to this contract until the Delivery Order has been awarded and fully executed by both the Agency and the Contractor.

1.4 The Contract is subject to strict expenditure and term limits set forth in State Law at S.C. Code Ann. § 11-35-3310 and further explained in the Manual for Planning and Execution of State Permanent Improvements, Part II (the “Manual”). Any modification to the Contract purporting to exceed these strict limits are null and void. The limits applicable to this Contract are set forth in Part I of the Invitation for Indefinite Delivery of Construction Services.

1.5 The Work: As used herein, the “Work” means any work required of or performed by the Contractor pursuant to each and every Delivery Order issued by the Agency under this Contract.

2. AGENCY
2.1 The term “Agency” means the Agency or the Agency’s Representative.

2.2 Representative: The Agency’s representative designated in Part G(1) of the agreement shall have the authority to bind the Agency with respect to all matters regarding the Contract and requiring the Agency’s approval or authorization.

2.3 Information to the Contractor: The Agency shall furnish, with reasonable promptness, information requested by the Contractor that is necessary for the performance of the Contract Services and under the Agency’s control. Any information or documentation provided by the Agency to the Contractor relating to the Project or Site is provided only for the convenience of the Contractor. The Agency makes no representation or warranty to as to the sufficiency, completeness, or accuracy of such information.

2.4 Utility Access and Use:
☐ If this box is checked, the Agency shall allow the Contractor to use reasonable quantities of water and electricity for construction purposes without charge, as long as these utilities are available and in close proximity to the Work area. Contractor shall be conscientious in controlling excessive or frivolous use of the utilities or the Agency may charge the Contractor for wasteful usage.

2.5 Sanitary Facilities: (Agency, check box that applies to this contract)
☐ The Contractor may use those sanitary facilities designated by the Agency in each Delivery Order as available for use.

☐ The Contractor may not use the Agency’s sanitary facilities. The Contractor shall provide sanitary facilities at the job site and maintain same in a clean and sanitary condition for the use of its employees and employees of its subcontractors for the duration of construction. The sanitary facilities shall conform to the requirements of the South Carolina Department of Health and Environmental Control.
2.6 Permits, Assessments, and Easements: The Agency shall secure and pay for all building permits, zoning permits, assessments, and easements except as required by any Delivery Order issued under the terms of the contract.

2.7 Agency’s Architect-Engineer (A/E): The Agency may retain an independent A/E to prepare design documents for the work of a specific Delivery Order. In such event, the A/E will be a representative of the Agency during the performance of such work through final completion of such work. In the absence of an independent A/E, the Agency will assign one of its employees to act as A/E for the work of a particular Delivery Order. The Contractor shall cooperate with the A/E in the performance of its duties. The A/E will perform the following duties:

a. The A/E will make periodic visits to the site during contract administration to become familiar with the progress of the work and to determine if the work is generally progressing in accordance with the contract documents.

b. The A/E will make recommendations to the Agency as to acceptance or rejection of the work and, upon the Agency’s concurrence, communicate the acceptance or rejection of the work to the Contractor.

c. The A/E will review and approve or reject shop drawings and samples submitted by the Contractor showing details/finishes of the work proposed to be installed.

d. The decision of the A/E in all matters relating to design and interpretation of contract documents shall, subject to the provisions of Part 5 (Dispute Resolution) be final.

e. The A/E will not be responsible for construction means, methods, techniques, procedures and safety measures in the performance of the work nor acts or omissions of the Contractor, subcontractors or any other entity performing work on the site.

f. The A/E will review requests for payment, and make recommendations to the Agency for approval or rejection of all or part of the request.

g. The A/E will prepare change orders or change directives for review and approval by the Agency.

2.8 Construction by Agency: The Agency may do work with its own forces or award separate contracts for work on the same project as may be awarded by Delivery Order under this contract. The Contractor shall allow access to the site by the Agency’s work force or separate Contractor(s), and shall cooperate in coordinating the progress of the work with the Agency. The Agency shall have the responsibility to coordinate the activities of the various Contractors working at the project location.

3. CONTRACTOR

3.1 The term “Contractor” means the Contractor or the Contractor’s Representative.

3.2 Representative: The Contractor’s representative designated in Part G(2) of the Agreement shall have the authority to bind the Contractor with respect to all matters regarding the Contract and requiring the Contractor’s approval or authorization.

3.3 Supervision and Performance of the Work: The Contractor shall supervise, perform, and direct the Work, using the professional skill, care, and attention reasonably required for similar projects. The Contractor shall be solely responsible for and have control over means, methods, techniques, sequences, and procedures and for coordinating the Work, unless the Contract Documents give other specific instructions concerning these matters. The Contractor agrees to faithfully and fully perform the terms of this Contract, and any Delivery Order issued under this Contract and shall complete the Work in accordance with the Contract Documents and deliver the Work to the Agency free and clear of all liens and claims. The Contractor shall, at all times during the progress of the Work, employ enough skilled workers and have on hand and maintain an adequate supply of materials and equipment to complete the Work in accordance with the construction schedules agreed to in applicable Delivery Orders.

3.4 Employee Discipline: The Contractor shall enforce discipline and good order among the Contractor’s and subcontractors’ employees, and other persons carrying out the Work. Contractor shall be responsible to the Agency for acts and omissions of the Contractor’s employees, subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

3.5 Safety: The Contractor shall comply with all federal and state work site safety requirements and shall be responsible for initiating, maintaining, and supervising reasonable safety precautions and programs in connection with the performance of the Contract Services. The Contractor shall take reasonable precautions for safety of, and shall provide reasonable and appropriate protection to prevent damage, injury or loss to (1) employees on the Work and other persons who may be affected thereby; (2) the Work and materials and equipment to be incorporated therein; and (3) other property at the site of the Work or adjacent thereto.
3.6 Waste Materials and Rubbish: The Contractor shall keep the premises and surrounding areas free from accumulation of waste materials or rubbish caused by the Work. Upon Final Acceptance of the Work, the Contractor shall, to the Agency’s satisfaction, remove from and about the site, all waste materials, rubbish, surplus material, and Contractor’s tools, equipment, machinery.

3.7 Recycling: The Contractor shall give preference to the use of products containing recycled content in the performance of the Work. The Contractor shall cooperate with any recycling program established for the site of the work of any Delivery Order or available through the state or a political subdivision of the state.

3.8 Access to the Work: The Contractor shall provide the Agency with unrestricted access to the Work in preparation and progress wherever located.

3.9 Use of Site: The Contractor shall confine its operations to the portions of the site identified in each Delivery Order or otherwise approved by the Agency, and shall not unreasonably encumber the portions of the site used for the Work with materials, equipment, or similar items. The Contractor and all subcontractors shall use only such entrances to the Site as are designated by the Agency. During occupied hours, Contractor shall limit construction operations to methods and procedures that do not adversely affect the environment of occupied spaces within the Site, including but not limited to creating noise, odors, air pollution, ambient discomfort, or poor lighting.

3.10 Correction of the Work:

3.10.1 The Agency shall have the right and authority to reject Work that does not conform to the Contract Documents. The Contractor shall promptly correct Work rejected by the Agency for failing to conform to the requirements of the Contract Documents, whether or not fabricated, installed or completed. The provisions of this Section 3.10 apply to Work done by subcontractors as well as to Work done by direct employees of the Contractor.

3.10.2 If the Contractor fails to correct the Work, or any portion thereof, that is not in accordance with the requirements of the Contract Documents or fails to carry out Work or provide information in accordance with the Contract Documents, the Agency may make written demand upon the Contractor to cure its defaults within seven days. Within seven days after receipt of the Agency’s demand, the Contractor shall cure its defaults unless the default is such that it is not capable of cure within seven days. If the default is such that it is not capable of cure within seven days, the Contractor shall reach an agreement with the Agency on a plan to cure its defaults within five days after receipt of the Agency’s demand. The Contractor shall commence and diligently and continuously pursue the cure of such defaults in accordance with the agreed plan. If the Contractor fails to cure its defaults as heretofore provided, the Agency may order the Contractor, in writing, to stop the Work, or any portion thereof, until the Contractor has eliminated the cause for such order or has provided the Agency with a plan for corrective action acceptable to the Agency. The right of the Agency to stop the Work shall not give rise to a duty on the part of the Agency to exercise this right for the benefit of the Contractor or any other person or entity.

3.10.3 Correction after Substantial Completion: If, within one year after the date of Substantial Completion of the Work, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Agency to do so. The Contractor’s obligation set forth in this Part 3.10.3 is in addition to the Contractor’s obligations under Part 3.12.

3.10.4 Nothing contained in this Part 3.10 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of such time period as described in this Section 3.10 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor’s liability with respect to the Contractor’s obligations other than specifically to correct the Work.

3.11 Manufacturers’ Warranties: At Final Acceptance of the Work, the Contractor shall furnish the Agency two original complete sets of all manufacturers’ warranties, guarantees, parts lists, and literature applicable to equipment, systems, fittings, and furnishings included in the Work (collectively referred to as “Manufacturers’ Warranties”), completed in favor of the Agency. These Manufacturers’ Warranties are in addition to and not in lieu of the Contractor’s warranty set forth in Part 3.12, and the Agency is entitled to look to the Contractor for remedy in all cases where the Contractor’s warranty applies regardless of whether a Manufacturer’s Warranty also applies. The Agency shall acknowledge receipt of the sets of Manufacturers’ Warranties on the set itself, and the Contractor shall cause six (6) copies of an acknowledged set to be made and furnished to the Agency. All Manufacturers’ Warranties will be for applicable periods and contain terms not less favorable to the Agency than those terms that are standard for the applicable industries, and will either be issued in the first instance in the name of and for benefit of the Agency, or be in a freely assignable form and be assigned to the Agency without limitations.
3.12 Contractor Warranty: The Contractor warrants to the Agency that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from faults and defects not inherent in the quality required or permitted, that the materials, equipment and Work will conform with the requirements of the Contract Documents, and that the Work will be free from any encumbrances, liens, security interests, or other defects in title upon conveyance of title to the Agency. The Contractor's warranty excludes remedy for damage or defect to the extent caused by (i) abuse by anyone other than the Contractor or those for whose acts the Contractor is responsible, (ii) modifications not approved or executed by the Contractor or subcontractors, (iii) improper or insufficient maintenance or operation not the fault of the Contractor or those for whose acts the Contractor is responsible, or (iv) normal wear and tear under normal usage. If required by the Agency, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment and the recommended maintenance thereto to meet the requirements of this Part.

3.13 After completion of the Work but no later than the date of Substantial Completion, the Contractor shall submit operation and maintenance manuals, recommended spare parts lists, and copies of all warranties to the Agency. Ass-Built drawings shall be submitted no later than the Final Completion Date.

3.14 Compliance with Law:
3.14.1 The Contractor shall comply with and give all notices required by federal, state, county, and municipal laws, ordinances, regulations, and orders bearing on the performance by the Contractor of the duties or responsibilities under this Contract.

3.14.2 The Contractor shall promptly remedy any violation of any such law, ordinance, rule, regulation, or order that comes to its attention to the extent that the same results from its performance of the Work. The Contractor shall promptly, and in no event later than the close of the next business day following receipt, give notice to the Agency by telephone, with confirmation in writing, of receipt by the Contractor of any information relating to violations of laws, ordinances, rules, regulations, and orders.

3.15 Subcontractors:
3.15.1 The Contractor shall furnish in writing to the Agency for its approval the names of the subcontractors to whom the Contractor plans to award any portion of the Contract Services.

3.15.2 Contracts between the Contractor and subcontractors shall require each subcontractor, to the extent of the Contract Services to be performed by the subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by the Contract Documents, assumes toward the Agency.

3.15.3 The Contractor shall be responsible to the Agency for acts and omissions of the subcontractors, their agents and employees, and any other persons performing portions of the Contract Services, to the same extent as the acts or omissions of the Contractor hereunder.

3.15.4 The Iran Divestment Act List is a list published by the State Fiscal Accountability Authority pursuant to Section 11-57-310 that identifies persons engaged in investment activities in Iran. The list is available at the following URL: http://procurement.sc.gov/PS/PS-iran-divestment-pl.htm). Consistent with Section 11-57-330(B), the Contractor shall not contract with any person to perform a part of the Work, if, at the time you enter into the subcontract, that person is on the then-current version of the Iran Divestment Act List.

3.16 Publicity: Contractor shall not publish any comments or quotes by State employees, or include the State in either news releases or a published list of agencies, without the prior written approval of the Agency.

3.17 Indemnification
3.17.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Agency and the Agency’s agents and employees from and against claims, damages, losses and expenses, including, but not limited to, reasonable attorney’s fees, arising out of or resulting from performance of the work of a Delivery Order, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including loss of use resulting therefrom, but only to the extent caused by negligent acts or omissions of the Contractor, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder.

3.17.2 In claims against any person or entity indemnified under Part 3.17.1 by an employee of the Contractor, a subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Part 3.17 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for Contractor or a subcontractor under workers’ or workmen’s compensation acts, disability benefit acts, or other employee benefit acts.
3.18 Insurance

3.18.1 Commercial General Liability, Business Automobile Liability, and Worker’s Compensation: The Contractor shall purchase from and maintain, in a company or companies lawfully authorized to do business in South Carolina, such insurance as will protect Contractor from claims set forth below, which may arise out of or result from Contractor’s operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

(a) claims under workers’ compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed;

(b) claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor’s employees;

(c) claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor’s employees;

(d) claims for damages insured by usual personal injury liability coverage;

(e) claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;

(f) claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;

(g) claims for bodily injury or property damage arising out of completed operations; and

(h) claims involving contractual liability insurance applicable to the Contractor’s obligations under Part 3.17, Indemnification.

3.18.1.1 The insurance required by Part 3.18.1 shall be written for not less than the limits of liability specified below or required by law, whichever is greater. Coverage shall be written on an occurrence basis and shall be maintained without interruption from the date of commencement of the Work until date of final payment and termination of any coverage required to be maintained after final payment and, with respect to the Contractor’s completed operations coverage, until the expiration of the period for correction of Work set forth in Part 3.10 or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

(a) COMMERCIAL GENERAL LIABILITY:

(1) General Aggregate (per project) .......................................................... $1,000,000

(2) Products/Completed Operations .................................................. $1,000,000

(3) Personal and Advertising Injury .................................................. $1,000,000

(4) Each Occurrence ........................................................................... $1,000,000

(5) Fire Damage (Any one fire) .......................................................... $50,000

(6) Medical Expense (Any one person) .............................................. $5,000

(b) BUSINESS AUTO LIABILITY (including All Owned, Non-owned, and Hired Vehicles):

(1) Combined Single Limit ................................................................. $1,000,000 OR

(2) Bodily Injury & Property Damage (each) ...................................... $750,000

(c) WORKER’S COMPENSATION:

(1) State Statutory

(2) Employers Liability ................................................................. $100,000 Per Acc.

In lieu of separate insurance policies for Commercial General Liability, Business Auto Liability, and Employers Liability, the Contractor may provide an umbrella policy meeting or exceeding all coverage requirements set forth in this Part 3.18.1. The umbrella policy limits shall not be less than $5,000,000.
3.18.1.2 Prior to commencement of the Work, and thereafter upon replacement of each required policy of insurance, Contractor shall provide to the Agency a written endorsement to the Contractor’s general liability insurance policy that:

(i) names the Agency as an additional insured for claims caused in whole or in part by the Contractor’s negligent acts or omissions during the Contractor’s operations;

(ii) provides that no material alteration, cancellation, non-renewal, or expiration of the coverage contained in such policy shall have effect unless all additional insured have been given at least ten (10) days prior written notice of cancellation for non-payment of premiums and thirty (30) days prior written notice of cancellation for any other reason; and

(iii) provides that the Contractor’s liability insurance policy shall be primary, with any liability insurance of the Agency as secondary and noncontributory.

3.18.1.3 Before commencement of the Work, and thereafter upon renewal or replacement of each required policy of insurance, Contractor shall provide to the Agency a signed, original certificate of liability insurance (ACORD 25). Consistent with this Part 3.18.1, the certificate shall identify the types of insurance, state the limits of liability for each type of coverage, name the Agency as Certificate Holder, provide that the general aggregate limit applies per project, and provide that coverage is written on an occurrence basis. Both the certificates and the endorsements must be received directly from either the Contractor’s insurance agent or the insurance company. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, naming the Agency as an additional insured for claims made under the Contractor’s completed operations, and otherwise meeting the above requirements, shall be submitted with the Contractor’s final request for payment for the Work and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Part 3.18.1. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

3.18.1.4 A failure by the Agency either (i) to demand a certificate of insurance or written endorsement required by Part 3.18.1, or (ii) to reject a certificate or endorsement on the grounds that it fails to comply with Part 3.18.1, shall not be considered a waiver of Contractor’s obligations to obtain the required insurance.

3.18.2 Property Insurance:

3.18.2.1 Builder’s Risk Insurance: Unless otherwise specified in the Delivery Order, at the time of execution of a Delivery Order and before commencing work under that Delivery Order, Contractor shall purchase property insurance written on a builder’s risk “all risk” or equivalent policy form on a replacement cost basis. Contractor shall maintain such property insurance until the Agency has made final payment for the work of the Delivery Order or until no person or entity other than the Agency has an insurable interest in the property required by this Paragraph 3.18.2 to be covered, whichever is later. This insurance shall include and be in an amount sufficient to cover at all times during the performance of the work of the Delivery Order, the interests of the Contractor, Subcontractors and Sub-subcontractors in the Delivery Order Project. The property insurance shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, false work, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect’s and Contractor's services and expenses required as a result of such insured loss.

3.18.2.2 Equipment Breakdown Insurance: In the event the Contractor installs and runs and/or operates (whether for testing or other purposes) heating, air conditioning, and electrical machinery and equipment, the Contractor shall purchase and maintain equipment breakdown (boiler and machinery) insurance, which shall specifically cover such objects during installation and until final acceptance by the Agency. This insurance shall include interests of the Agency, Contractor, and subcontractors at any tier in the Work, and the Agency and Contractor shall both be named insured.

3.18.2.3 Before an exposure to loss may occur, the Contractor shall file with the Agency a copy of each policy that includes insurance coverage required by this Part 3.18.2. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project.
3.18.2.4 Waiver of Subrogation: The Agency and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, for damages caused by fire or other causes of loss to the extent the property insurance provided by the Contractor pursuant to this Section 3.18.2 covers and pays for the damage, except such rights as they have to proceeds of such insurance held by the Contractor. The Agency or Contractor, as appropriate, shall require of the subcontractors, sub-subcontractors, agents and employees, each of the other, by appropriate written agreements, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

3.19 Performance and Payment Bonds: Prior to beginning work on a Delivery Order, the Contractor shall deliver to the Agency a Performance Bond and a Labor & Material Payment Bond if the Contractor’s agreed upon compensation for the Work of the Delivery Order exceeds $50,000 or the Agency requests such bonds. Each bond shall be in the amount of 100% of the amount of the Delivery Order. The Contractor’s Performance Bond shall be in the form of the SE-355, Performance Bond, and the Labor & Material Payment Bond shall be in the form of the SE-357, Labor & Material Payment Bond. The surety company providing the Bonds shall have, at a minimum, a “Best Rating” of “A” as stated in the most current publication of “Best’s Key Rating Guide, Property - Casualty.” Contractor’s failure to provide bonds as herein required shall be an event of default justifying the Agency, in its sole discretion, in terminating this Contract for cause.

3.20 Shop Drawings and Samples:
3.20.1 Contractor shall prepare or cause to be prepared shop drawings for fabricated items. Shop drawings shall consist of drawings, diagrams, illustrations, schedules, brochures, and other data which are prepared by the Contractor, sub-Contractor, manufacturer, supplier, or distributor and depict that portion of the work. Shop drawings shall be submitted, reviewed, and approved by the Contractor prior to submitting to the Agency and A/E. Shop drawings approved by the Contractor shall bear a stamp denoting that they have been reviewed and are “approved” or “approved as noted” or similar designation. Contractor shall submit the number of sets as specified in the Delivery Order plans or specifications or in the absence of a specification submit enough copies for the Agency to retain two copies plus the number desired to be returned to the Contractor. The Agency and A/E will review the shop drawings with reasonable promptness but only for conformity with the design.

3.20.2 Contractor shall submit samples as required by the Delivery Order. Samples are physical examples furnished by the Contractor of sufficient size and quantity to provide a good representation of the material proposed to be installed. Samples submitted will not be returned unless requested by Contractor and agreed to by the A/E. The Contractor shall pay shipping costs. The final installed product shall match the approved sample.

3.21 Inspection and Testing of Materials:
3.21.1 The Contractor shall leave uncovered all areas of work that will be covered that are called out in the construction documents to be left uncovered, or the Agency or A/E requests to be left uncovered prior to being inspected. The Contractor shall give adequate notice to the Agency and A/E of the time requested for an inspection of areas to be covered.

3.21.2 If the Contractor covers areas that were to be left uncovered, the Contractor shall cause the area to be uncovered for inspection. After being inspected, the Contractor shall repair the area with craftsmen skilled in the appropriate trades needed for the repair at no additional cost to the Agency.

3.22 Substitutions:
3.22.1 The Contractor shall submit proposed substitutions to the Agency for the Agency’s approval prior to execution of each Delivery Order.

3.22.2 Reference in the Contract Documents to a designated material, product, thing, or service by specific brand or trade name followed by the words “or equal” and “or approved equal” shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may use the products of other another manufacturer’s provided it is an ‘approved equal’ that meets or exceeds the specification for the specified product. The Contractor must submit adequate information about the product to show that the submitted product meets the level of quality as the product specified.

3.22.3 The Contractor shall not substitute any product, article, appliance, equipment, or material that is specified without prior written approval of the Agency.
3.23 Receiving and Storing Materials and Equipment: The Contractor shall have an authorized person or persons to receive all items delivered to the site of the Work and shall properly unload, check for completeness of shipment, and in-transit damage. The Contractor shall properly handle and store materials, supplies, equipment etc. in accordance with the contract documents or manufacturer's printed instructions for each product.

3.24 Schedule and Reports: Promptly after the Agency issues a Delivery Order, the Contractor shall present a construction schedule in a form satisfactory to the Agency. At intervals agreed upon in the Delivery Order, the Contractor shall update the schedule showing the actual progress of the work and adjustment in completion dates. If the work falls behind schedule, the Contractor shall present a plan for completion of the work by the scheduled date for completion.

3.25 Time for Completion:

3.25.1 Each Delivery Order signed by the Agency and Contractor shall set forth the time for completion of the Work specified therein. Contractor shall make a request for extension of time within seven days of the event giving rise to the request. The Contractor shall adequately document delays of the work that are due to circumstances beyond the control of the Contractor and shall submit the documentation to the Agency with any request for an extension. In the event of ongoing delay, the Contractor shall notify the Agency in its request for an extension of time that the cause of delay is ongoing. In such case, the Contractor shall supplement its request the cause of delay ends or the project is completed, whichever is sooner.

3.25.2 The Agency will review each request for time extension and equitably adjust the time for completion where (1) the event of delay actually impacted the critical path of the project and was beyond the control of the Contractor, and (2) completion of the Work was actually delayed.

4. CONTRACT ADMINISTRATION

4.1 Delivery Order - Cost Proposal: From time to time, the Agency will request a cost proposal for specific work and provide the Contractor adequate project information necessary to prepare a cost proposal. The Contractor shall prepare a cost proposal to complete the Work as requested. Unless specified by the Agency in its request, the cost proposal shall include the time frame for completion of the work. The Contractor shall submit the cost proposal to the Agency within one week of the request or as otherwise agreed upon by the Agency. The cost proposal shall be prepared according to the following method: (Agency, check box that applies to this contract)

☐ Multiplier – Unless the Contractor proposes to provide work at a lower price, the Contractor shall use the multiplier, as bid, times the unit prices contained in the cost data guide specified in the contract documents, times the number of units of Work. The unit prices in the cost data guide include all labor, supervision, material, equipment, taxes, overhead (including but not limited to insurance, performance bond, and payment bond premiums), delivery, setup, installation, and profit. The Contractor may not add any additional mark-up to its price. If the Contractor chooses to subcontract some or all of the Work, the Contractor must still use its multiplier with the cost data guide for pricing the subcontracted work. However, if the work of the proposed Delivery Order is such that the Contractor may legally act as the sole prime Contractor under the licensing laws of this State and the subcontracted work (1) is outside the Contractor’s license; (2) is outside the license of any subcontractor listed in Section 7 of the bid; (3) is outside the scope of services covered by the Contract; and (4) does not exceed 20% of the total value of the work of the proposed Delivery Order, the Contractor may include a markup not to exceed 13% on the price of such subcontracted work. If the Contractor proposes not to use its multiplier and the cost data guide as the basis for the price of its work or subcontracted work, it must document that the proposed price is lower than the price would be if the Contractor used the multiplier and cost data guide.

☐ Unit Prices – Unless the Contractor proposes to provide work at a lower price, the Contractor shall use the unit prices, as bid, times the number of units required for the Work to arrive at an extended price for that item of Work. The total of all extended prices becomes the Contractors price for the cost proposal. The unit prices include all labor, supervision, material, equipment, taxes, overhead (including but not limited to insurance), delivery, setup, installation, and profit. The Contractor may not add any additional mark-up to its price. If the Contractor chooses to subcontract some or all of the Work, the Contractor must still use the unit prices bid for pricing the subcontracted work. If the Contractor proposes not to use the unit prices bid as the basis for the price of its work or subcontracted work, it must document that the proposed price is lower than the price would be if the Contractor used the multiplier and cost data guide.

☒ Low Bid – The Contractor shall competitively bid the Work against at least three other Indefinite Delivery Contractors. The Delivery Order bid price shall include all labor, supervision, material, equipment, taxes, overhead (including but not limited to insurance), delivery, setup, installation, and profit. Under this pricing method, the Agency will award the Delivery Order to the lowest bidder.
4.2 Changes in the Work of a Delivery Order:

4.2.1 Any changes in the work must be approved by the Agency and executed by using the SE-695, Construction Services IDC Delivery Order Modification. The SE-695 must be signed by the Contractor and Agency. Except when the Delivery Order was awarded on the basis of competitive bids, the cost of any change order shall be calculated using the same method as pricing the Delivery Order.

4.2.2 In the absence of a total agreement concerning the item(s) for a change order, a Construction Change Directive shall be used.

4.2.3 Agreed Overhead and Profit Rates:

For any adjustment to the Delivery Order for which overhead and profit may be recovered, other than those made pursuant to Unit Prices stated in the Contract Documents, the Contractor agrees to charge and accept, as full payment for overhead and profit, the following percentages of costs attributable to the change in the work. The percentages cited below shall be considered to include all indirect costs including, but not limited to: field and office managers, supervisors and assistants, incidental job burdens, small tools, and general overhead allocations. The allowable percentages for overhead and profit are as follows:

.1 To the Contractor for work performed by the Contractor’s own forces, 17% of the Contractor’s actual costs.

.2 To each Subcontractor for work performed by the Subcontractor’s own forces, 17% of the subcontractor’s actual costs.

.3 To the Contractor for work performed by a subcontractor, 10% of the subcontractor’s actual costs (not including the subcontractor’s overhead and profit).

4.3 Payments:

4.3.1 Contractor may submit monthly applications for payment for the Work of Delivery Orders scheduled to last two months or more in duration. Contractor shall submit only one application for payment for the Work of Delivery Orders scheduled to last less than two months in duration.

☐ 4.3.2 Delivery Orders Awarded by low bid: If the Contractor intends to submit more than one application for payment, the Contractor shall submit to the A/E, within ten days of Delivery Order award, a schedule of values allocating the entire Delivery Order Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the A/E may require. This schedule, unless objected to by the A/E, shall be used as a basis for reviewing the Contractor’s Applications for Payment. Contractor shall base its monthly applications for payment on work completed up to the date of the application using the approved schedule of values. The sum of all payments to the Contractor shall not exceed the agreed upon cost of the work set forth in the Delivery Order as adjusted by subsequent modifications to the Delivery Order, if any.

☐ 4.3.2 Contractor shall base its applications for payment on work completed up to the date of the application using the units of measure and prices contained in the (Agency, check box that applies to this Contract)

☐ Unit price schedules in the cost data guide incorporated by the Contract Documents

☐ Unit price schedule in Contractors bid.

4.3.3 Contractor’s applications for payment may include materials suitably stored on site for use in the Work provided the Contractor submits:

a. Proof of purchase & delivery;

b. Documentation showing the location of the material;

c. Certificate of insurance for the material with adequate coverage showing the Agency as the certificate holder.

4.3.4 The Agency will make payments to the Contractor for completed work based on the actual units or quantity of work completed. The Agency will make payments on the undisputed amounts of an application for payment within 21 days of receipt of the application.

4.3.5 Subcontractor Payments (Chapter 6 of Title 29 of the South Carolina Code of Laws, as amended): The Contractor shall pay each subcontractor no later than seven (7) days after receipt of payment from the Agency the amount to which the subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the subcontractor’s portion of the Work. By appropriate agreement with its subcontractors, the Contractor shall require each subcontractor to make payments to Sub-subcontractors in a similar manner.

4.3.6 If the Agency does not pay the Contractor within seven (7) days after the time established in Part 4.3.2 the undisputed amount of a payment request, then upon seven (7) additional days written notice to the Agency, the Contractor may stop the Work until the Contractor has received payment of the undisputed amount owing. The Contract Time and the Contract Sum shall be equally adjusted by the amount of the Contractor’s reasonable costs of shut down, delay and start-up, plus interest as provided for in the Contract Documents.

4.3.8 Final Payment: Upon final payment by the Agency to the Contractor for the Work of a Delivery Order, all rights, title, and interest in and to all improvements and equipment constructed or installed on the premises shall vest in the Agency at no additional cost, free and clear of all any liens and encumbrances created or caused by the Contractor.

4.3.9 Withholding of Payments: Payments may be withheld to the extent of, and on account of (1) defective Work not remedied, or Work not performed in accordance with the Contract Documents; (2) claims filed by third parties; (3) failure of the Contractor to make payments promptly to the subcontractors for labor, materials, or equipment; (4) persistent failure to carry perform the Work in accordance with the Contract Documents; (5) failure by the Contractor to perform its obligations under the Contract Documents; or (6) a default by the Contractor under the Contract Documents. The Agency shall promptly notify the Contractor of any reason for withholding payment.

4.4 Delivery Order Completion and Closeout: Upon completion of all Work, the Contractor shall notify the Agency of its completion. The Agency shall schedule a Final Inspection and allow the Contractor to demonstrate that all equipment and systems operate as designed. The Agency may elect to have other persons, firms or agencies participate in the inspections. Projects exceeding the Agency’s construction procurement certification level shall require an inspection by the Office of State Engineer (OSE) and the State Engineer’s issuance of a Certificate of Occupancy. The Contractor may find Agency construction certification limits on Procurement Services website at [http://procurement.sc.gov/PS/agency/PS-agency-audits.phtm](http://procurement.sc.gov/PS/agency/PS-agency-audits.phtm.) Final payment will not be due nor retained funds released until (1) the Agency agrees that the project is complete, (2) OSE or the Agency, which ever has authority, issues a Certificate of Occupancy, and (3) the Agency receives from the Contractor the following:

a. Affidavit of payment of debts and claims;
b. Consent of Surety, if any, to final payment.

5. DISPUTES

5.1 Both parties shall attempt to resolve disputes through good faith negotiations.

5.2 All disputes, claims, or controversies relating to the Contract, that cannot be resolved through good faith negotiations between the parties shall be resolved exclusively by the appropriate Chief Procurement Officer in accordance with Title 11, Chapter 35, Article 17 of the South Carolina Code of Laws, or in the absence of jurisdiction, only in the Court of Common Pleas for, or a federal court located in, Richland County, State of South Carolina. Contractor agrees that any act by the State regarding the Contract is not a waiver of either the State’s sovereign immunity or the State’s immunity under the Eleventh Amendment of the United States Constitution. As used herein, “the State” includes the Agency and the State Fiscal Accountability Authority.

5.3 Interest: Payments due to the Contractor and unpaid under the Contract Documents shall bear interest only if and to the extent allowed by Title 29, Chapter 6, Article 1 of the South Carolina Code of Laws. Amounts due to the Agency shall bear interest at the rate of one percent a month or a pro rata fraction thereof on the unpaid balance as may be due.

5.4 Contractor consents that any papers, notices, or process necessary or proper for the initiation or continuation of any claims or controversies relating to the Contract; for any court action in connection therewith; or for the entry of judgment on any award made, may be served on Contractor by certified mail (return receipt requested) addressed to Contractor at the address provided for the Contractor’s Representative or by personal service or by any other manner that is permitted by law, in or outside South Carolina. Notice by certified mail is deemed duly given upon deposit in the United States mail.

5.5 Continuation of Work: Pending final resolution of any dispute under this Contract, the Contractor will proceed diligently with the performance of its duties and obligations under the Contract Documents, and the Agency will continue to make payments of undisputed amounts in accordance with the Contract Documents.

6. LIMITATION OF LIABILITY

6.1 Notwithstanding any other provision of the Contract Documents, but subject to a duty of good faith and fair dealing, the Contractor and Agency waive Claims against each other for listed damages arising out of or relating to this Contract. This mutual waiver includes
6.1.1 For the Agency, listed damages are (i) lost revenue and profit, (ii) losses resulting from injury to business or reputation, (iii) additional or escalated overhead and administration expenses, (iv) additional financing costs, (v) costs suffered by a third party unable to commence work, (vi) reasonable attorney’s fees, (vii) any interest, except to the extent allowed by Part 5.3 (Interest), (viii) lost revenue and profit for lost use of the property, (ix) costs resulting from lost productivity or efficiency, and (x) damages incurred by the Agency for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

6.1.2 For the Contractor, listed damages are (i) lost revenue and profit, (ii) losses resulting from injury to business or reputation, (iii) additional or escalated overhead and administration expenses, (iv) additional financing costs, (v) reasonable attorney’s fees, (vi) any interest, except to the extent allowed by Part 5.3 (Interest); (vii) unamortized equipment costs; and (viii) losses incurred by subcontractors for the types of damages the Contractor has waived as against the Agency.

6.2 This mutual waiver is applicable, without limitation, to all listed damages due to either party’s termination in accordance with Part 9. Nothing contained in this Part 6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents. This mutual waiver is not applicable to amounts due or obligations under Part 3.17 (Indemnification).

7. Hazardous Materials

7.1 Contractor’s Responsibilities With Respect to Hazardous Materials: The scope of Work the Contractor is to perform pursuant to this Contract excludes any work or service of any nature associated or connected with the discovery, identification, abatement, cleanup, control, or removal of any currently existing Hazardous Materials or Mold on, in, or nearby the site of the Work. When requesting cost proposals, the Agency will identify known Hazardous Materials or Mold on, in, or nearby the site of the Work. The Agency agrees that all duties and obligations in connection with any Hazardous Materials or Mold currently located in, on or nearby the Site or brought into the Site by a party other than the Contractor or its subcontractors, other than those defined in the Delivery Order for the Work affected by the Hazardous Material or Mold, are not the Contractor’s responsibility. Should the Contractor become aware, discover or based on reasonable evidence suspect the presence of Hazardous Materials or Mold beyond those addressed in the Delivery Order for the Work affected by the Hazardous Material or Mold, the Contractor will immediately cease work in the affected area, and will promptly notify the Agency of the conditions discovered. Should the Contractor stop work because of such discovery or suspicion of Hazardous Materials or Mold, then the Contract Time will, should the Agency elect to choose to continue the Work after remedy thereof, be reasonably extended by Change Order to cover the period required for abatement, cleanup, or removal of the Hazardous Materials or Mold. The Contractor will not be held responsible for any claims, damages, costs, or expenses of any kind associated with such period during which work has been stopped as a result of Hazardous Materials or Mold.

7.2 Hazardous Materials Introduced to the Site by Contractor: If the Contractor, its subcontractors, and any party for whom they may be liable, introduces any Hazardous Materials to the Site then the Contractor, at its sole cost and expense, shall be responsible for any response, removal, cleanup, and/or other remedial action required by applicable law. If any Mold occurs within the Site as the result of the negligent implementation of the Project or the improper functioning of the Conservation Measures, then the Contractor, at its sole cost and expense, shall be responsible for any response, removal, cleanup, or other remedial action required by applicable law. Except as to the Contractor’s initial response to an emergency, any such remedial action(s) shall require the prior review and approval of the Agency.

8. MISCELLANEOUS PROVISIONS

8.1 Governing Law: This Contract shall be governed by the laws of South Carolina, except its choice of law rules.

8.2 Severability: If any provision of this Contract shall be held to be invalid, illegal, or unenforceable, the validity, legality and enforceability of the remaining provisions shall not be affected or impaired thereby.

8.3 No Waiver: No course of dealing or failure of the Agency and/or the Contractor to enforce strictly any term, right or condition of this Contract shall be construed as a waiver of such term, right or condition. No express waiver of any term, right, or condition of this Contract shall operate as a waiver of any other term, right, or condition.

8.4 Rights Cumulative: Except as otherwise provided in this Contract, (i) rights and remedies available to the Agency and/or the Contractor as set forth in this Contract shall be cumulative with and in addition to, and not in limitation of, any other rights or remedies available to the Parties at law and/or in equity, and (ii) any specific right or remedy conferred upon or reserved to the Agency and/or the Contractor in any provision of this Contract shall not preclude the concurrent or consecutive exercise of a right or remedy provided for in any other provision hereof.
8.5 Notices: Any notices required to be given under this Contract shall be in writing and shall be delivered either by (i) certified mail, return receipt requested, in which case notice shall be deemed delivered three (3) business days after deposit, postage prepaid, in the U.S. mail; (ii) a reputable messenger service or a nationally recognized overnight courier, in which case notice shall be deemed delivered one (1) business day after deposit with such messenger or courier; or (iii) personal delivery with receipt acknowledged in writing, in which case notice shall be deemed delivered when received. All notices shall be sent to the representatives identified in the Part G of the Agreement at the addresses provided therein. The foregoing addresses may be changed from time to time by notice to the other Party in the manner herein provided for.

8.6 Economic Conflict of Interest: A Contractor shall not have or exercise any official responsibility regarding a public contract in which the Contractor, or a business with which he is associated, has an economic interest. A person working for Contractor shall not have or exercise any official responsibility regarding a public contract in which the person, an individual with whom he is associated, or his family members have an economic interest. If Contractor is asked by any person to violate, or does violate, either of these restrictions, Contractor shall immediately communicate such information to the Agency Representative. The State may rescind, and recover any amount expended as a result of, any action taken or contract entered in violation of this provision. The terms “business with which he is associated,” “economic interest,” “family member,” “immediate family,” “individual with whom he is associated,” “official responsibility” and “person” have the meanings provided in S.C. Code Ann. § 8-13-100.

8.7 Illegal Immigration: Contractor certifies and agrees that it will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws and agrees to provide to the State upon request any documentation required to establish either: (a) that Title 8, Chapter 14 is inapplicable both to Contractor and its subcontractors or sub-subcontractors; or (b) that Contractor and its subcontractors or sub-subcontractors are in compliance with Title 8, Chapter 14. Pursuant to Section 8-14-60, “A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony and, upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both.” Contractor agrees to include in any contracts with its subcontractors language requiring its subcontractors to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in their contracts with the sub-subcontractors language requiring the sub-subcontractor to comply with the applicable requirements of Title 8, Chapter 14. (An overview is available at [www.procurement.sc.gov](http://www.procurement.sc.gov))

8.8 Drug-Free Workplace: The Contractor certifies to the Agency that Contractor will provide a Drug-Free Workplace, as required by Title 44, Chapter 107 of the South Carolina Code of Laws, as amended.

8.9 False Claims: According to the S.C. Code Ann. § 16-13-240, “a person who by false pretense or representation obtains the signature of a person to a written instrument or obtains from another person any chattel, money, valuable security, or other property, real or personal, with intent to cheat and defraud a person of that property is guilty” of a crime.

8.10 Non-Indemnification: Any term or condition is void to the extent it requires the State to indemnify anyone. It is unlawful for a person charged with disbursements of state funds appropriated by the General Assembly to exceed the amounts and purposes stated in the appropriations (§ 11-9-20). It is unlawful for an authorized public officer to enter into a contract for a purpose in which the sum is in excess of the amount appropriated for that purpose. It is unlawful for an authorized public officer to divert or appropriate the funds arising from any tax levied and collected for any one fiscal year to the payment of an indebtedness contracted or incurred for a previous year. (§ 11-1-40)

8.11 Enforcement and Interpretation of Building Codes: As required by Title 10, Chapter 1, Section 180 of the South Carolina Code of Laws, as amended, OSE shall determine the enforcement and interpretation of all building codes and referenced standards on state buildings. The Contractor shall refer any questions, comments, or directives from local officials to the Agency and OSE for resolution. When the amount of a Delivery Order exceeds the construction procurement certification of the Agency, the Contractor shall not commence the Work of the Delivery Order before receiving a copy of the Building permit issued by OSE. (The Contractor may find Agency construction certification limits on Procurement Services website at [http://procurement.sc.gov/PS/agency/PS-agency-audits.phtm](http://procurement.sc.gov/PS/agency/PS-agency-audits.phtm)).

8.12 Assignment: The Agency and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements and obligations contained in this Contract. Neither party to the Contract shall assign the Contract as a whole, or in part, without written consent of the other and then only in accordance with and as permitted by Regulation 19-445.2180 of the South Carolina Code of Regulations, as amended. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

8.13 Open Trade (Jun 2015): During the contract term, including any renewals or extensions, Contractor will not engage in the boycott of a person or an entity based in or doing business with a jurisdiction with whom South Carolina can enjoy open trade, as defined in SC Code Section 11-35-5300. [07-7A053-1]
9. SUSPENSION OR TERMINATION

9.1 Agency Right of Suspension: The Agency may, at any time, suspend the work, in whole or in part, with or without cause for such period of time as determined by the Agency. Except in the event of suspension due to a default of the Contractor, the contract sum will be equitably adjusted to reflect reasonable costs actually incurred by the Contractor due to delay or interruption resulting from such suspension.

9.2 Agency Right of Termination:

9.2.1 Termination for Cause: If the Contractor defaults, persistently fails or neglects to perform the Work in accordance with the Contract Documents, or fails to perform a provision of the Contract, the Agency shall provide written notice of such default, failure, or neglect to the Contractor. If the Contractor fails to cure such default, failure, or neglect within fifteen days from receipt of the Agency’s notice, the Agency may, without prejudice to any other right or remedy the Agency may have, terminate the Contract and take possession of the area at the Site affected by the Work.

9.2.2 Termination for Convenience: The Agency may, for its convenience, terminate all or any portion of the Work under an individual Delivery Order, or terminate this entire Contract, by ten (10) days written notice stating the effective date of the termination. Thereafter, the Agency shall pay the Contractor for Work actually performed before the date of termination. No payments shall be made for Work not actually performed, and no payment shall be made or due for lost profits on account of Work not performed.

9.3 Contractor Right of Termination:

9.3.1 The Contractor may terminate the contract, or Delivery Order, if work is stopped through no fault of the Contractor, or other persons performing work either directly or indirectly for the Contractor, for a period of time exceeding 60 consecutive calendar days due to a court order or other public authority having jurisdiction; or a Declared National emergency which requires the work to be stopped.

9.3.2 Agency Failure to Make Payment: Subject to the Agency’s right to withhold payments pursuant to Part 3.4.7, if the Agency fails to make payments to the Contractor as set forth in Part 10 and any other applicable provisions of the Contract Documents, the Contractor may, upon thirty (30) days’ prior written notice to the Agency, terminate the Contract and recover from the Agency payment for all Work performed and for proven loss with respect to materials, equipment, tools, and machinery, including reasonable overhead, profit and damages applicable to the Work for the Contract Services performed through the date thereof.
CONSTRUCTION SERVICES IDC DELIVERY ORDER

AGENCY: TriCounty Technical College

DELIVERY ORDER PROJECT NAME: DOT - Wilson Hall

DELIVERY ORDER PROJECT NUMBER: H59-N903-PD

STATE IDC PROJECT NUMBER: H59-D865-PD

CONTRACTOR:

ADDRESS: 

<table>
<thead>
<tr>
<th>COST INFORMATION:</th>
<th>DELIVERY ORDER</th>
<th>CONTRACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Maximum Total Amount of this IDC:</td>
<td>$ 1,000,000.00</td>
<td></td>
</tr>
<tr>
<td>2. Maximum Total Amount Allowed for Delivery Order:</td>
<td>$ 250,000.00</td>
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</tr>
<tr>
<td>3. Amount of this Delivery Order:</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>4. Total Amount of Previous Delivery Orders (including Modifications):</td>
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<td></td>
</tr>
<tr>
<td>5. IDC Total, Including this Delivery Order:</td>
<td>$ 0.00</td>
<td></td>
</tr>
<tr>
<td>6. Balance Remaining for this IDC:</td>
<td>$ 1,000,000.00</td>
<td></td>
</tr>
</tbody>
</table>

SCHEDULE:

1. Date of Commencement: 
2. Days Allowed
3. Date of Substantial Completion: 

Description of Delivery Order Scope of Work: (attach Contractor’s Proposal) 

List of Delivery Order Documents: (refer to attachments as necessary) 

PROPERTY INSURANCE: (check box for applicable provision)

☐ Contractor shall provide property insurance as provided in Part 3.18.2 of the General Conditions, SE-685.

☐ Contractor is not required to provide property insurance as provided in Part 3.18.2 of the General Conditions, SE-685. Agency will provide property insurance covering only the Agency’s interest in the work of this Delivery Order as follows: ______

☐ Contractor is not required to provide property insurance as provided in Part 3.18.2 of the General Conditions, SE-685, but shall provide insurance as follows: ______

☐ The work of this Delivery Order does not require property insurance and Contractor is not required to provide property insurance as provided in Part 3.18.2 of the General Conditions, SE-685.

The Agency and the Contractor hereby agree, as indicated by the signatures below, to the scope of work identified in the Contract Documents listed above, the Contractor’s Cost Proposal dated the ______ day of ______, 20____, and this Delivery Order which shall be assigned to the Indefinite Delivery Contract identified above.

NOTICE TO PROCEED is hereby given on this the ______ day of ______, 20____. The Dates of Commencement and Substantial Completion are as noted above and shall be used for determining completion and the applicability of Liquidated Damages. Liquidated Damages in the amount of $ ______ per day will be assessed for failure to complete the Work by the agreed upon date of completion. Failure to commence actual work on this Delivery Order within seven (7) days from the Date of Commencement will entitle the Agency to consider the Contractor non-responsible, and may withdraw this Delivery Order and terminate the Contract in accordance with the Contract Documents.

AGENCY:

BY: ___________________________ (Signature of Representative) 

Print Name: ___________________________ 

Print Title: ___________________________ 

Date: ___________________________

CONTRACTOR:

BY: ___________________________ (Signature of Representative) 

Print Name: ___________________________ 

Print Title: ___________________________ 

Date: ___________________________

COMPLETION CERTIFICATION BY AGENCY:

ACTUAL COMPLETION DATE: ___________________________ 

LIQUIDATED DAMAGES ASSESSED: ___________________________ 

CERTIFIED BY (Signature of Agency Representative): ___________________________ 

TITLE: ___________________________ DATE: ___________________________

SE-690
CONSTRUCTION SERVICES IDC DELIVERY ORDER MODIFICATION

AGENCY: TriCounty Technical College
DELIVERY ORDER PROJECT NAME: DOT - Wilson Hall
DELIVERY ORDER PROJECT NUMBER: H59-N903-PD
STATE IDC PROJECT NUMBER: H59-D865-PD

CONTRACTOR: 
ADDRESS: 

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<td>1. Maximum Total Amount of this IDC:</td>
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<td>$1,000,000.00</td>
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<tr>
<td>2. Maximum Total Amount Allowed for Delivery Order:</td>
<td>$250,000.00</td>
<td></td>
</tr>
<tr>
<td>3. Current Amount of this Delivery Order:</td>
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<td></td>
</tr>
<tr>
<td>4. Amount of this Modification:</td>
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</tr>
<tr>
<td>5. Adjusted Amount of this Delivery Order</td>
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<tr>
<td>6. IDC Total (Sum of all Delivery Orders, including this DO) Prior to this Modification:</td>
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<td></td>
</tr>
<tr>
<td>7. IDC Total (Sum of all Delivery Orders) Including this Modification:</td>
<td>$1,000,000.00</td>
<td></td>
</tr>
<tr>
<td>8. Balance Remaining for this IDC:</td>
<td>$1,000,000.00</td>
<td></td>
</tr>
</tbody>
</table>

SCHEDULE:
1. Date of Commencement: 
2. Previous Days Allowed 
3. Additional Days Allowed this Modification
4. Revised Date of Completion: 

Description of Delivery Order Scope Modification: (attach Contractor’s Proposal) 

List of Modification Documents: (refer to attachments as necessary) 

The Agency and the Contractor hereby agree, as indicated by the signatures below, to the revised scope of work identified in the Modification Documents listed above, the Contractor’s Cost Proposal dated the ___ day of ___, 20___, and this Delivery Order Modification, which shall be assigned to the Indefinite Delivery Contract identified above.

AGENCY:
BY: 
(Signature of Representative) 
Print Name: 
Print Title: 
Date: 

CONTRACTOR
BY: 
(Signature of Representative) 
Print Name: 
Print Title: 
Date: 

SE-695
Division 02  Existing Conditions
02 41 19  Selective Demolition

Division 06  Wood, Plastics, and Composites
06 10 00  Rough Carpentry
06 10 53  Misc. Rough Carpentry

Division 07  Thermal and Moisture Protection
07 21 00  Thermal Insulation
07 84 00  Firestopping
07 92 00  Joint Sealants

Division 08  Openings
08 11 13  Hollow Metal Doors and Frames
08 71 00  Door Hardware

Division 09  Finishes
09 51 23  Acoustical Tile Ceilings
09 65 18  Resilient Base and Accessories
09 68 00  Carpet
09 91 00  Painting
09 91 23  Interior Painting
Drawing List

General
G1.00 Cover Sheet
G2.00 OSE Tables

Architectural
A1.00 Floor Plans and Schedules

Mechanical
M1.00 HVAC Floor Plans and Schedules

Plumbing
P1.00 Plumbing Floor Plans and Schedules

Electrical
E0.01 Electrical Legend and Schedules
E1.01 Electrical Lighting and Power Plans
ES1.01 Electrical Specifications
ES1.02 Electrical Specifications
Professional Seals

1 Architect Seals
2  Electrical Seals
3 Mechanical Seals
SECTION 02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Demolition and removal of selected portions of building or structure.

1.2 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.

B. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 PREINSTALLATION MEETINGS

A. Predemolition Conference: Conduct conference at Project site.

1.4 INFORMATIONAL SUBMITTALS

A. Predemolition Photographs or Video: Submit before Work begins.

1.5 FIELD CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

C. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
   1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

D. Storage or sale of removed items or materials on-site is not permitted.
E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

   1. Maintain fire-protection facilities in service during selective demolition operations.

1.6 WARRANTY

   A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

   A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

   B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

   A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

   B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

   C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

   D. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.

   E. Survey of Existing Conditions: Record existing conditions by use of measured drawings and preconstruction photographs.

      1. Comply with requirements specified in Section 01 32 00 Construction Progress Documentation.
3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
   1. Arrange to shut off indicated utilities with utility companies.
   2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
   3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated to be removed.

3.3 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
   1. Comply with requirements for access and protection specified in Section 015000 "Temporary Facilities and Controls."

B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

3.4 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
   1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
   2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
   3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of...
hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.

4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

5. Dispose of demolished items and materials promptly. Comply with requirements in Section 017419 "Construction Waste Management and Disposal."

B. Reuse of Building Elements: Do not demolish building elements beyond what is indicated on Drawings without Architect's approval.

C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
4. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.6 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.
SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

B. Related Sections: The following Sections contain requirements that relate to this Section:
   1. Division 09 Section "Painting" for field applied paint.

1.2 SUMMARY

A. This Section includes the following:
   1. Wood blocking.
   2. Plywood sheathing
   3. Filling joints between plywood panels and countersunk holes from fasteners

1.3 DEFINITIONS

A. Rough Carpentry: Carpentry work not specified in other Sections and not exposed, unless otherwise specified.

1.4 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 01 Specification Sections.

B. Material certificates for dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the American Lumber Standards Committee's (ALSC) Board of Review.

C. Wood treatment data as follows, including chemical treatment manufacturer's instructions for handling, storing, installing, and finishing treated materials:
   1. For each type of preservative-treated wood product in contact with masonry or concrete, include certification by treating plant stating type of preservative solution and pressure process used, net amount of preservative retained, and compliance with applicable standards and rules, regulations, standards, and restrictions of applicable governing authorities.
   2. For waterborne-treated products, include statement that moisture content of treated materials was reduced to levels indicated before shipment to Project site.
D. Material test reports from a qualified independent testing agency indicating and interpreting test results relative to compliance of fire-retardant-treated wood products with requirements indicated.

E. Certification that furnished, untreated plywood meets requirements for a Class C (Flame Spread of 200 or less) Classification in accordance with ASTM E84.

F. Warranty of chemical treatment manufacturer for each type of treatment.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Until ready for use, keep materials under cover and dry. Protect from weather and contact with damp or wet surfaces. Stack lumber, plywood, and other panels. Provide for air circulation within and around stacks and under temporary coverings.
   1. Protect all lumber from rain, fog, snow, dew, and all other forms of moisture that may alter moisture content above specified requirements. The moisture content of lumber and plywood may be checked in the field with a reliable moisture meter.
   2. For lumber and plywood pressure treated with waterborne chemicals, place spacers between each bundle to provide air circulation.
   3. Lumber to be used in roofing construction shall be stored to permit free circulation between each piece. Take all precautions to prevent warping, twisting, racking, and other distortions and to keep wood within the specified moisture content.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   1. Plywood
      a. Boise Cascade Corporation
      b. Georgia-Pacific
      c. Louisiana-Pacific Corporation
      d. Weyerhaeuser Company

   2. Wood-Preservative-Treated Materials in Contact with Cementitious Materials:
      b. Hoover Treated Wood Products, Inc.
      c. Osmose Wood Preserving, Inc.
      d. Willamette Industries, Inc.
      e. Cox Industries

2.2 LUMBER, GENERAL
   1. Texture: Smooth, flat, tight grain surface that will not telegraph grain through painted finish. Solid lumber stock, finger joints not acceptable. All wood and lumber shall be straight, flat, and true without bows, warps, splinters, cracks, nicks, or gouges.

B. Inspection Agencies: Inspection agencies, and the abbreviations used to reference them, include the following:
   1. NELMA - Northeastern Lumber Manufacturers Association.
   2. SPIB - Southern Pine Inspection Bureau.
   3. WCLIB - West Coast Lumber Inspection Bureau.
   4. WWPA - Western Wood Products Association.

C. Grade Stamps: Provide lumber with each piece factory marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.
   1. For exposed lumber, furnish pieces with grade stamps applied to ends or back of each piece, or omit grade stamps and provide grade-compliance certificates issued by inspection agency.

D. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
   1. Provide dressed lumber, S4S, unless otherwise indicated.
   2. Kiln dry-dry lumber to 19 percent maximum moisture content prior to dressing for 2-inch nominal thickness or less, unless otherwise indicated.
   3. All lumber shall be sound, properly seasoned, and dry and be free of twists, warps, bends, racking, knots, sap, and bark. Edges and sides shall be uniform in dimension and shape with no signs of bark removal.

2.3 WOOD-PRESERVATIVE-TREATED MATERIALS

A. General:
   1. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with the ground.
   2. Where lumber or plywood is indicated as preservative treated or is specified to be treated, comply with applicable requirements of AWPA C2 (lumber) and AWPA C9 (plywood). Comply with EPA and VOC requirements for treated materials. Use only materials that are approved for use by the applicable governing authorities for the intended application. Preservative materials shall provide performance equal to CCA when used in comparable conditions, locations, and applications. Where CCA is not acceptable to governing
authorities, use alternative preservative materials such as ASQ that will provide performance equal to CCA, and that are acceptable to governing authorities.

3. Mark each treated item with the Quality Mark Requirements of an inspection agency approved by ALSC's Board of Review.

4. Obtain lumber only from true lumber yards that specialize in lumber and wood building materials and that are capable of kiln-drying lumber that meets these drying requirements or can provide such lumber.

5. All lumber with moisture content exceeding 19 percent will be rejected. If this lumber is installed, it shall be removed and replaced with dry lumber at the Contractor’s expense. This provision will be strictly enforced.

B. Treat indicated items and the following:
   1. Wood sills, sleepers, blocking, furring, framing, supporting members, and similar concealed members in contact with masonry or concrete.

C. Drying Requirements
   1. Prior to sizing and pressure treating lumber, dry to 19 percent.
   2. After treatment, kiln-dry lumber and plywood to a maximum moisture content
      a. Lumber: 19 percent
      b. Plywood: 15 percent.

D. Retention Rates. Minimum:
   2. for lumber treated with ACQ: 0.40 pcf.
   3. for lumber treated with CA-B: 0.21 pcf.
   4. for lumber treated with CA-A: 0.41 pcf

E. Complete fabrication of treated items before treatment, where possible. If cut, drilled, or scratched, or otherwise abraded after treatment, apply field treatment complying with AWPA M4 to cut surfaces. Inspect each piece of lumber or plywood after drying and discard damaged or defective pieces.

F. Separation Sheet: Peel and stick high temperature resistance-type with a minimum softening temperature of 260 deg. F. PolyStick MU by Polyglass, Strongseal Plus HT CETCO, or equal by WR Grace for separating treated wood from metal.

2.4 DIMENSION LUMBER

A. General: Provide dimension lumber of grades indicated according to the ALSC National Grading Rule (NGR) provisions of the inspection agency indicated.

2.5 MISCELLANEOUS LUMBER

A. General: Provide lumber for support or attachment of other construction, including bucks, nailers, blocking, furring, grounds, stripping, and similar members.
B. Fabricate miscellaneous lumber from dimension lumber of sizes indicated and into shapes shown.

C. Moisture Content: 19 percent maximum for lumber items not specified to receive wood preservative treatment.

D. Grade: For dimension lumber sizes, provide No. 3 or Standard grade lumber per ALSC's NGRs of any species. For board-size lumber, provide No. 3 Common grade per NELMA or WWPA; No. 2 grade per SPIB; or Standard grade per WCLIB or WWPA of any species.

2.6 PLYWOOD, GENERAL

A. Structural composite lumber made from wood veneers with grain primarily parallel to member lengths, evaluated and monitored according to ASTM D5456 and manufactured with an exterior-type adhesive complying with ASTM D2559 and containing no urea formaldehyde.

B. Provide all plywood panels complying with DOC PS 1, "U.S. Product Standard for Construction and Industrial Plywood," where plywood is indicated. Factory mark structural-use panels with APA trademark evidencing compliance with grade requirements. Certification: Provide certification that plywood, untreated with fire-retardent, meets Standard Building Code Congress requirements for a flame spread of 200 or less (Class C) when tested in accordance with ASTM E84.
   1. Face Veneer: A/C. Panel face exposed after installation shall be suitable for painting and shall not telegraph grain, knots, blemishes, etc. through the finish paint.
   2. Species and Cut: Birch or any face veneer suitable for interior painting.
   3. Thickness: 3/4 inch. Thickness and dimensions of panels shall be consistent and uniform from one panel to another to ensure uniform, even, and flush joints that can be filled evenly filled flush when panels are butted together and will not produce distortions, waviness, surface irregularities, etc. when viewed under various lighting conditions, and will resist contact with owners equipment that may be operating in areas where panels are located.
   4. Structural Properties: As required to span framing and supports with minimum deflection produced by expected loads that will not produce distortions, waviness, surface irregularities, etc. when viewed under various lighting conditions.

2.7 FASTENERS

A. General: Provide fasteners of size and type indicated and that comply with requirements specified in this Article for material and manufacture.
   1. Treated Wood: All fasteners and connectors in contact with treated wood shall be Type 304 stainless steel or hot dipped galvanized per ASTM A153, G185. No exceptions. Mechanically galvanized is not acceptable.

B. Nails, Wire, Brads, and Staples: FS FF-N-105. Nails shall be of the thickness required to penetrate 2/3 of the substrate.
C. Power-Driven Fasteners: CABO NER-272.

E. Lag Bolts: ASME B18.2.1.

F. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.

G. Wood Filler: As recommended by the paint and plywood contractors and that is suitable for filling joints between plywood panels, cracks, open holes, and countersunk fastener holes in plywood surface. Filler shall meet the following requirements when exposed to expected conditions of the project installation:
1. Be compatible with the plywood and with finish paint.
2. Be durable and properly fill joints and holes.
3. Shall not crack or delaminate.
4. Shall not shrink away from filled holes or recess below finish surface after curing.
5. Shall not shrink, expand or project above the wood surface after curing.
6. Shall not telegraph through the paint finish.
7. Shall react to wood's reaction to interior's normal reaction to ambient humidity changes without shrinking, cracking, delaminating, expanding,

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Discard units of material with defects that impair quality of rough carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.

B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted.

C. Fit carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.

E. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
1. CABO NER-272 for power-driven staples, P-nails, and allied fasteners.

F. Use common wire nails, unless otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; predrill as required.

G. Use Type 304 stainless steel fasteners where wood is exposed to weather, in ground contact, fastens treated wood, or in area of high relative humidity.
H. Countersink nail heads on exposed carpentry work and fill holes with wood filler suitable for painting. Fill holes flush and allow for shrinkage and sanding filler smooth and flush with plywood face. Wood filler shall not crack or shrink away from holes or after setting.

I. Back Priming: For all wood materials scheduled to be painted, including wood, back prime, including all edges and concealed surfaces, prior to installation. Apply primer to the same specifications as for the exposed surfaces. Do not prime edges that will form face joints that will be filled. Installed items not back-primed shall be removed, properly primed, and reinstalled at the Contractor’s expense. Damaged materials shall be replaced.

3.2 WOOD GROUNDS, NAILERS, BLOCKING, AND SLEEPERS

A. Install wood grounds, nailers, blocking, and sleepers where shown and where required for screeding or attaching other work. Form to shapes shown and cut as required for true line and level of attached work. Coordinate locations with other work involved.

B. Attach to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated. Build into masonry during installation of masonry work. Where possible, anchor to formwork before concrete placement.

1. Provide proper blocking, supports, and reinforcement behind all points to receive applied or suspended loads such as handrails, toilet accessories, coat hooks, door stops, handrails, cabinets, casework, TV brackets, projection screens, etc. Reinforcement shall be rigid enough to allow drawers loaded to rated capacity to be fully extended without causing casework to sag, droop, bind, or other distortions and to not pull away from the mounts or fasteners and without causing fasteners to loosen or pull from mounts or walls.

C. Install permanent grounds of dressed, preservative-treated, key-beveled lumber not less than 1-1/2 inches wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

3.5 INSTALLATION OF PLYWOOD


2. Prior to installing plywood panels, coordinate location of utility receptacles, outlets, and connections with applicable Divisions (electrical, communication, gas, etc.) and make proper provisions.

B. Fastening Methods: Fasten panels as indicated below:

1. Plywood Backing Panels: Nail or screw to supports.
2. Screw plywood to supports and then at edges and ends.
a. Fasten to comply with manufacturer's recommended spacing. Set fasteners slightly below surface of sheathing without deforming or crushing plywood to allow for filling.
b. Pre-drill and countersink as required.
c. Drive fasteners straight and true so that fasteners penetrate the supports correctly. If a fastener does not penetrate the support correctly, an additional fastener shall be placed correctly.
d. Locate perimeter fasteners at least 3/8 inch from edges and ends. Set fastening pattern as recommended by APA to prevent curling of plywood.
e. Make all countersinks of uniform size and depth suitable for filling after fasteners are installed.

3. Install 48-by-96-inch or longer sheathing vertically with long edges parallel to, and centered over studs. Install solid wood blocking where end joints do not occur over framing. Allow 1/8-inch open space between edges and ends of adjacent units. Stagger horizontal joints, if any.

4. Install plywood without sags or depressions and so the all edges and butted surfaces are even and flush with each other. Ensure that all surfaces as free of splinters and sharp edges.

5. Wood Filler
   1. Fill all exposed joints between panels, cracks, fastener holes, etc. with recommended wood filler according to filler manufacturer's instructions.
   2. Where filler is not flush with plywood surface, at recommended time, sand filler smooth and flush with wood surface so that when painted, the finish will be smooth, even, and uniform with wood surface with no visible or felt bumps or humps,

END OF SECTION 06 10 00
SECTION 06 10 53 - MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Wood blocking and nailers
2. Wood furring
3. Plywood

1.2 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1.3 INFORMATIONAL SUBMITTALS

A. Evaluation Reports: For the following, from ICC-ES:

1. Preservative-treated wood.
2. Fire-retardant-treated wood.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece.
3. Provide dressed lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content of Lumber: 19 percent unless otherwise indicated.
2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

D. Application: Treat all miscellaneous carpentry unless otherwise indicated.

1. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.

2.3 FIRE-RETARDANT-TREATED MATERIALS

A. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.

1. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201 at 92 percent relative humidity. Use where exterior type is not indicated.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.

C. Identify fire-retardant-treated wood with appropriate classification marking of testing and inspecting agency acceptable to authorities having jurisdiction.

D. Application: Treat items indicated on Drawings, and the following:

1. Framing for raised platforms.
2. Concealed blocking.
3. Plywood backing panels.

2.4 DIMENSION LUMBER FRAMING

A. Non-Load-Bearing Interior Partitions: Construction or No. 2 grade of any species.

B. Other Framing: Construction or No. 2 grade and the following species:

1. Southern pine; SPIB.
2. Douglas fir-larch; WCLIB or WWPA.
3. Mixed southern pine; SPIB.
4. Spruce-pine-fir; NLGA.
5. Douglas fir-south; WWPA.
6. Hem-fir; WCLIB or WWPA.

2.5 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.
3. Furring.

B. For items of dimension lumber size, provide Construction or No. 2 grade lumber of any species.

C. For concealed boards, provide lumber with 19 percent maximum moisture content and any of the following species and grades:

1. Mixed southern pine, No. 2 grade; SPIB.
2. Eastern softwoods, No. 2 Common grade; NELMA.
3. Northern species, No. 2 No. 3 Common grade; NLGA.
4. Western woods, Construction or No. 2 Common grade; WCLIB or WWPA.

2.6 PLYWOOD BACKING PANELS

A. Equipment Backing Panels: DOC PS 1, Exterior, AC, in thickness indicated or, if not indicated, not less than nominal thickness.

2.7 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.


C. Screws for Fastening to Metal Framing: ASTM C 1002, length as recommended by screw manufacturer for material being fastened.
PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit.

B. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

C. Framing Standard: Comply with AF&PA’s WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

D. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels.

E. Do not splice structural members between supports unless otherwise indicated.

F. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.

G. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

1. NES NER-272 for power-driven fasteners.
2. Table 2304.9.1, "Fastening Schedule," in ICC’s International Building Code.

3.2 PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 06 10 53
SECTION 07 21 00 - THERMAL INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:
   1. Sound attenuation

1.3 DEFINITIONS

A. Thermal Resistivity: Where the thermal resistivity of insulation products are designated by "r-values," they represent the reciprocal of thermal conductivity (k-values). Thermal conductivity is the rate of heat flow through a homogenous material exactly 1 inch thick. Thermal resistivities are expressed by the temperature difference in degrees F between the two exposed faces required to cause one BTU to flow through one square foot per hour at mean temperatures indicated.

1.4 SUBMITTALS

A. General: Submit the following in accordance with Conditions of Contract and Division 01 Specification Sections.

B. Product data for each type of insulation product specified.

C. Samples for verification purposes in full-size units of each type of exposed insulation indicated for each color specified.

D. Product test reports from and based on tests performed by qualified independent testing laboratory evidencing compliance of insulation products with requirements including r-values (aged values for plastic foam insulations), fire performance characteristics, perm ratings, water absorption ratings, and other properties, based on comprehensive testing of current products.
1.5 QUALITY ASSURANCE

A. Fire Performance Characteristics: Provide insulation materials identical to those whose indicated fire performance characteristics have been determined per the ASTM test method indicated below, by UL or other testing and inspecting organizations acceptable to authorities having jurisdiction. Identify products with appropriate markings of applicable testing and inspecting organization.

B. Single-Source Responsibility for Insulation Products: Obtain each type of building insulation from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.

C. Substitute Requests For A Specified Entity
   1. Provisions, requirements, and stipulations stated under this paragraph of this specification apply not only to this specification, but they also apply to all other specifications that are included in the project manual, on the drawings or are otherwise a part of the Contract Documents even if not so stated in these documents. Information requested under this paragraph heading is the minimum required information for consideration and evaluation and additional information may be requested. This information is required in addition to information required by any substitute request forms that may be included in the Project Manual or Contract Documents, or otherwise provided.
   2. Where the Contract Documents list at least three entities (products, materials, components, systems, manufacturers, installers, methods, etc.), the Architect reserves the option to reject any and all requests for a substitute. Where the Contract Documents list only one entity without “Or equal” or similar language, substitutes will not be considered. Where the Contract Documents list less than 3 entities, substitutes may be reviewed and evaluated on an individual base.
   3. Include the following information on the cover page of the request:
      a. Name of Project and project number as shown in the header of the specification
      b. Date request is being made.
      c. Name of person, company, and contact information of person requesting substitute.
      d. Specification title and number and drawing number where the specified product is listed or shown.
      e. Exact name of the specified entity and substitute entity.
   4. When requesting a substitute, include all requested and required supporting data, specifications, and performance criteria. The Architect must receive this substitute request no later than the time stated elsewhere for submitting product substitutions. If no time is stated, then 10 days prior to date of bid opening. When a Request For
Substitute Form is included in the Project Manual, properly complete the form and include it with the submittal.

5. Verbal requests for a substitute or requests that do not comply with these provisions are not acceptable, will be rejected, and will not extend the submittal deadline. Submittals that are incomplete have vague or unspecific answers ("Better", "Cheaper", "More competitive", etc.); that lack supporting data to substantiate equal or superior quality/design; that do not include the requested proof, verification, reports, and substantiating documentation; or are received after submittal deadline will be rejected. Provide convincing answers as to why the substitute should be approved. Rejection or disapproval will not extend the submittal deadline.
   a. If the substitute entity differs from specified entity, compare the substitute entity with the specified entity in a tabular format that clearly shows all the differences.

6. Include the following information on all requests for substitutes:
   a. Length of time the manufacturer has been in business.
   b. Whether the manufacturer operated under any other name, and if so, under what name and when?
   c. Length of time the substitute entity has been on the market.
   d. Whether the substitute entity has been marketed under any other name, and if so, under what name and when?
   e. Who will install and service the substitute entity?
   f. Whether the installer is trained and certified by the manufacturer? If so, describe how this training and certification are achieved and if training records are maintained?
   g. All required changes in the project design that will be required to incorporate the substitute entity.
   h. Describe any known problems or failures associated with the substitute entity? If there are any, provide details.

7. The manufacturer’s published literature, description, capabilities, operating and performance parameters, options, accessories, etc. of all submitted substitutes shall meet or exceed those published by the manufacturer of the specified entity even if they are not specifically mentioned in the Contract Documents. Additionally, manufacturers whose standards are less than those of the specified entity but are capable of producing an entity that meets the specified entity shall not, for the convenience of their normal production methods, vary from the specified entity standards.

8. Where test data and standards are being submitted as supporting data and for comparison with the specified item, comply with the following requirements. Submittals not complying with these provisions will be considered incomplete, unacceptable, and will be rejected:
   a. All substitutes shall meet all of the minimum performance criteria of the specified entity.
   b. Submit certified data provided by an independent testing laboratory.
c. Prepare supporting data in side-by-side tabular form showing the submitted
criteria next to each specified performance criteria and denoting the differences
between the specified item the substitute item.
d. Show submitted data using same tests and standards and with the values and
results in the same units of measure as those shown for the specified item.
e. Where a performance criterion is not listed in the specifications, comply with
the specified product manufacturer’s published data for performance criteria.
f. Where the specified entity requires certifications, registrations, approvals,
policies, practices, etc., submit proof that the substitute entity is in compliance.

9. Each and all requests for substitutes shall be signed by the person making the
submittal. By signing the submittal, the person requesting the substitute certifies and
agrees to the following requirements. Requests without the signature of a responsible
person will be rejected.
   a. That the specifications have been read and are understood,
   b. That the entity being submitted meets or exceeds all provisions of the
      specifications,
   c. That all submitted information is true and accurate,
   d. Will remove the substitute entity and replace it with an acceptable product, at
      his expense, if it is determined that the substitute does not meet the
      specifications as certified.
   e. Agrees to pay for all necessary design changes and increased construction costs
to incorporate the substitute entity.

D. Substitute Requests For A Specified Entity
1. Provisions, requirements, and stipulations stated under this paragraph of this
specification apply not only to this specification, but they also apply to all other
specifications that are included in the project manual, on the drawings or are
otherwise a part of the Contract Documents even if not so stated in these documents.
Information requested under this paragraph heading is the minimum required
information for consideration and evaluation and additional information may be
requested. This information is required in addition to information required by any
substitute request forms that may be included in the Project Manual or Contract
Documents, or otherwise provided.

2. Where the Contract Documents list at least three entities (products, materials,
components, systems, manufacturers, installers, methods, etc.), the Architect reserves
the option to reject any and all requests for a substitute. Where the Contract
Documents list only one entity without “Or equal” or similar language, substitutes
will not be considered. Where the Contract Documents list less than 3 entities,
substitutes may be reviewed and evaluated on an individual base.

3. Include the following information on the cover page of the request:
   a. Name of Project and project number as shown in the header of the specification
   b. Date request is being made.
   c. Name of person, company, and contact information of person requesting
      substitute.
4. When requesting a substitute, include all requested and required supporting data, specifications, and performance criteria. The Architect must receive this substitute request no later than the time stated elsewhere for submitting product substitutions. If no time is stated, then 10 days prior to date of bid opening. When a Request For Substitute Form is included in the Project Manual, properly complete the form and include it with the submittal.

5. Verbal requests for a substitute or requests that do not comply with these provisions are not acceptable, will be rejected, and will not extend the submittal deadline. Submittals that are incomplete have vague or unspecific answers (“Better”. “Cheaper”. “More competitive”, etc.); that lack supporting data to substantiate equal or superior quality/design; that do not include the requested proof, verification, reports, and substantiating documentation; or are received after submittal deadline will be rejected. Provide convincing answers as to why the substitute should be approved. Rejection or disapproval will not extend the submittal deadline.

a. If the substitute entity differs from specified entity, compare the substitute entity with the specified entity in a tabular format that clearly shows all the differences.

6. Include the following information on all requests for substitutes:
   a. Length of time the manufacturer has been in business.
   b. Whether the manufacturer operated under any other name, and if so, under what name and when?
   c. Length of time the substitute entity has been on the market.
   d. Whether the substitute entity has been marketed under any other name, and if so, under what name and when?
   e. Who will install and service the substitute entity?
   f. Whether the installer is trained and certified by the manufacturer? If so, describe how this training and certification are achieved and if training records are maintained?
   g. All required changes in the project design that will be required to incorporate the substitute entity.
   h. Describe any known problems or failures associated with the substitute entity? If there are any, provide details.

7. The manufacturer’s published literature, description, capabilities, operating and performance parameters, options, accessories, etc. of all submitted substitutes shall meet or exceed those published by the manufacturer of the specified entity even if they are not specifically mentioned in the Contract Documents. Additionally, manufacturers whose standards are less than those of the specified entity but are capable of producing an entity that meets the specified entity shall not, for the convenience of their normal production methods, vary from the specified entity standards.
8. Where test data and standards are being submitted as supporting data and for comparison with the specified item, comply with the following requirements. Submittals not complying with these provisions will be considered incomplete, unacceptable, and will be rejected:
   a. All substitutes shall meet all of the minimum performance criteria of the specified entity.
   b. Submit certified data provided by an independent testing laboratory.
   c. Prepare supporting data in side-by-side tabular form showing the submitted criteria next to each specified performance criteria and denoting the differences between the specified item the substitute item.
   d. Show submitted data using same tests and standards and with the values and results in the same units of measure as those shown for the specified item.
   e. Where a performance criterion is not listed in the specifications, comply with the specified product manufacturer’s published data for performance criteria.
   f. Where the specified entity requires certifications, registrations, approvals, policies, practices, etc., submit proof that the substitute entity is in compliance.

9. Each and all requests for substitutes shall be signed by the person making the submittal. By signing the submittal, the person requesting the substitute certifies and agrees to the following requirements. Requests without the signature of a responsible person will be rejected.
   a. That the specifications have been read and are understood,
   b. That the entity being submitted meets or exceeds all provisions of the specifications,
   c. That all submitted information is true and accurate,
   d. Will remove the substitute entity and replace it with an acceptable product, at his expense, if it is determined that the substitute does not meet the specifications as certified.
   e. Agrees to pay for all necessary design changes and increased construction costs to incorporate the substitute entity.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect insulation materials from physical damage and from deterioration by moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's recommendations for handling, storage, and protection during installation.

B. Protect plastic insulation as follows:
   1. Do not expose to sunlight, except to extent necessary for period of installation and concealment.
   2. Protect against ignition at all times. Do not deliver plastic insulating materials to project site ahead of installation time.
3. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

1.7 WARRANTY

A. Foam insulation: Provide manufacturer’s 15-year thermal insulation warranty stating that installed insulation will retain a minimum of 85 percent of original thermal value.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide insulation products of one of the following:

1. Extruded Polystyrene Board Insulation:
   a. DiversiFoam Products.
   b. Dow: The Dow Chemical Company.
   c. Green Guard by Pactiv
   d. Owens Corning.

2.2 INSULATING MATERIALS

A. General: Provide insulating materials that comply with requirements and with referenced standards.

1. Preformed Units: Sizes to fit applications indicated, selected from manufacturer's standard thicknesses, widths, and lengths.

2.3 SOUND ATTENUATION

A. Interior: Sound Attenuation Blanket, unfaced batt insulation complying with ASTM C665, Type 1 and with governing codes for intended application. Insulation shall contain no added formaldehyde.

B. Exterior: Sound Silencer High Durability P.E.P.P., S.T.O.P. by Acoustical Surfaces or a reviewed substitute: Porous expanded polystyrene bead board, no fibers, moisture proof, mold and mildew resistant, suitable for exterior type. 2 inches thick.
2.4 AUXILIARY INSULATING MATERIALS

A. Adhesive for Bonding Insulation: Product with demonstrated capability to bond insulation or mechanical anchors securely to substrates indicated without damaging or corroding either insulation, anchors, or substrates.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions with Installer present, for compliance with requirements of the Sections in which substrates and related work are specified and to determine if other conditions affecting performance of insulation are satisfactory. Do not proceed with installation of insulation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrates of substances harmful to insulations or vapor retarders, including removal of projections that might puncture vapor retarders.

3.3 INSTALLATION, GENERAL

A. Comply with insulation manufacturer's instructions applicable to products and application indicated. If printed instructions are not available or do not apply to project conditions, consult manufacturer's technical representative for specific recommendations before proceeding with installation of insulation.

B. Extend insulation full thickness as indicated to envelop entire area to be insulated. Cut and fit tightly around obstructions, and fill voids with insulation. Remove projections that interfere with placement.

C. Apply a single layer of insulation of required thickness, unless otherwise shown or required to make up total thickness.

D. Install faced insulation with facer to warm side

E. Install insulation that is undamaged, dry, unsoiled, and has not been exposed at any time to ice and snow.

3.4 SOUND ATTENUATION

A. Interior: (Interior Wall and Ceiling)
   1. Walls
a. Use blanket widths and lengths that fill cavities formed by interior wall framing members. Where more than one length is required to fill cavity, provide lengths that will produce a snug fit between ends.
b. Place blankets in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.

2. Ceilings:
a. Lay blankets over suspended ceiling system full length with tightly butted joints.
b. Work insulation around suspension system and structural framing.

3.5 PROTECTION

A. General: Protect installed insulation and vapor retarders from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings or enclosures where insulation will be subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION 07 21 00
SECTION 07 84 00 - FIRESTOPPING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. All firestopping shall be performed only by the same experienced specialty entity having the specified qualifications. Fire stopping shall not be performed by the various building disciplines, such as mechanical, HVAC, plumbing, electrical, etc.

B. This Section includes through-penetration firestop systems for penetrations through the following fire-resistance-rated assemblies, including both empty openings and openings containing penetrating items:

1. Floors
2. Roofs
3. Walls and partitions
4. Smoke barriers
5. Construction enclosing compartmentalized areas
6. Construction Gap Fire-Stopping:
   a. Fire stopping at construction gaps between edges of floor slabs and exterior wall construction.
   b. Fire stopping at construction gaps between tops of partitions and underside of structural systems.
   c. Fire stopping at construction gaps between tops of partitions and underside of ceilings or ceiling assemblies.
   d. Fire stopping control joints in masonry partitions.

C. Related Sections include the following:
   1. Division 23 Sections specifying duct and piping penetrations.
   2. Division 26 Sections specifying cable and conduit penetrations.

1.3 PERFORMANCE REQUIREMENTS

A. General: For the following constructions, provide through-penetration firestop systems that are produced and installed to resist spread of fire according to requirements indicated, resist passage of smoke and other gases, and maintain original fire-resistance rating of assembly penetrated.
1. Fire-resistance-rated load-bearing walls, including partitions, with fire-protection-rated openings.
2. Fire-resistance-rated non-load-bearing walls, including partitions, with fire-protection-rated openings.
3. Fire-resistance-rated floor assemblies.

B. For through-penetration firestop systems exposed to view, traffic, moisture, and physical damage, provide products that after curing do not deteriorate when exposed to these conditions both during and after construction.
   1. For piping penetrations for plumbing and wet-pipe sprinkler systems, provide moisture-resistant through-penetration firestop systems.
   2. For floor penetrations with annular spaces exceeding 4 inches in width and exposed to possible loading and traffic, provide firestop systems capable of supporting floor loads involved either by installing floor plates or by other means.
   3. For penetrations involving insulated piping, provide through-penetration firestop systems not requiring removal of insulation.

C. For through-penetration firestop systems exposed to view, provide products with flame-spread ratings of less than 25 and smoke-developed ratings of less than 250, as determined per ASTM E 84.

D. Fire-Rated Through-Penetration Firestop Systems: Provide through-penetration firestop systems to maintain the intended UL construction rating, as determined per ASTM E 814, but not less than that equaling or exceeding the fire-resistance rating of the constructions penetrated.

E. Fire-Resistive Joint Sealants: Provide joint sealants that meet fire-resistance ratings indicated, as determined per ASTM E 2079, but not less than that equaling or exceeding the fire-resistance rating of the construction in which the joint occurs.

1.4 SUBMITTALS

A. Product Data: For each type of through-penetration firestop system product indicated.
   1. Identification Tags: Submit samples of identification tags that will be installed at each location.

B. Shop Drawings: For each through-penetration firestop system, show each kind of construction condition penetrated, relationships to adjoining construction, and kind of penetrating item. Include firestop design designation of testing and inspecting agency acceptable to authorities having jurisdiction that evidences compliance with requirements for each condition indicated.
   1. Submit documentation, including illustrations, from a qualified testing and inspecting agency that is applicable to each through-penetration firestop system configuration for construction and penetrating items.
2. Here Project conditions require modification of qualified testing and inspecting agency's illustration to suit a particular through-penetration firestop condition, submit illustration, with modifications marked, approved by through-penetration firestop system manufacturer's fire-protection engineer.

3. Submit the type fire stopping to be installed for each moisture and movement condition encountered.

C. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

D. Product Certificates: Signed by manufacturers of through-penetration firestop system products certifying that products furnished comply with requirements.

E. Product Test Reports: From a qualified testing agency indicating through-penetration firestop system complies with requirements, based on comprehensive testing of current products.

1.5 QUALITY ASSURANCE

A. Installer Qualifications:
1. An experienced specialty firestop contractor who has successfully completed penetration firestop systems similar in material, design, extent, and complexity to that indicated for this Project. Shall have completed a minimum of five projects of comparable size and complexity as this project within the last 3 years.

2. Certified and licensed, as applicable, by the applicable governing authorities and be accredited for installation by FM Standard 4491 – Approval of Firestop Contractors or the UL Certified Firestop Contractor Program. Provide proof submitting name of accrediting agency (UL or FM), date of last inspection by accrediting agency, name of Designate Responsible Individual (DRI), and a copy of the Quality Manual.

3. Be a current member in good standing of the Firestop Contractors International Association.

4. Has in-place work that has resulted in construction with a record of successful in-service performance.

5. Have the necessary experience, on-hand staff, and training to install manufacturer's products per specified requirements.

6. A manufacturer's willingness to sell its through-penetration firestop system products to Contractor or to an installer engaged by Contractor does not in itself confer qualification on buyer or installer.

B. Fire Stopping Inspection
1. Qualifications of Fire stopping Inspector
   a. Contractor shall contract with and pay for a qualified inspector with the following qualifications.
b. Shall not be related to the installer or general contractor in any way including business relationships including subsidiaries, distributors, manufacturers, representatives, etc.

c. Shall comply with all provisions of ASTEM E2174 and ASTM E2393

d. Shall have successfully passed the FM 4491 or the Firestop Designated Responsible Individual (DRI) examinations.

2. Duties of the Inspector

a. Inspect all firestopping installation for compliance with requirements of local governing authorities and codes

b. Advise the installer of all noted deficiencies verbally at the time of observation and in writing within 24 hours. Also inform installer of locations requiring firestopping that were apparently missed.

C. Source Limitations: Obtain through-penetration firestop systems, for each kind of penetration and construction condition indicated, from a single manufacturer.

D. Fire-Test-Response Characteristics: Provide through-penetration firestop systems that comply with the following requirements and those specified in "Performance Requirements" Article:

1. Firestopping tests are performed by a qualified testing and inspecting agency. A qualified testing and inspecting agency is UL, or another agency performing testing and follow-up inspection services for firestop systems acceptable to authorities having jurisdiction.

2. Through-penetration firestop systems are identical to those tested per ASTM E 814. Provide rated systems complying with the following requirements:

a. Through-penetration firestop system products bear classification marking of qualified testing and inspecting agency.

b. Through-penetration firestop systems correspond to those indicated by reference to through-penetration firestop system designations listed by the following:

   1) UL in "Fire Resistance Directory."

E. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division I Section "Project Meetings." Representatives from the Contractor, installer, fire stopping manufacturer, inspector, and Architect shall attend. Discussion items include, but are not limited to, the following:

1. Scheduling
2. Codes, regulations, and governing authorities
3. Inspection protocol
4. Materials to be used
5. Protection of areas not to be fireproofed
6. Unusual conditions
7. Areas to be fireproofed and their availability
8. Areas difficult to fireproof or access
9. Installation procedures
F. On-Site Training: The fire stopping manufacturer shall provide all required on-site training of the installer applicators to ensure the installer can comply with fire stopping manufacturer’s instructions to meet required UL ratings.

G. Substitute Requests for A Specified Entity
1. Provisions, requirements, and stipulations stated under this paragraph of this specification apply not only to this specification, but they also apply to all other specifications that are included in the project manual, on the drawings or are otherwise a part of the Contract Documents even if not so stated in these documents. Information requested under this paragraph heading is the minimum required information for consideration and evaluation and additional information may be requested. This information is required in addition to information required by any substitute request forms that may be included in the Project Manual or Contract Documents, or otherwise provided.

2. Include the following information on the cover page of the request:
   a. Name of Project and project number as shown in the header of the specification
   b. Date request is being made.
   c. Name of person, company, and contact information of person requesting substitute.
   d. Specification title and number and drawing number where the specified product is listed or shown.
   e. Exact name of the specified entity and substitute entity.

3. When requesting a substitute, include all requested and required supporting data, specifications, and performance criteria. The Architect must receive this substitute request no later than the time stated elsewhere for submitting product substitutions. If no time is stated, then 10 days prior to date of bid opening. When a Request For Substitute Form is included in the Project Manual, properly complete the form and include it with the submittal.

4. Verbal requests for a substitute or requests that do not comply with these provisions are not acceptable, will be rejected, and will not extend the submittal deadline. Submittals that are incomplete have vague or unspecific answers (“Better”. “Cheaper”. “More competitive”, etc.); that lack supporting data to substantiate equal or superior quality/design; that do not include the requested proof, verification, reports, and substantiating documentation; or are received after submittal deadline will be rejected. Provide convincing answers as to why the substitute should be approved. Rejection or disapproval will not extend the submittal deadline.
   a. If the substitute entity differs from specified entity, compare the substitute entity with the specified entity in a tabular format that clearly shows all the differences.

5. Include the following information on all requests for substitutes:
   a. Length of time the manufacturer has been in business.
b. Whether the manufacturer operated under any other name, and if so, under what name and when?
c. Length of time the substitute entity has been on the market.
d. Whether the substitute entity has been marketed under any other name, and if so, under what name and when?
e. Who will install and service the substitute entity?
f. Whether the installer is trained and certified by the manufacturer? If so, describe how this training and certification are achieved and if training records are maintained?
g. All required changes in the project design that will be required to incorporate the substitute entity.
h. Describe any known problems or failures associated with the substitute entity? If there are any, provide details.

6. The manufacturer’s published literature, description, capabilities, operating and performance parameters, options, accessories, etc. of all submitted substitutes shall meet or exceed those published by the manufacturer of the specified entity even if they are not specifically mentioned in the Contract Documents. Additionally, manufacturers whose standards are less than those of the specified entity but are capable of producing an entity hat meets the specified entity shall not, for the convenience of their normal production methods, vary from the specified entity standards.

7. Where test data and standards are being submitted as supporting data and for comparison with the specified item, comply with the following requirements. Submittals not complying with these provisions will be considered incomplete, unacceptable, and will be rejected:
a. All substitutes shall meet all of the minimum performance criteria of the specified entity.
b. Submit certified data provided by an independent testing laboratory.
c. Prepare supporting data in side-by-side tabular form showing the submitted criteria next to each specified performance criteria and denoting the differences between the specified item the substitute item.
d. Show submitted data using same tests and standards and with the values and results in the same units of measure as those shown for the specified item.
e. Where a performance criterion is not listed in the specifications, comply with the specified product manufacturer’s published data for performance criteria.
f. Where the specified entity requires certifications, registrations, approvals, policies, practices, etc., submit proof that the substitute entity is in compliance.

8. Each and all requests for substitutes shall be signed by the person making the submittal. By signing the submittal, the person requesting the substitute certifies and agrees to the following requirements. Requests without the signature of a responsible person will be rejected:
a. That the specifications have been read and are understood,
b. That the entity being submitted meets or exceeds all provisions of the specifications,
c. That all submitted information is true and accurate,
d. Will remove the substitute entity and replace it with an acceptable product, at
his expense, if it is determined that the substitute does not meet the
specifications as certified.
e. Agrees to pay for all necessary design changes and increased construction costs
to incorporate the substitute entity.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver through-penetration firestop system products to Project site in original, unopened
containers or packages with intact and legible manufacturers' labels identifying product
and manufacturer; date of manufacture; lot number; shelf life, if applicable; qualified
testing and inspecting agency's classification marking applicable to Project; curing time;
and mixing instructions for multicomponent materials.

B. Store and handle materials for through-penetration firestop systems to prevent their
deterioration or damage due to moisture, temperature changes, contaminants, or other
causes.

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Do not install through-penetration firestop systems when
ambient or substrate temperatures are outside limits permitted by through-penetration
firestop system manufacturers or when substrates are wet due to rain, frost, condensation,
or other causes.

B. Ventilate through-penetration firestop systems per manufacturer's written instructions by
natural means or, where this is inadequate, forced-air circulation.

1.8 COORDINATION

A. Coordinate construction of openings and penetrating items to ensure that through-
penetration firestop systems are installed according to specified requirements.

B. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate
through-penetration firestop systems.

C. Notify selected applicable inspecting agency at least seven days in advance of through-
penetration firestop system installations; confirm dates and times on days preceding each
series of installations.

D. Do not cover up through-penetration firestop system installations that will become
concealed behind other construction until the independent inspecting agency and building
inspector, if required by authorities having jurisdiction, have examined each installation.
PART 2 – PRODUCTS, MANUFACTURERS

2.1 Manufacturers: Subject to compliance with requirements, provide products by one of the following:

A. Hilti

B. International Protective Coatings Corp.

C. Isolatek International.

D. Nelson Firestop Products.

E. 3M Fire Protection Products.

F. Tremco.

2.2 STOPPING, GENERAL

D. Compatibility: Provide through-penetration firestop systems that are listed and approved by governing authorities. Materials shall be compatible with one another, with the substrates forming openings, and with the items, if any, penetrating through-penetration firestop systems, under conditions of service and application, as demonstrated by through-penetration firestop system manufacturer based on testing and field experience.

E. Accessories: Provide components for each through-penetration firestop system that are needed to install fill materials and to comply with "Performance Requirements" Article. Use only components specified by through-penetration firestop system manufacturer and approved by the qualified testing and inspecting agency for firestop systems indicated. Accessories include, but are not limited to, the following items:

1. Permanent forming/damming/backing materials, including the following:
   a. Slag-/rock-wool-fiber insulation.
   b. Sealants used in combination with other forming/damming/backing materials to prevent leakage of fill materials in liquid state.
   c. Fire-rated form board.
   d. Fillers for sealants.

2. Temporary forming materials.
5. Steel sleeves.
F. Identification Tags: Provide permanent adhesive tags, professionally prepared, that show the UL assembly number, the date of installation, name of the installer, and the name of the company doing the installing.

2.3 MATERIALS

A. General: Provide through-penetration firestop systems containing the types of fill materials indicated in the Through-Penetration Firestop System Schedule at the end of Part 3 by reference to the types of materials described in this Article. Fill materials are those referred to in directories of the referenced testing and inspecting agencies as fill, void, or cavity materials.

1. Firestopping materials shall be low VOC and contain no added formaldehyde to comply with LEED requirements for certification.

B. Cast-in-Place Firestop Devices: Factory-assembled devices for use in cast-in-place concrete floors and consisting of an outer metallic sleeve lined with an intumescent strip, a radial extended flange attached to one end of the sleeve for fastening to concrete formwork, and a neoprene gasket.

C. Latex Sealants: Single-component latex formulations that after cure do not re-emulsify during exposure to moisture.

D. Firestop Devices: Factory-assembled collars formed from galvanized steel and lined with intumescent material sized to fit specific diameter of penetrant.

E. Intumescent Composite Sheets: Rigid panels consisting of aluminum-foil-faced elastomeric sheet bonded to galvanized steel sheet.

F. Intumescent Putties: Nonhardening dielectric, water-resistant putties containing no solvents, inorganic fibers, or silicone compounds.

G. Intumescent Wrap Strips: Single-component intumescent elastomeric sheets with aluminum foil on one side.

H. Mortars: Prepackaged, dry mixes consisting of a blend of inorganic binders, hydraulic cement, fillers, and lightweight aggregate formulated for mixing with water at Project site to form a nonshrinking, homogeneous mortar.

I. Pillows/Bags: Reusable, heat-expanding pillows/bags consisting of glass-fiber cloth cases filled with a combination of mineral-fiber, water-insoluble expansion agents and fire-retardant additives.

J. Silicone Foams: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.
K. Silicone Sealants: Moisture-curing, single-component, silicone-based, neutral-curing elastomeric sealants of grade indicated below:
   1. Grade for Horizontal Surfaces: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces.
   2. Grade for Vertical Surfaces: Nonsag formulation for openings in vertical and other surfaces.

2.4 CONSTRUCTION GAP FIRESTOPPING

A. The following products are acceptable for use in firestopping the type construction gaps listed in the summary of this specification and indicated on the Drawings:
   1. FireDam Spray by 3-M or a reviewed substitute by Hilti, Nelson Fire Stop Products, or Tremco.
   2. Mineral Wool: When required as a component in construction with the firestopping material, provide fire-resistant mineral wool as recommended by the firestopping manufacturer and acceptable to the governing authorities.
   3. Damming Material: As recommended by the firestopping manufacturer.

2.5 MIXING

A. For those products requiring mixing before application, comply with through-penetration firestop system manufacturer's written instructions for accurate proportioning of materials, water (if required), type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other items or procedures needed to produce products of uniform quality with optimum performance characteristics for application indicated.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning: Clean out openings immediately before installing through-penetration firestop systems to comply with written recommendations of firestop system manufacturer and the following requirements:
   1. Remove from surfaces of opening substrates and from penetrating items foreign materials that could interfere with adhesion of through-penetration firestop systems.
2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with through-penetration firestop systems. Remove loose particles remaining from cleaning operation.

3. Remove laitance and form-release agents from concrete.

B. Priming: Prime substrates where recommended in writing by through-penetration firestop system manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

C. Masking Tape: Use masking tape to prevent through-penetration firestop systems from contacting adjoining surfaces that will remain exposed on completion of Work and that would otherwise be permanently stained or damaged by such contact or by cleaning methods used to remove smears from firestop system materials. Remove tape as soon as possible without disturbing firestop system's seal with substrates.

3.3 THROUGH-PENETRATION FIRESTOP SYSTEM INSTALLATION

A. General: Install through-penetration firestop systems to comply with "Performance Requirements" Article and firestop system manufacturer's written installation instructions and published drawings for products and applications indicated.

1. Select applicable and suitable specified firestopping materials that are recommended by the firestopping manufacturer for each intended application regarding moisture and movement conditions.

B. Install fireproofing using materials and methods to comply with requirements of UL and local governing authorities. Where specific UL assembly numbers are indicated on the Drawings, install firestopping materials to comply with the indicated assembly numbers.

C. Install forming/damming/backing materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings indicated.

1. After installing fill materials, remove combustible forming materials and other accessories not indicated as permanent components of firestop systems.

G. Install fill materials for firestop systems by proven techniques to produce the following results:

1. Fill voids and cavities formed by openings, forming materials, accessories, and penetrating items as required to achieve fire-resistance ratings indicated.

2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.

3. For fill materials that will remain exposed after completing Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

H. Identification Tags: Complete a proper identification tag for each installation and install the tag to identify the system. Print all information clearly and legibly.
3.4 FIELD QUALITY CONTROL

A. Coordinate with the selected testing agency for required sampling and testing. Arrange for testing as required by the testing agency. Inspecting agency will state in each report whether inspected through-penetration firestop systems comply with or deviate from requirements.

B. Proceed with enclosing through-penetration firestop systems with other construction only after inspection reports are issued.

C. Where deficiencies are found, repair or replace through-penetration firestop systems so they comply with requirements.

3.5 IDENTIFICATION

A. Identify through-penetration firestop systems with pressure-sensitive, self-adhesive, preprinted vinyl labels. Attach labels permanently to surfaces of penetrated construction on both sides of each firestop system installation where labels will be visible to anyone seeking to remove penetrating items or firestop systems. Include the following information on labels:

1. The words: "Warning--Through-Penetration Firestop System--Do Not Disturb. Notify Building Management of Any Damage."
2. Contractor's name, address, and phone number.
3. Through-penetration firestop system designation of applicable testing and inspecting agency.
4. Date of installation.
5. Through-penetration firestop system manufacturer's name.
6. Installer's name.

3.6 CONSTRUCTION GAP FIRE-STOPPING

A. Install fire stopping in construction gaps, separations, joints, created between

1. Edges of floor slabs and exterior wall construction.
2. Tops of partitions and underside of structural systems.
3. Tops of partitions and underside of ceilings or ceiling assemblies.
4. Control joints in masonry partitions.
5. Different constructions materials such as but not limited to CMU and drywall and similar type construction.

B. When required by the manufacturer, install damming material and fire safing according to the manufacturer’s instructions.

C. Remove damming material after firestopping has cured.
3.7 CLEANING AND PROTECTION

A. Clean off excess fill materials adjacent to openings as Work progresses by methods and with cleaning materials that are approved in writing by through-penetration firestop system manufacturers and that do not damage materials in which openings occur.

B. Provide final protection and maintain conditions during and after installation that ensure through-penetration firestop systems are without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated through-penetration firestop systems immediately and install new materials to produce through-penetration firestop systems complying with specified requirements.

END OF SECTION 07 84 00
PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Silicone joint sealants.
2. Latex joint sealants.
3. Acoustical joint sealants.

1.2 PRECONSTRUCTION TESTING

A. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers eight samples of materials that will contact or affect joint sealants. Use ASTM C 1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.


1.3 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product indicated.
B. Samples: For each kind and color of joint sealant required.
C. Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.

1.4 INFORMATIONAL SUBMITTALS

A. Product test reports.
B. Preconstruction compatibility and adhesion test reports.
C. Preconstruction field-adhesion test reports.
D. Field-adhesion test reports.

E. Warranties.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.

B. Preinstallation Conference: Conduct conference at [Project site] <Insert location>.

1.6 WARRANTY

A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Two years from date of Substantial Completion.

B. Special Manufacturer's Warranty: Manufacturer's standard form in which joint-sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: 5 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. VOC Content of Interior Sealants: Sealants and sealant primers used inside the weatherproofing system shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

1. Architectural Sealants: 250 g/L.
2. Sealant Primers for Nonporous Substrates: 250 g/L.
3. Sealant Primers for Porous Substrates: 775 g/L.

B. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

1. Suitability for Immersion in Liquids. Where sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone
testing according to ASTM C 1247. Liquid used for testing sealants is deionized water, unless otherwise indicated.

C. Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

2.2 SILICONE JOINT SEALANTS

A. Mildew-Resistant, Neutral-Curing Silicone Joint Sealant: ASTM C 920.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   a. BASF Building Systems.
   b. Dow Corning Corporation.
   c. GE Advanced Materials - Silicones.
   d. May National Associates, Inc.
   e. Pecora Corporation.
   f. Polymeric Systems, Inc.
   g. Schnee-Morehead, Inc.
   h. Sika Corporation; Construction Products Division.
   i. Tremco Incorporated.

2. Type: Single component (S) or multicomponent (M).
3. Grade: Pourable (P) or nonsag (NS).
4. Class: 100/50.
5. Uses Related to Exposure: Nontraffic (NT).

2.3 LATEX JOINT SEALANTS

A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   a. BASF Building Systems.
   b. Bostik, Inc.
   c. May National Associates, Inc.
   d. Pecora Corporation.
   e. Schnee-Morehead, Inc.
   f. Tremco Incorporated.
2.4 ACOUSTICAL JOINT SEALANTS

A. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   a. Pecora Corporation.
   b. USG Corporation.

2.5 JOINT SEALANT BACKING

A. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

B. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.

2.6 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.

1. Remove laitance and form-release agents from concrete.
2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.2 INSTALLATION

A. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

B. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.

F. Acoustical Sealant Installation: Comply with ASTM C 919 and with manufacturer's written recommendations.

G. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.3 FIELD QUALITY CONTROL

A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:

1. Extent of Testing: Test completed and cured sealant joints as follows:
   a. Perform 10 tests for the first 1000 feet (300 m) of joint length for each kind of sealant and joint substrate.


B. Evaluation of Field-Adhesion Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.4 JOINT-SEALANT SCHEDULE


1. Joint Locations:
   a. Control and expansion joints in unit masonry.
   b. Joints in exterior insulation and finish systems.
   c. Joints between metal panels.
   d. Perimeter joints between materials listed above and frames of doors, windows and louveres.
   e. Control and expansion joints in ceilings and other overhead surfaces.
   f. Other joints as indicated.

3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
B. Joint-Sealant Application: Interior joints in horizontal traffic surfaces.

1. Joint Locations:
   a. Control and expansion joints in unit masonry.
   b. Joints in exterior insulation and finish systems.
   c. Joints between metal panels.
   d. Perimeter joints between materials listed above and frames of doors, windows and louvers.
   e. Control and expansion joints in ceilings and other overhead surfaces.
   f. Other joints as indicated.

3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

C. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Locations:
   a. Control and expansion joints on exposed interior surfaces of exterior walls.
   b. Perimeter joints of exterior openings where indicated.
   c. Tile control and expansion joints.
   d. Vertical joints on exposed surfaces of partitions.
   e. Perimeter joints between interior wall surfaces and frames of interior doors windows and elevator entrances.
   f. Other joints as indicated.

3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

D. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal non-traffic surfaces[<JS-#>].

1. Joint Sealant Location:
   a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
   b. Tile control and expansion joints where indicated.
   c. Other joints as indicated.

3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 07 92 00
SECTION 08 11 13 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes
   1. Non-labeled hollow metal doors and frames.
   2. Labeled hollow metal doors and frames

B. Related Sections: The following Sections contain requirements that relate to this Section:
   1. Division 08 Section "Door Hardware" for door hardware and weatherstripping.
   2. Division 09 Section "Painting" for field painting primed doors and frames.

1.3 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.

B. Product Data for each type of door and frame specified, including details of construction, materials, dimensions, hardware preparation, core, label compliance, sound ratings, profiles, and finishes.
   1. Positive Pressure: Certification that all doors have been satisfactorily tested for and meet all requirements for positive pressure door openings.

C. Shop Drawings showing fabrication and installation of steel doors and frames. Include details of each frame type, elevations of door design types, conditions at openings, details of construction, location and installation requirements of door and frame hardware and reinforcements, and details of joints and connections. Show anchorage and accessory items.
   1. Details of moldings, removable stops, and glazing

D. Door Schedule: Submit schedule of doors and frames using same reference numbers for details and openings as those on Contract Drawings.
   1. Indicate coordination of glazing frames and stops with glass and glazing requirements.
E. Samples for verification of each type of exposed finish required, prepared on Samples not less than 3 by 5 inches and of same thickness and material indicated for final unit of Work. Where finishes involve normal color and texture variations, include Sample sets showing the full range of variations expected.

1.4 QUALITY ASSURANCE

A. Provide doors and frames complying with ANSI/SDI 100 "Recommended Specifications for Standard Steel Doors and Frames" and as specified.

B. Substitute Requests For A Specified Entity

1. Provisions, requirements, and stipulations stated under this paragraph of this specification apply not only to this specification, but they also apply to all other specifications that are included in the project manual, on the drawings or are otherwise a part of the Contract Documents even if not so stated in these documents. Information requested under this paragraph heading is the minimum required information for consideration and evaluation and additional information may be requested. This information is required in addition to information required by any substitute request forms that may be included in the Project Manual or Contract Documents, or otherwise provided.

2. Where the Contract Documents list at least three entities (products, materials, components, systems, manufacturers, installers, methods, etc.), the Architect reserves the option to reject any and all requests for a substitute. Where the Contract Documents list only one entity without “Or equal” or similar language, substitutes will not be considered. Where the Contract Documents list less than 3 entities, substitutes may be reviewed and evaluated on an individual base.

3. Include the following information on the cover page of the request:
   a. Name of Project and project number as shown in the header of the specification
   b. Date request is being made.
   c. Name of person, company, and contact information of person requesting substitute.
   d. Specification title and number and drawing number where the specified product is listed or shown.
   e. Exact name of the specified entity and substitute entity.

4. When requesting a substitute, include all requested and required supporting data, specifications, and performance criteria. The Architect must receive this substitute request no later than the time stated elsewhere for submitting product substitutions. If no time is stated, then 10 days prior to date of bid opening. When a Request For Substitute Form is included in the Project Manual, properly complete the form and include it with the submittal.
5. Verbal requests for a substitute or requests that do not comply with these provisions are not acceptable, will be rejected, and will not extend the submittal deadline. Submittals that are incomplete have vague or unspecific answers (“Better”, “Cheaper”, “More competitive”, etc.); that lack supporting data to substantiate equal or superior quality/design; that do not include the requested proof, verification, reports, and substantiating documentation; or are received after submittal deadline will be rejected. Provide convincing answers as to why the substitute should be approved. Rejection or disapproval will not extend the submittal deadline.
   a. If the substitute entity differs from specified entity, compare the substitute entity with the specified entity in a tabular format that clearly shows all the differences.

6. Include the following information on all requests for substitutes:
   a. Length of time the manufacturer has been in business.
   b. Whether the manufacturer operated under any other name, and if so, under what name and when?
   c. Length of time the substitute entity has been on the market.
   d. Whether the substitute entity has been marketed under any other name, and if so, under what name and when?
   e. Who will install and service the substitute entity?
   f. Whether the installer is trained and certified by the manufacturer? If so, describe how this training and certification are achieved and if training records are maintained?
   g. All required changes in the project design that will be required to incorporate the substitute entity.
   h. Describe any known problems or failures associated with the substitute entity? If there are any, provide details.

7. The manufacturer’s published literature, description, capabilities, operating and performance parameters, options, accessories, etc. of all submitted substitutes shall meet or exceed those published by the manufacturer of the specified entity even if they are not specifically mentioned in the Contract Documents. Additionally, manufacturers whose standards are less than those of the specified entity but are capable of producing an entity that meets the specified entity shall not, for the convenience of their normal production methods, vary from the specified entity standards.

8. Where test data and standards are being submitted as supporting data and for comparison with the specified item, comply with the following requirements. Submittals not complying with these provisions will be considered incomplete, unacceptable, and will be rejected:
   a. All substitutes shall meet all of the minimum performance criteria of the specified entity.
   b. Submit certified data provided by an independent testing laboratory.
   c. Prepare supporting data in side-by-side tabular form showing the submitted criteria next to each specified performance criteria and denoting the differences between the specified item the substitute item.
d. Show submitted data using same tests and standards and with the values and results in the same units of measure as those shown for the specified item.

e. Where a performance criterion is not listed in the specifications, comply with the specified product manufacturer’s published data for performance criteria.

f. Where the specified entity requires certifications, registrations, approvals, policies, practices, etc., submit proof that the substitute entity is in compliance.

9. Each and all requests for substitutes shall be signed by the person making the submittal. By signing the submittal, the person requesting the substitute certifies and agrees to the following requirements. Requests without the signature of a responsible person will be rejected.

a. That the specifications have been read and are understood,

b. That the entity being submitted meets or exceeds all provisions of the specifications,

c. That all submitted information is true and accurate,

d. Will remove the substitute entity and replace it with an acceptable product, at his expense, if it is determined that the substitute does not meet the specifications as certified.

e. Agrees to pay for all necessary design changes and increased construction costs to incorporate the substitute entity.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver doors and frames cardboard-wrapped or crated to provide protection during transit and job storage. Provide additional protection to prevent damage to finish of factory-finished doors and frames.

B. Inspect doors and frames on delivery for damage. Minor damages may be repaired provided refinished items match new work and are acceptable to Architect; otherwise, remove and replace damaged items as directed.

C. Store doors and frames at building site under cover. Place units on minimum 4-inch-high wood blocking. Avoid using nonvented plastic or canvas shelters that could create a humidity chamber. If cardboard wrappers on doors become wet, remove cartons immediately. Provide minimum 1/4-inch spaces between stacked doors to promote air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following or a reviewed substitute:
1.  Steel Doors and Frames:
   a.  Amweld Building Products, Inc.
   b.  Ceco Door Products.
   c.  Curries Co.
   d.  Mesker
   e.  Overly
   f.  Palmetto Metal Products
   g.  Republic Builders Products.
   h.  Steelcraft

2.2 MATERIALS

A. Cold-Rolled Steel Sheets:  Carbon steel complying with ASTM A 366, commercial quality, or ASTM A 620, drawing quality.

B. Galvanized Steel Sheets:  Zinc-coated carbon steel sheets of commercial quality, complying with ASTM A 526, or drawing quality, ASTM A 642, hot dipped galvanized in accordance with ASTM A 525, with A60 or G60 coating designation, mill phosphatized.

C. Shop Applied Paint:  Apply after fabrication.

   1.  Primer:  Rust-inhibitive enamel or paint, either air-drying or baking, suitable as a base for specified finish paints complying with ANSI A250.10.

D. Supports and Anchors:  Fabricated from not less than 0.0478-inch-thick steel sheet; 0.0516-inch-thick galvanized steel where used with galvanized steel frames.  Fabricate to size and shape for wall construction.

E. Inserts, Bolts, and Fasteners:  Manufacturer's standard units.  Where items are to be built into exterior walls, hot-dip galvanize complying with ASTM A 153, Class C or D as applicable.

F. Glazing:  Comply with requirements in Division 8 Section "Glazing."

2.3 DOORS

A. Steel Doors:  Provide 1-3/4-inch-thick doors of materials and ANSI/SDI 100 grades and models specified below, or as indicated on Drawings or schedules:

   1.  Interior Doors:  Level 2, heavy duty, Model 2, seamless hollow metal, minimum 16 ga (0.0598 inch) sheet faces for all doors.  Turn legs of top and bottom channels inward to prevent moisture collection.
2. Exterior Doors: Galvanized steel. Level 3, extra heavy duty, Model 2, seamless hollow metal, minimum 14 ga (0.0747 inch) sheet faces for all doors. Turn legs of top and bottom channels inward to prevent moisture collection.

3. Labeled Doors: Construct according to UL and local governing requirements for the scheduled label. Use same gauge steel as used for interior doors unless indicated otherwise. Factory-attach UL label that states the applicable UL rating. Door without the appropriate UL label will not be accepted. All labels shall be metallic.
   a. Positive Pressure: Provide doors that have been satisfactorily tested and fully comply with positive pressure requirements of IBC 2012.
   b. Where pairs of labeled doors are scheduled, provide the required overlapping astragal that complies with the label requirements, that has been successfully tested to the scheduled rating and for positive pressure with the doors to be provided, and that is acceptable to the local governing authorities.
   c. Where doors are scheduled to be labeled, factory-apply both the “S” label for smoke assembly that complies with requirements of UL 1784 and the fire label. The smoke assembly designation label shall be installed on labeled doors even if the labeled door is not in a smoke assembly.
   d. Where doors are scheduled for use in a smoke assembly but are not labeled, factory-apply the “S” label for smoke assembly that complies with requirements of UL 1784.
   e. Applicable smoke gasketing will be specified in the Door Hardware specification and will be field applied.

2.4 FRAMES

A. Provide metal frames for steel doors, wood doors, transoms, sidelights, and other openings, according to ANSI/SDI 100, and of types and styles as shown on Drawings and schedules. Conceal fastenings, unless otherwise indicated. Fabricate frames of minimum 16 Gauge (0.0598 inch cold-rolled steel sheet.

1. Fabricate frames with mitered or coped and continuously welded corners.

2. Labeled Frames: Construct according to UL and local governing requirements for the scheduled label. Factory-attach UL label that states the applicable UL rating. Frames without the appropriate UL label will not be accepted.

3. Provide frames with a minimum three 18-ga. steel or 3/16-inch wire anchors per jamb. Provide minimum 18 ga. floor anchors.

4. Mullions: Where mullions are scheduled or detailed on the drawings or plans, or specified in the hardware sets in Section 08710, or are required for proper operation, provide the proper hollow metal mullion with same label as the doors. Mullions shall be key removable when available and shall operate with the door hardware specified in Section 08710. Coordinate with the door hardware in Section 08710.
B. Door Silencers: Except on weatherstripped frames, drill stops to receive 3 silencers on strike jambs of single-door frames and 2 silencers on heads of double-door frames.

C. Plaster Guards: Provide minimum 0.0179-inch-thick steel plaster guards or mortar boxes at back of hardware cutouts where mortar or other materials might obstruct hardware operation and to close off interior of openings.

D. Grout: When required in masonry construction, as specified in Division 4 Section "Unit Masonry."

E. Exterior Frames
   a. Galvanize exterior frames.
   b. Grout Box: On pairs of doors, provide one grout box in top of frame and located on each side of the meeting stile of the door.

2.5 FABRICATION

A. Fabricate steel door and frame units to be rigid, neat in appearance, and free from defects, warp, or buckle. Where practical, fit and assemble units in manufacturer's plant. Clearly identify work that cannot be permanently factory assembled before shipment, to assure proper assembly at Project site. Comply with ANSI/SDI 100 requirements.

   1. Internal Construction: One of the following manufacturer's standard core materials according to SDI standards:
      a. Interior Doors: Resin-impregnated paper honeycomb.
      b. Exterior Doors: Rigid polyurethane conforming to ASTM C 591.
      c. Labeled Doors: Manufacture’s standard to comply with UL and local governing requirements for applicable scheduled label.

B. Fabricate exposed faces of doors and panels including stiles, rails, and reinforcing from only cold-rolled steel sheet. Turn the legs of the top channel down and the legs of the bottom channel up so that they face the inside of the door. The face of the top and bottom channels shall be flush with the top and bottom edges of the doors.

C. Tolerances: Comply with SDI 117 "Manufacturing Tolerances Standard Steel Doors and Frames."

D. Fabricate, reinforcement, edge channels, louvers, and moldings from either cold- or hot-rolled steel sheet.
   1. When doors are uninsulated or insulated with fiberglass or mineral wool, Fabricate doors with a series of continuous full-height vertical stiffeners fabricated from either cold- or hot-rolled steel sheet. Galvanize on all doors that are to be galvanized.

E. Exposed Fasteners: Unless otherwise indicated, provide countersunk flat or oval heads for exposed screws and bolts.
F. Hardware Preparation: Prepare doors and frames to receive mortised and concealed hardware according to final door hardware schedule and templates provided by hardware supplier. Comply with applicable requirements of SDI 107 and ANSI A115 Series specifications for door and frame preparation for hardware.

G. Reinforce doors and frames to receive surface-applied hardware. Drilling and tapping for surface-applied hardware may be done at Project site. Expanded or extruded metal screw holes are not acceptable for reinforcement or for providing bearing surface for threads. Provide reinforcing as follows:
   1. For Hinges, Doors: 12 gauge, continuous channel full height of door.
   2. For Hinges, Frames: 7 gauge.
   3. For Closers: 12 gauge
   4. For Strikes: 14 gauge continuous channel full height of door.
   5. For Plaster Guards: 16 gauge

H. Locate hardware as indicated on Shop Drawings or, if not indicated, according to the Door and Hardware Institute's (DHI) "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."

I. Vision Lites: 3 inches x 33 inches with lite located 10 inches in from strike and bottom of glazing frame 42 inches above finished floor. Glaze with ¼ inch thick tempered glass.

J. Glazing Stops: Minimum 0.0359 inch steel.
   1. Provide non-removable stops on outside of exterior doors and on secure side of interior doors for glass.
   2. Provide screw-applied, removable glazing beads on inside of glass in doors.

2.6 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual" for recommendations relative to applying and designating finishes.


C. Apply primers and organic finishes to doors and frames after fabrication.

2.7 STEEL SHEET FINISHES

A. Surface Preparation: Solvent-clean surfaces to comply with SSPC-SP 1 to remove dirt, oil, grease, and other contaminants that could impair paint bond. Remove mill scale and rust, if present, from uncoated steel to comply with SSPC-SP 5 (White Metal Blast Cleaning) or SSPC-SP 8 (Pickling).

B. Pretreatment: Immediately after surface preparation, apply a conversion coating of type suited to organic coating applied over it.
C. Factory Priming for Field-Painted Finish: Apply shop primer that complies with ANSI A250.10 acceptance criteria, is compatible with finish paint systems indicated, and has capability to provide a sound foundation for field-applied topcoats. Apply primer immediately after surface preparation and pretreatment.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Install steel doors, frames, and accessories according to Shop Drawings, manufacturer's data, and as specified.

B. Placing Frames: Comply with provisions of SDI 105, unless otherwise indicated. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is completed, remove temporary braces and spreaders, leaving surfaces smooth and undamaged.

1. Except for frames located in existing concrete, masonry, or gypsum board assembly construction, place frames before constructing enclosing walls and ceilings.
2. In masonry construction, install at least 3 wall anchors per jamb adjacent to hinge location on hinge jamb and at corresponding heights on strike jamb. Acceptable anchors include masonry wire anchors and masonry T-shaped anchors.
3. At existing concrete or masonry construction, install at least 3 completed opening anchors per jamb adjacent to hinge location on hinge jamb and at corresponding heights on strike jamb. Set frames and secure to adjacent construction with bolts and masonry anchorage devices.
4. In metal-stud partitions, install at least 3 wall anchors per jamb at hinge and strike levels. In steel-stud partitions, attach wall anchors to studs with screws.
5. In in-place gypsum board partitions, install knock-down, slip-on, drywall frames.
6. Install labeled frames according to UL, NFPA 80, and local governing requirements for labeled doors.
7. Check installation of frames with a device specifically made for setting and gauging alignment, width, square, plumb, pitch, and bow of door frames such as a Frame Set gauge by PLS. Check these measurements frequently during installation as recommended by the gauge manufacturer.
   a. Where frames are set prior to wall construction, coordinate wall construction so that the frame measurements are not disturbed during wall construction and that frames can be accurately anchored into the construction. Verify alignment, width, square, plumb, pitch, and bow during and after wall construction, and prior to door installation. Hollow metal and wood doors that do not perform correctly because of frame installation will be removed and frame installation corrected at no additional cost.
C. Door Installation: Fit hollow-metal doors accurately in frames, within clearances specified in ANSI/SDI 100.

1. Fire-Rated Doors: Install labeled doors and maintain clearances according to UL, NFPA 80, and local governing requirements for labeled doors.

3.2 ADJUSTING AND CLEANING

A. Prime Coat Touchup: Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touchup of compatible air-drying primer.

B. Protection Removal: Immediately before final inspection, remove protective wrappings from doors and frames.

END OF SECTION 08 11 13
SECTION 08 71 00 – DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. Definition: "Finish Hardware" includes items known commercially as finish hardware which are required for swing, sliding and folding doors, except special types of unique and non-matching hardware specified in the same section as the door and door frame.

B. Extent of finish hardware required is indicated on drawings and in schedules.

1. Types of finish hardware required include, but are not limited to, the following:

   Butt Hinges
   Lock cylinders and keys
   Lock and latch sets
   Exit devices
   Push/pull units
   Closers
   Door trim units
   Gasket for fire-rated doors
   Protection plates
   Thresholds

2. References

   NFPA-80-As adopted – Standard for Fire Doors and Windows
   ADA – The Americans with Disabilities Act – Title III – Public Accommodations
   International Building Code as Adopted
   Positive Pressure Testing UL10C & UBC7.2
   UL - Underwriters Laboratories
   WHI – Warnock Hersey International, Division of Inchscape Testing Services
   State and Local Codes including Authority Having Jurisdiction
1.3 RELATED WORK

A. Flush Wood Doors - Section 08 14 16
B. Electrical – Documents.

1.4 QUALITY ASSURANCE

A. Manufacturer: Obtain each type of hardware (ie. lock sets) from a single manufacturer, although several may be indicated as offering products complying with requirements.

B. Supplier: A recognized architectural finish hardware supplier, with warehousing facilities, who has been furnishing hardware in the project's vicinity for a period of not less than 5 years. The supplier shall be, or shall employ, a Certified architectural hardware consultant (AHC) who is available, at reasonable times during the course of the work, for consultation about project's hardware requirements, to Owner, Architect and Contractor. A Certified architectural hardware consultant (AHC) shall prepare all hardware schedules. The Hardware Supplier is responsible for proper coordination of all finished hardware with related sections to insure compatibility of products.

C. Fire-Rated Openings: Provide hardware for fire-rated openings in compliance with NFPA Standard No. 80 and local building code requirements. Provide only hardware which has been tested and listed by UL / WHI or FM for types and sizes of doors required and complies with requirements of door and door frame labels. Provide door seals to meet Positive Pressure Testing UL10C and UBC7 – 2 as required.

D. Where panic exit devices are required on fire-rated doors (with supplementary marking on doors' UL or FM labels indicating "Fire Door to be Equipped with Fire Exit Hardware") provide UL / WHI or FM label on exit devices indicating "Fire Exit Hardware".

E. Thru bolt door closers and exit devices, unless otherwise specified.

F. Provide lever handle locksets ADA compliant.

G. Smoke and Draft Control Assemblies: Where smoke and draft control door assemblies are required, provide door hardware that shall meet the requirements of assemblies tested according to UL1784 and installed in compliance with NFPA-105.

H. Existing Frames: The Hardware Supplier shall review all existing openings prior to scheduling the specified hardware. It shall be the responsibility of the GC and the Hardware Supplier to verify the new doors with the specified hardware applications shall function in the existing frames. If frame modifications are required, the GC and the Hardware Supplier shall review the work required with the Architect and the Owner’s representative. If changes to the specified hardware are required, the Hardware
Supplier shall submit the proposed changes for approval. Hardware shall not be scheduled or furnished without the above referenced site visit and review.

1.5 SUBMITTALS

A. Product Data: Submit manufacturers’ technical product data for each item of hardware in accordance with Division-1 section "Submittals". Include whatever information may be necessary to show compliance with requirements, and include instructions for installation and for maintenance of operating parts and finish.

B. Hardware Schedule: Submit final hardware schedule in manner indicated below. Coordinate hardware with doors, frames and related work to ensure proper size, thickness, hand, function and finish of hardware.

1. Final Hardware Schedule Content: Based on finish hardware indicated, organize hardware schedule into "hardware sets" indicating complete designations of every item required for each door or opening. Include the following information:
   a. Type, style, function, size and finish of each hardware item.
   b. Name and manufacturer of each item.
   c. Fastenings and other pertinent information.
   d. Location of hardware set cross-referenced to Drawings on floor plans and in door and frame schedule.
   e. Explanation of all abbreviations, symbols, codes, etc., contained in schedule.
   f. Mounting locations for hardware.
   g. Door and frame sizes and materials.
   h. Keying information.
   i. Electrical drawings: elevation, riser & point to point. Include description of door function/electrified hardware function.

C. Submittal Sequence: Submit schedule at earliest possible date particularly where acceptance of hardware schedule must precede fabrication of other work (e.g., hollow metal frames) which is critical in the project construction schedule. Include with schedule the product data, samples, shop drawings of other work affected by finish hardware, and other information essential to the coordinated review of hardware schedule.

D. Keying Schedule: Submit separate detailed schedule indicating clearly how the Owner's final instructions on keying of locks has been fulfilled.

E. Samples if Requested: Prior to submittal of the final hardware schedule and prior to final ordering of finish hardware, submit one sample of each type of exposed hardware unit, finished as required, and tagged with full description for coordination with schedule.

F. Templates: Furnish hardware templates to each fabricator of doors, frames and
other work to be factory-prepared for the installation of hardware. Upon request, check shop drawings of such other work, to confirm that adequate provisions are made for proper location, coordination and installation of hardware.

1.6 PRODUCT HANDLING

A. Tag each item or package separately, with identification related to final hardware schedule, and include basic installation instructions with each item or package.

B. Inventory hardware jointly with representatives of hardware supplier and hardware installer until each is satisfied that count is correct.

C. Deliver individually packaged hardware items at the proper times to the proper locations (shop or project site) for installation.

D. Provide secure lock-up for hardware delivered to the project, but not yet installed. Control handling and installation of hardware items which are not immediately replaceable, so that completion of the work will not be delayed by hardware losses, both before and after installation.

PART 2 - PRODUCTS

2.1 SCHEDULED HARDWARE

A. Requirements for design, grade, function, finish, size and other distinctive qualities of each type of finish hardware is indicated in the Finish Hardware Data Sheet and Hardware Schedule at the end of this section. Products are identified by using hardware designation numbers of the following:

- Butts: Ives
- Locksets: Schlage
- Cylinders: Best
- Silencers: Ives
- Stops: Ives
- Closers: LCN
- Weather Strip: National Guard
- Kickplates: Ives
- Panic Devices: Von Duprin
- Magnetic Holders: LCN

2.2 MATERIALS AND FABRICATION

A. Hand of door: Drawings show direction of slide, swing or hand of each door leaf. Furnish each item of hardware for proper installation and operation of door movement.
as shown.

B. Manufacturer's Name Plate: Do not use manufacturer's products which have manufacturer's name or trade name displayed in a visible location (omit removable nameplates), except in conjunction with required UL labels and as otherwise acceptable to Architect.

C. Manufacturer's identification will be permitted on rim of lock cylinders only.

D. Finishes:
   a. All finished metal hardware items to match existing.

E. Lockset Design: Lever handle design shall be C Style Schlage 1246. Confirm with Owner.

F. Fasteners: Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation. Do not provide hardware which has been prepared for self-tapping sheet metal screws, except as specifically indicated.

G. Furnish screws for installation, with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Finish exposed (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of such other work as closely as possible, including "prepared for paint" in surfaces to receive painted finish.

H. Provide concealed fasteners for hardware units which are exposed when door is closed, except to extent no standard units of type specified are available with concealed fasteners. Verify the use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work, except where it is not feasible to adequately reinforce the work. In such cases, provide sleeves for each thru-bolt or use sex screw fasteners.

I. Tools and Maintenance Instructions for Maintenance: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of finish hardware.

2.3 HINGES AND BUTTS

A. Templates: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.

B. Screws: Furnish Phillips flat-head or machine screws for installation of units, except furnish Phillips flat-head or wood screws for installation of units into wood. Finish screw heads to match surface of hinges or pivots.

C. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
   1. Steel Hinges: Steel pins.
5. Interior Doors: Non-rising pins.
6. Tips: Flat button and matching plug, finished to match leaves.
7. Number of hinges: Provide number of hinges indicated but not less than 3 hinges for door leaf for doors 90" or less in height and one additional hinge for each 30" of additional height.

D. Acceptable Manufacturers: Match Existing

2.4 LOCK CYLINDERS AND KEYING

A. General: Supplier will meet with Owner to finalize keying requirements and obtain final instructions in writing.

B. Review the keying system with the Owner and provide the type required (master, grandmaster or great-grandmaster), either new or integrated with Owner's existing system.

C. Equip locks to accommodate Owner – provide cores.

G. Comply with Owner's instructions for masterkeying and, except as otherwise indicated, provide individual change key for each lock which is not designated to be keyed alike with a group of related locks.

H. Permanently inscribe each key with number or lock that identifies cylinder manufacturer key symbol, and notation "DO NOT DUPLICATE".

I. Key Material: Provide keys of nickel silver only.

J. Key Quantity: Furnish 3 change keys for each cylinder core. Master Keys as required by System.

K. Furnish one extra blank for each lock.

2.5 LOCKS, LATCHES AND BOLTS

A. Strikes: Provide manufacturer's standard wrought box strike for each latch or lock bolt, with curved lip extended to protect frame, finished to match hardware set.

B. Provide dust-proof strikes for foot bolts, except where special threshold construction provides non-recessed strike for bolt.

C. Provide roller type strikes where recommended by manufacturer of the latch and lock units.
D. Lock Throw: Provide \( \frac{3}{8}'' \) minimum throw of latch and deadbolt used on pairs of doors. Comply with UL requirements for throw of bolts and latch bolts on rated fire openings.

E. Provide 1” minimum throw on other latch and deadlock bolts.

F. Flush Bolt Heads: Minimum of 1/2" diameter rods of brass, bronze or stainless steel, with minimum 12" long rod for doors up to 7'-0" in height. Provide longer rods as necessary for doors exceeding 7'-0" in height.

G. Exit Device Dogging: Except on fire-rated doors, wherever closers are provided on doors equipped with exit devices, equip the units with keyed dogging device to hold the push bar down and the latch bolt in the open position.

H. Locksets shall be mortise type Series 1000, Grade 1, ANSI 156.13. All locksets shall be furnished with thru-bolted lever trim. All locksets shall be operable by Corbin Russwin. Acceptable Lockset Manufacturers: Match Existing

2.6 PUSH/PULL UNITS

A. Exposed Fasteners: Provide manufacturer's standard exposed fasteners for installation; through-bolted for matched pairs, but not for single units.

2.7 CLOSERS AND DOOR CONTROL DEVICES

A. Size of Units: Except as otherwise specifically indicated, comply with the manufacturer's recommendations for size of door control unit, depending upon size of door, exposure to weather and anticipated frequency of use.

B. Closers: All door closers shall be of one manufacturer to provide for proper installation and servicing after installation. All closers shall be inspected after installation by a factory representative to ensure proper adjustment and operation. A report shall be filed with the architect after said visit has been made. Closer shall carry a manufacturer's TEN YEAR WARRANTY for hydraulic units and 2 year warranty for electrical and/or handicap power assist door closers against manufacturing defects and workmanship. PRV (pressure relief valves) are not acceptable.

C. Parallel Arm Closers: Shall incorporate one piece forged steel arms or a steel rigid arm. Furnish regular arms, hold open arms, arms with stop built in, arms with hold open and stop built in as specified.

D. Built-In Stops: Where closers with built-in positive stops are used, the stops shall be of one piece cast malleable iron material with built in springs. Where required, the hold-open assembly handle for these stops shall rotate on ball bearings.

E. All door closers shall pass UL10C positive pressure fire test.
F. Non-sized: All exterior closers shall be non-sized to provide a full range of Size 1 to 5 closing power.

G. Hydraulic Fluid: All closers, with the exception of interior electronic closers, shall utilize temperature stable fluid capable of withstanding temperature ranges of 120 degrees F. to -30F. without requiring seasonal adjustment of closer speed to properly close the door. Fluid shall be non-flammable.

H. All closers shall have a powder coat finish on closer body, arm, cover and adapter plate. If powder coat finish is not available, pre-treat closer body, arm, cover and adapter plate with special rust inhibiting coating before painted finish is applied.

I. Provide all drop plates, shoe supports, templates, etc. to properly mount closers according to manufacturers’ recommendations.

J. All closers shall be the product of one manufacturer.

K. Acceptable Manufacturers and Types: Match Existing

2.8 EXIT DEVICES

A. General: All devices shall be of one manufacturer to provide for proper installation and servicing. Devices shall be furnished non-handed and capable of direct field conversion for all available trim functions. All devices shall carry a three year warranty against manufacturing defects and workmanship.

B. Furnish all devices with stainless steel touch bars. Plastic parts are not acceptable.

C. Furnish all exit devices with deadlocking latchbolts or guarded latch (GL) feature.

D. Furnish all exit devices with cast metal end caps.

E. Furnish roller strikes with all exit devices.

F. Furnish stabilizers similar to Von Duprin 154 with all removable mullions.

G. Outside Trim: Shall be heavy duty type and fastened by means of concealed welded lugs and thru-bolts from the inside. Trim shall be forged brass with a minimum average thickness on the escutcheon of .130. Plate with trim shall be brass with minimum average thickness of .090 and have forged pulls. Where Lever Handles are specified provide 994L type Break Away Trim.

H. Furnish cylinders with all lockable exit devices.

I. Furnish required filler plates and shim kits for flush mounting of exit devices on all doors requiring same.

J. Acceptable Manufacturers and Types: Match Existing
2.9.1 DOOR TRIM UNITS

A. Fasteners: Provide manufacturer's standard exposed fasteners for door trim units (kick plates, edge trim, viewers, knockers, mail drops and similar units); either machine screws or self-tapping screws.

B. Fabricate protection plates (armor, kick or mop) not more than 2” less than door width on stop side and not more than 1” less than door width on pull side, x the height indicated.

C. Metal Plates: Stainless steel, .050" (U.S. 18 ga.)

2.10 WEATHER STRIP

A. General: Except as otherwise indicated, provide continuous weatherstripping at each edge of every exterior door leaf. Provide type, sizes and profiles shown or scheduled. Provide non-corrosive fasteners as recommended by manufacturer for application indicated.

B. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strip is easily replaceable and readily available from stocks maintained by manufacturer.

C. Acceptable Manufacturers:
   1. National Guard
   2. Pemko
   3. Zero

2.11 DOOR SILENCERS

A. All hollow metal frames shall have gray resilient type silencers. Quantity (3) each on single doors and quantity (2) on pair of doors.

3.0 EXECUTION

3.1 INSTALLATION

A. Mount hardware units at heights indicated in "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute, except as specifically indicated or required to comply with governing regulations, and except as may be otherwise directed by Architect.

B. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Wherever cutting and fitting is required to install hardware onto or into surfaces which are later to be painted or finished in another way, coordinate removal, storage and reinstallation or application of surface protections with finishing.
work specified in the Division-9 sections. Do not install surface-mounted items until finishes have been completed on the substrate.

C. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

D. Drill and countersink units which are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.

E. Set thresholds for exterior doors in full bed of butyl-rubber or polyisobutylene mastic sealant.

3.2 ADJUST AND CLEAN

A. Adjust and check each operating item of hardware and each door, to ensure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly as intended for the application made.

B. Clean adjacent surfaces soiled by hardware installation.

C. Adjust door control devices to compensate for final operation of heating and ventilating equipment.

D. Instruct Owner's Personnel in proper adjustment and maintenance of hardware and hardware finishes, during the final adjustment of hardware.

3.3 HARDWARE SETS AS FOLLOWS:

HARDWARE SET NO. 01 – (DOORS 01, 02, 06)

3 Butt Hinges
1 Office Set
1 Wall Stop
3 Silencers

HARDWARE SET NO. 02 – (DOOR 08)

6 Butt Hinges
1 Flush Head Bolt (Inactive Leaf)
1 Flush Foot Bolt with dust proof strike (Inactive Leaf)
1 Classroom Lock
1 Half Dummy lock
2 Stops
2 Silencers
HARDWARE SET NO. 03 – (DOOR 07)

3 Butt Hinges
1 Store Room lock
1 Stop
3 Silencers

END OF SECTION 08 71 00
SECTION 09 51 23 - ACOUSTICAL TILE CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following types of acoustical ceiling tile and applicable suspension systems as indicated on the Drawings:
   1. Regular acoustical lay-in tile, fissured and smooth.

1.3 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 01 Specification Sections.

B. Product data for each type of product specified.

C. Coordination drawings for reflected ceiling plans drawn accurately to scale and coordinating penetrations and ceiling-mounted items. Show the following:
   1. Ceiling suspension system members.
   2. Method of attaching suspension system hangers to building structure.
   3. Ceiling-mounted items including light fixtures; air outlets and inlets; speakers; sprinklers; and special moldings at walls, column penetrations, and other junctures of acoustical ceilings with adjoining construction.
   4. Show locations of seismic restraints and methods of attachment.

D. Samples for initial selection in the form of manufacturer's color charts consisting of actual acoustical tiles or sections of tiles showing the full range of colors, textures, and patterns available for each type of tile indicated.

E. Samples for verification of each type of exposed finish required, prepared on samples of size indicated below. Where finishes involve normal color and texture variations, include sample sets showing the full range of variations expected.

   1. Full-size samples of each tile type, pattern, and color.
   2. Set of 12-inch-long samples of concealed suspension system members.
3. Set of 12-inch-long samples of exposed moldings for each color and system type required.

F. Qualification data for firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

G. Research reports or evaluation reports of the model code organization acceptable to authorities having jurisdiction that show compliance of acoustical tile ceilings and components with the building code in effect for the Project.

H. Product test reports from a qualified independent testing agency that are based on its testing of current products for compliance of acoustical tile ceilings and components with requirements.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced Installer who has completed acoustical tile ceilings similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

B. Fire-Test-Response Characteristics: Provide acoustical tile ceilings that comply with the following requirements:

1. Fire-response tests are performed by a qualified testing and inspecting agency. Qualified testing and inspecting agencies include Underwriters Laboratories (UL), Warnock Hersey, or another agency that is acceptable to authorities having jurisdiction and that performs testing and follow-up services.

2. Surface-burning characteristics of acoustical tiles comply with ASTM E 1264 for Class A materials as determined by testing identical products per ASTM E 84.

3. Acoustical tile ceilings indicated are identical in materials and construction to those tested for fire resistance per ASTM E 119.

4. Fire-resistance-rated, acoustical tile ceilings are indicated by design designations listed in the UL "Fire Resistance Directory," in the Warnock Hersey "Certification Listings," or in the listing of another qualified testing and inspecting agency.

5. Products are identified with appropriate markings of applicable testing and inspecting agency.

C. Single-Source Responsibility for Ceiling Tile: Obtain each type of acoustical ceiling tile from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying the Work.
D. Single-Source Responsibility for Suspension System: Obtain each suspension system from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying the Work.
   1. Obtain both acoustical ceiling units and suspension system from the same manufacturer.

E. Preinstallation Conference: Conduct conference at Project site to comply with requirements of Division I Section "Project Meetings."

F. Substitute Requests For A Specified Entity
   1. Provisions, requirements, and stipulations stated under this paragraph of this specification apply not only to this specification, but they also apply to all other specifications that are included in the project manual, on the drawings or are otherwise a part of the Contract Documents even if not so stated in these documents. Information requested under this paragraph heading is the minimum required information for consideration and evaluation and additional information may be requested. This information is required in addition to information required by any substitute request forms that may be included in the Project Manual or Contract Documents, or otherwise provided.

   2. Where the Contract Documents list at least three entities (products, materials, components, systems, manufacturers, installers, methods, etc.), the Architect reserves the option to reject any and all requests for a substitute. Where the Contract Documents list only one entity without “Or equal” or similar language, substitutes will not be considered. Where the Contract Documents list less than 3 entities, substitutes may be reviewed and evaluated on an individual base.

   3. Include the following information on the cover page of the request:
      a. Name of Project and project number as shown in the header of the specification
      b. Date request is being made.
      c. Name of person, company, and contact information of person requesting substitute.
      d. Specification title and number and drawing number where the specified product is listed or shown.
      e. Exact name of the specified entity and substitute entity.

   4. When requesting a substitute, include all requested and required supporting data, specifications, and performance criteria. The Architect must receive this substitute request no later than the time stated elsewhere for submitting product substitutions. If no time is stated, then 10 days prior to date of bid opening. When a Request For Substitute Form is included in the Project Manual, properly complete the form and include it with the submittal.

   5. Verbal requests for a substitute or requests that do not comply with these provisions are not acceptable, will be rejected, and will not extend the submittal deadline. Submittals that are incomplete have vague or unspecific answers ("Better".

ACOUSTICAL TILE CEILINGS
“Cheaper”. “More competitive”, etc.; that lack supporting data to substantiate equal or superior quality/design; that do not include the requested proof, verification, reports, and substantiating documentation; or are received after submittal deadline will be rejected. Provide convincing answers as to why the substitute should be approved. Rejection or disapproval will not extend the submittal deadline.

a. If the substitute entity differs from specified entity, compare the substitute entity with the specified entity in a tabular format that clearly shows all the differences.

6. Include the following information on all requests for substitutes:
   a. Length of time the manufacturer has been in business.
   b. Whether the manufacturer operated under any other name, and if so, under what name and when?
   c. Length of time the substitute entity has been on the market.
   d. Whether the substitute entity has been marketed under any other name, and if so, under what name and when?
   e. Who will install and service the substitute entity?
   f. Whether the installer is trained and certified by the manufacturer? If so, describe how this training and certification are achieved and if training records are maintained?
   g. All required changes in the project design that will be required to incorporate the substitute entity.
   h. Describe any known problems or failures associated with the substitute entity? If there are any, provide details.

7. The manufacturer’s published literature, description, capabilities, operating and performance parameters, options, accessories, etc. of all submitted substitutes shall meet or exceed those published by the manufacturer of the specified entity even if they are not specifically mentioned in the Contract Documents. Additionally, manufacturers whose standards are less than those of the specified entity but are capable of producing an entity that meets the specified entity shall not, for the convenience of their normal production methods, vary from the specified entity standards.

8. Where test data and standards are being submitted as supporting data and for comparison with the specified item, comply with the following requirements. Submittals not complying with these provisions will be considered incomplete, unacceptable, and will be rejected:
   a. All substitutes shall meet all of the minimum performance criteria of the specified entity.
   b. Submit certified data provided by an independent testing laboratory.
   c. Prepare supporting data in side-by-side tabular form showing the submitted criteria next to each specified performance criteria and denoting the differences between the specified item the substitute item.
   d. Show submitted data using same tests and standards and with the values and results in the same units of measure as those shown for the specified item.
e. Where a performance criterion is not listed in the specifications, comply with the specified product manufacturer’s published data for performance criteria.

f. Where the specified entity requires certifications, registrations, approvals, policies, practices, etc., submit proof that the substitute entity is in compliance.

9. Each and all requests for substitutes shall be signed by the person making the submittal. By signing the submittal, the person requesting the substitute certifies and agrees to the following requirements. Requests without the signature of a responsible person will be rejected.
   a. That the specifications have been read and are understood,
   b. That the entity being submitted meets or exceeds all provisions of the specifications,
   c. That all submitted information is true and accurate,
   d. Will remove the substitute entity and replace it with an acceptable product, at his expense, if it is determined that the substitute does not meet the specifications as certified.
   e. Agrees to pay for all necessary design changes and increased construction costs to incorporate the substitute entity.

G. Seismic Performance: Acoustical ceiling shall withstand the effects of earthquake motions determined according to ASCE/SEI 7 or local governing authorities whichever is more stringent.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver acoustical tiles and suspension system components to Project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other causes.

B. Before installing acoustical tiles, permit them to reach room temperature and stabilized moisture content.

C. Handle acoustical tiles carefully to avoid chipping edges or damaging units in any way.

1.6 PROJECT CONDITIONS

A. Space Enclosure and Environmental Limitations: Do not install acoustical tile ceilings until spaces are enclosed and weatherproof, wet-work in spaces is completed and dry, work above ceilings is complete, and ambient temperature and humidity conditions are being maintained at the levels indicated for Project when occupied for its intended use.

1.7 COORDINATION
A. Coordinate layout and installation of acoustical tiles and suspension system components with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system components and partition.

1.8 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels clearly describing contents.

1. Acoustical Ceiling Tile: Furnish quantity of full-size units equal to 2.0 percent of amount installed.

2. Suspension System Components: Furnish quantity of each component equal to 2.0 percent of amount installed.

PART 2 - PRODUCTS

2.1 ACOUSTICAL TILE

A. Provide manufacturer's standard tiles of configuration indicated that comply with ASTM E 1264 classifications as designated by types, patterns, acoustical ratings, and light reflectances, unless otherwise indicated.

B. Provide acoustical tiles manufactured with products and components that inhibit the formation and growth of fungus, mold, mildew, and gram-positive and gram-negative bacteria.

C. Acoustical Tile: Tile Products specified are intended to establish expected quality, size, design, pattern, finish, texture, composition, and performance and are not intended to limit competition. Subject to compliance with requirements, equivalent products from the following manufacturers may be submitted for review:

1. Regular Acoustical Lay-In Tile Act 1: 24 inches by 24 inches by 5/8 inch, non-directional fissured; classified as RH-90, unless indicated otherwise. Tile shall be constructed of materials and use processes to inhibit and retard growth of mold and mildew on surfaces. Provide the following finishes as indicated on the interior drawings or a reviewed substitute:

   a. Fine Fissured:
   b. Smooth Finish:
   c. Manufacturer: Armstrong

D Low-Emitting Materials: Acoustical tile ceilings shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
E. Recycled Content: Postconsumer recycled content plus one-half of preconsumer recycled content as required to meet Green Globe Requirements.

2.2 METAL SUSPENSION SYSTEMS, GENERAL

A. Metal Suspension System Standard: Provide manufacturer's metal grid suspension systems of types, structural classifications, and finishes indicated that comply with applicable ASTM C 635 requirements for all load values applicable to suspension and that meet local seismic conditions specified under Part 3 of this specification. However, as a minimum, provide intermediate duty suspension systems.

B. Finishes and Colors: Provide manufacturer's standard factory-applied baked enamel finish for type of system indicated. Color as selected by Architect. Provide moisture-resistant finish where moisture resistant tile are used.

C. Attachment Devices: Size for 5 times the design load indicated in ASTM C 635, Table 1, Direct Hung unless otherwise indicated.

D. Wire Hangers, Braces, and Ties: Provide wires complying with the following requirements:

1. Zinc-Coated Carbon Steel Wire: ASTM A 641, Class 1 zinc coating, soft temper.
2. Size: Select wire diameter so that its stress at 3 times the hanger design load (ASTM C 635, Table 1, Direct Hung), will be less than the yield stress of wire, but provide not less than 0.106-inch-diameter wire.

E. Hanger Rods: Mild steel, zinc coated, or protected with rust-inhibitive paint.

F. Flat Hangers: Mild steel, zinc coated, or protected with rust-inhibitive paint.

G. Angle Hangers: Angles with legs not less than 7/8 inch wide, formed with 0.0396-inch-thick galvanized-steel sheet complying with ASTM A 446, G 90 Coating Designation, with bolted connections and 5/16-inch-diameter bolts.

H. Sheet-Metal Edge Moldings and Trim: 2-inch wide flange and tile bearing surface of Type and profile indicated, or if not indicated, manufacturer's recommended moldings for edges and penetrations that fit acoustical tile edge details and suspension systems indicated; formed from sheet metal of same material and finish as that used for exposed flanges of suspension system runners. Finish to match suspension system.

1. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.
2. Seismic Conditions: Where seismic conditions are applicable, provide molding of size, design, and material to meet local seismic requirements. 2-inch minimum support.

2.3 SUSPENSION SYSTEMS
A. Direct-Hung, Exposed Grid, Double-Web Suspension System: Main and cross runners roll-formed of commercial quality hot-dipped galvanized steel per ASTM A635; capping prefinished, hot-dipped galvanized steel with baked enamel finish. Color as indicated. Other characteristics as follows:

2. Access: Upward, with sizes for modules formed by main runners and cross-tees for initial direct access openings throughout the ceiling with remainder of acoustical tiles progressively removable.
3. Provide corrosion-resistant systems used with moisture resistant tile.

B. Suspension Systems (In addition to the previously specified suspension for wired panels)

1. Non-rated Available Products: Subject to compliance with requirements, non-rated suspension systems that may be incorporated in the Work is Prelude Series by Armstrong World Industries, Inc. or equal by one of the following:
   a. Chicago Metallic Corporation.
   b. USG Interiors, Inc.

2. Corrosion Resistant Systems: Subject to compliance with requirements, non-rated suspension systems that may be incorporated in the Work is Prelude Plus Series by Armstrong World Industries, Inc. or equal by one of the following:
   a. Prelude Plus XL Fire Guard Series; Armstrong World Industries, Inc. or equal by Chicago Metallic Corporation or USG Interiors, Inc.

2.4 ACOUSTICAL SEALANT

A. Acoustical Sealant for Exposed and Concealed Joints: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834 and the following requirements:

1. Product is effective in reducing airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies per ASTM E 90.

B. Products: Subject to compliance with requirements, provide one of the following:

1. Acoustical Sealant for Exposed and Concealed Joints: One of the following or a reviewed substitute
   a. AC-20 FTR Acoustical and Insulation Sealant; Pecora Corp.
   b. SHEETROCK Acoustical Sealant; United States Gypsum Company.

C. Acoustical sealant shall have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2.5 MISCELLANEOUS MATERIALS

A. Hold Down Clips: Type recommended by the suspension system manufacturer to meet required seismic conditions specified in ASTM E580 and modified by the memorandum at the end of this section.

B. Seismic Struts: Manufacturer's standard compression struts designed to accommodate lateral forces.

C. Seismic Clips: Manufacturer's standard seismic clips designed and spaced to secure acoustical tiles in-place.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and structural framing to which acoustical tile ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Coordination: Furnish layouts for preset inserts, clips, and other ceiling anchors whose installation is specified in other Sections.
   1. Furnish concrete inserts and similar devices to other trades for installation well in advance of time needed for coordinating other work.

B. Testing Substrates: Before installing adhesively applied tile on wet-placed substrates such as cast-in-place concrete or plaster, test and verify that moisture level is below tile manufacturer's recommended limits.

C. Measure each ceiling area and establish the layout of acoustical tile to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width units at borders, and conform to the layout shown on reflected ceiling plans.

3.3 INSTALLATION

A. General: Install acoustical tile ceilings to comply with applicable publications referenced below per manufacturer's written instructions and CISCA's "Ceiling Systems Handbook." For project location.

3. CISCA’s Recommendations for Acoustical Ceilings: Comply with CISCA's "Recommendations for Direct-Hung Acoustical Tile and Lay-in Panel Ceilings--Seismic Zones 0-2" (Seismic Design Category C) or with "Guidelines for Seismic Restraint of Direct-Hung Suspended Ceiling Assemblies--Seismic Zones 3 & 4" (Seismic Design Categories D, E, and F), whichever is applicable to the Seismic Design Category for the building geographic use and location and results of soils testing.

B. Suspend ceiling hangers from building's structural members and as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of the supporting structure or of the ceiling suspension system. Install to allow all four edges of tile to engage suspension member.

2. Splay hangers only where required to miss obstructions, and if permitted with fire-resistance-rated ceilings, to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means. When installing hangers, provide for 3/8-inch vertical and horizontal movement in suspension system.

3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with the location of hangers at spacings required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.

4. Secure wire hangers to ceiling suspension members and to supports above with a minimum of 3 tight turns. Connect hangers either directly to structures or to inserts, eye screws, or other devices that are secure, that are appropriate for substrate, and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.

5. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices that are secure and appropriate for both the structure to which hangers are attached and the type of hanger involved. Install hangers in a manner that will not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.

6. Do not support ceilings directly from permanent metal forms. Fasten hangers to cast-in-place hanger inserts, powder-actuated fasteners, or drilled-in anchors that extend through forms into concrete.

7. Do not attach hangers to steel deck tabs.

8. Do not attach hangers to steel roof deck. Attach hangers to structural members.

9. Space hangers not more than 48 inches o.c. along each member supported directly from hangers, unless otherwise shown; and provide hangers not more than 8 inches from ends of each member.

10. Install two light fixture support wires for each light.

11. For pieces of tile that will be 3 inches wide or less, cut the final piece from a 4-foot ceiling tile board. Match color and texture, and pattern.
C. Install edge moldings and trim of type indicated at perimeter of acoustical tile ceiling area and where necessary to conceal edges of acoustical units. Miter corners; form hairline joints.
   1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.
   2. Screw attach moldings to substrate at intervals not over 16 inches o.c. and not more than 3 inches from ends, leveling with ceiling suspension system to a tolerance of 1/8 inch in 12 feet. Miter corners accurately and connect securely.
   3. Do not use exposed fasteners, including pop rivets, on moldings and trim.

D. Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.

E. Install acoustical tiles in coordination with suspension system.
   1. Arrange acoustical units and orient directionally patterned units in manner indicated on the reflected ceiling plan.
   2. Hold tile field in compression by inserting leaf-type, spring-steel spacers between tile and moldings, spaced at 12 inches o.c.
   3. Protect lighting fixtures and air ducts to comply with requirements indicated for fire-resistance-rated assembly.

F. Acoustic Assemblies: Where acoustic performance, sound attenuation, and speech privacy are of concern or are required, such as for rooms adjacent to activity areas, exercise rooms, gyms, etc., especially when partitions do not extend to the roof deck, install sound attenuating blankets over the ceiling. Install with no voids cracks, open seams so as to achieve maximum sound attenuation. STC 50 minimum. Coordinate specific requirements with the Architect.

3.4 SEISMIC CONDITIONS

A. Categories D, E, and F
   1. Comply with (Ceiling and Interior Systems Construction Association (CISCA) recommendations and requirements for seismic activity for Categories D, E, and F as defined and established in the IBC 2012, defined as follows:
      a. Categories D, E, and F: Areas subject Severe seismic activity as established in the IBC 2012.
   2. The following additional requirements for categories D, E, and F are beyond those listed in CISCA recommendations.
      a. A heavy duty T-bar grid system shall be used.
      b. Perimeter angle shall be not less than 2-inches.
      c. The grid shall be attached at two adjacent walls. Opposite walls shall have ¼-inch clearance.
      d. Ceiling areas over 1,000 SF must have horizontal restraint wires or rigid bracing.
e. Ceiling areas over 2,500 SF must have “seismic separation joints” or full height partitions.
f. Un-braced ceilings must have 2-inches oversized trim rings for sprinklers and other penetrations.
g. Changes in ceiling plane must have positive bracing.
h. Cable trays and electrical conduits must be independently supported and braced.

3. Free floating architectural components must have adequate “rattle room”
   b. Must permit hangers to swing to a 45-degree angle without striking another object.

4. Installation requirements fall into two broad categories.
   a. Provide a suspension system strong enough to resist the lateral forces imposed upon it without failing.
   b. Prevent border panels from falling from the ceiling plane.

5. Suspension System Integrity
   a. Provide minimum grid connection strength
      (1) 180 lbs
      (2) Mains shall be heavy duty

6. Hanger wire requirements
   a. Connection to structure minimum 100 lbs.
   b. Minimum 12 Ga at 4-foot spacing
   c. Minimum 10 Ga at 5-foot spacing
   d. Plumb within 1 inch in 6 inches

7. Splay Bracing
   a. 4 wire clusters with compression post required in areas over 1,000 sf.
   b. Minimum 200 lbs connection strength
   c. Start within 6 feet of corner
   d. 12-feet on center

8. Light Fixtures
   a. Less than 56 lbs
      (1) 2 connectors attaching to grid
      (2) 2 slack wires
   b. Greater than 56 lbs
      (1) 2 connectors attaching to grid
      (2) Independent support to structure

9. Mechanicals
   a. Less than 20 lbs: 2 connectors attaching to grid
   b. Greater than 20 lbs and less than 56 lbs
      (1) 2 connectors attaching to grid
      (2) 2 slack wires
   c. Greater than 56 lbs: Independent support to structure

10. Partition Attachment
    a. Permitted with these qualifications.
       (1) May not be over 9-feet high or brace independently.
       (2) Seismic lateral force may not exceed 5 lbs/sf
(3) Areas over 2,500 sf must have seismic separation joints

11. Perimeter Panel Retention
   a. Prevent grid from spreading at perimeters
      (1) Spacer Bars, required at all walls.
   b. Perimeter wires
      (1) Required at all cut ends
      (2) Within 8-inches of the wall
   c. Wall molding
      (1) Minimum 2-inches horizontal flange
      (2) Grid attachment required at 2 adjacent walls
      (3) ¾-inch clearance at remaining walls

3.5 CLEANING

A. Clean exposed surfaces of acoustical tile ceilings, including trim, edge moldings, and suspension system members. Comply with manufacturer's instructions for cleaning and touchup of minor finish damage. Remove and replace tiles and other ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 09 51 23
SECTION 09 65 18 - RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Resilient Base.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 09 flooring Sections.

1.3 SUBMITTALS

A. General: Submit the following in accordance with Conditions of Contract and Division 01 Specification Sections.

B. Product data for each type of product specified.

C. Samples for initial selection purposes of manufacturer's standard sample sets in form of pieces cut from each type of product specified showing full range of colors and patterns available.

D. Samples for verification purposes in manufacturer's standard sizes, but not less than 12 inches long, of each different color and pattern of product specified.

E. Product certificates, in lieu of laboratory test reports when permitted by Architect, signed by manufacturer certifying that each product complies with requirements.

1.4 QUALITY ASSURANCE

A. Single-Source Responsibility for Products: Obtain each type and color of product specified from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.
B. Fire Performance Characteristics: Provide products with the following fire performance characteristics as determined by testing products per ASTM test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.

1. Critical Radiant Flux: 0.45 watts per sq. cm or more per ASTM E 648.
2. Smoke Density: Less than 450 per ASTM E 662.

C. California High Performance Schools (CHIPS) Low-Emitting Materials Table: Materials submitted for rubber base assemblies must be listed as low emitting on the CHPS website, www.CHPS.net, or must be tested by an independent laboratory to meet CHPS Section 01350. All components of an assembly must meet Section 01350 individually or in an assembly. Rubber assemblies include tile and adhesive.

D. All chemically based products such as sealers, primers, fillers, adhesives, etc. must be approved by Owner’s Office of Environmental Health and Safety (OEHS).

E. Each selected color and configuration shall be from same dye lot and color.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to Project site in original manufacturer's unopened cartons and containers, each bearing names of product and manufacturer, Project identification, and shipping and handling instructions.

B. Store products in dry spaces protected from the weather with ambient temperatures maintained between 50 deg F and 90 deg F.

C. Move products into spaces where they will be installed at least 48 hours in advance of installation.

1.6 PROJECT CONDITIONS

A. Maintain a minimum temperature of 70 deg F in spaces to receive products specified in this Section for at least 48 hours prior to installation, during installation, and for not less than 48 hours after installation. After this period, maintain a temperature of not less than 55 deg F.

B. Do not install products until they are at the same temperature as that of the space where they are to be installed.

C. Close spaces to traffic during installation of products specified in this Section.

1.7 SEQUENCING AND SCHEDULING
A. Sequence installing products specified in this Section with other construction to minimize possibility of damage and soiling during remainder of construction period.

1.8 EXTRA MATERIALS

A. Deliver extra materials to Owner. Furnish extra materials matching products installed as described below, packaged with protective covering for storage, and identified with labels clearly describing contents.

1. Furnish not less than 10 linear feet for each 500 linear feet or fraction thereof of each different type and color of resilient wall base installed.

1.9 WARRANTY

A. Manufacturer’s Material Warranty: 2 years labor and materials for a material failure.

B. Installer’s Warranty: 2-years labor and materials for an installation failure.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Products: Subject to compliance with requirements, provide products by one of the following manufacturer’s. Colors as selected from the manufacturer’s full range of standard and custom colors.

1. Roppe.
2. Flexco Company
3. Johnsonite
4. Mannington

2.2 RESILIENT BASE

A. Rubber Wall Base: Conform to ASTM F 1861; Group 2, solid (homogeneous); Type 1, TS, (thermoset) vulcanized rubber, Style A, coved, 4 inch high unless otherwise indicated, integral colors as selected, non-shrinking, 1/8 inch thick, with jobsite formed outside corners.

1. Rubber base will be PVC free with the ability to be recycled at the end of cove base life.

B. Preformed Corners: Provide preformed inside and outside corners; 2 1/4-inch minimum returns each direction.
2.3 INSTALLATION ACCESSORIES

A. Adhesives:

1. Water-resistant with formulated biocide recommended by manufacturer to suit resilient base product and substrate conditions indicated.

2. Use adhesives that comply with the following limits for low VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24) and are acceptable to the flooring manufacturer for the intended use:
   a. VCT and Asphalt Tile Adhesives: Not more than 50 g/L.
   b. Rubber Floor Adhesives: Not more than 60 g/L.

3. Waterproof: Alkali resistant epoxy adhesive, formulated biocide-type as recommended by the specific flooring manufacturer. To be used in all areas subject to moisture and wetting such as in the vicinity of exterior doors, exits from shower areas, under drinking fountains, or any area subject to wetting splash or spillage. Adhesive shall ensure proper adhesion between floor covering and adhesive and between substrate and adhesive when floor covering or adhesive are subjected to moisture from above or below. Comply with low VOC requirements to meet LEED Credits.

4. Water-resistant: Alkali and water resistant, formulated biocide-type of the type recommended by flooring manufacturers to suit floor flooring products and substrate conditions indicated. Adhesive shall not be affected by or break down when exposed to moisture. Adhesive shall ensure proper adhesion between floor covering and adhesive and between substrate and adhesive when floor covering or adhesive are subjected to moisture from above or below.

5. General: Use adhesives that comply with the following limits for low VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24) and are acceptable to the flooring manufacturer for the intended use. Comply with low VOC requirements to meet LEED Credits.
   a. Linoleum Adhesives: Not more than 50 g/L.

6. Waterproof: Alkali resistant epoxy adhesive, formulated biocide-type as recommended by the specific flooring manufacturer. To be used in all areas subject to moisture and wetting such as in the vicinity of exterior doors, exits from shower areas, under drinking fountains, or any area subject to wetting splash or spillage. Adhesive shall ensure proper adhesion between floor covering and adhesive and between substrate and adhesive when floor covering or adhesive are subjected to moisture from above or below. Comply with low VOC requirements to meet LEED Credits.

7. Water-resistant: Alkali and water resistant, formulated biocide-type of the type recommended by flooring manufacturers to suit floor flooring products and substrate conditions indicated. Adhesive shall not be affected by or break down when exposed to moisture. Adhesive shall ensure proper adhesion between floor covering and adhesive and between substrate and adhesive when floor covering or adhesive are
subjected to moisture from above or below. Comply with low VOC requirements to meet LEED credit.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas where installation of products specified in this Section will occur, with Installer present, to verify that substrates and conditions are satisfactory for installation and comply with manufacturer's requirements and those specified in this Section.

3.2 PREPARATION

A. General: Comply with manufacturer's installation specifications for preparing substrates indicated to receive products indicated.

B. Remove coatings, and other substances that are incompatible with base adhesives and that contain soap, wax, oil, or silicone.

C. Vacuum substrates to be covered immediately before installing products specified in this Section. Following cleaning, examine substrates for moisture, alkaline salts, carbonation, or dust.

D. Bond Test:
   1. After the substrate has been properly and satisfactorily prepared, sounded, and tested for moisture, conduct a bond test with each type and combination of flooring material and adhesive to be used and provided under this specification.
   2. Conduct adhesion tests according to adhesive and floor covering manufacturer’s instructions.
   3. Record test values for each type and combination of flooring and adhesive to be used.
   4. Send copies of test reports to the Owner and the Architect.

3.3 INSTALLATION

A. General: Install products specified in this Section using methods indicated according to manufacturer's installation directions.

B. Apply resilient wall base to walls, columns, pilasters, casework, and other permanent fixtures in rooms and areas where base is required. Install wall base in lengths as long as practicable. Tightly adhere wall base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
1. On irregular substrates, fill voids along top edge of resilient wall base with manufacturer's recommended adhesive filler material.
2. Install inside and exterior corners before installing straight pieces.

C. Place resilient accessories so they are butted to adjacent materials of type indicated and bond to substrates with adhesive. Install reducer strips at edges of flooring that otherwise would be exposed.

3.4 CLEANING AND PROTECTION

A. Perform the following operations immediately after completing installation:

1. Remove visible adhesive and other surface blemishes using cleaner recommended by manufacturers of resilient product involved.

B. Protect base against mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period. Use protection methods indicated or recommended by manufacturer of resilient product involved.

1. Cover resilient accessories on floors and stairs with undyed, untreated building paper until inspection for Substantial Completion.

C. Clean products specified in this Section not more than 4 days prior to dates scheduled for inspections intended to establish date of Substantial Completion in each area of Project. Clean products using method recommended by manufacturer.

END OF SECTION 09 65 18
SECTION 09 68 00 - CARPET

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes carpet tile and installation.

B. Related Sections: The following Sections contain requirements that relate to this Section:
   1. Division 03 Sections for curing compounds and other concrete treatments compatibility with carpet adhesives.
   2. Division 09 Section "Resilient Base and Accessories" for materials and installation.

C. Contractor’s Investigation: Prior to Contract Execution, the Contractor shall have thoroughly investigated the entities such as employees, consultants, subcontractors, manufacturers, suppliers, etc. and other entities that will performing work or supplying materials, products, equipment, or systems for this project to ensure that they meet all of the qualifications and requirements mentioned or implied in the Contract Documents. If it is later determined that any of the previously mentioned entities do not meet the qualifications and requirements specified in the Contract Documents, the Contractor will be required to replace that entity with a qualified entity at no increase in Contract sum or Contract Time.

D. If testing indicates moisture levels above and floor substrate conditions unacceptable to those recommended by the floor covering manufacturer, provide proper vapor retarder to bring vapor emissions to acceptable levels and underlayment to bring concrete substrate to acceptable conditions. All materials and methods used to bring concrete substrate to acceptable levels and conditions shall be as recommended by and acceptable to the floor covering manufacturer.

1.4 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 01 Specification Sections.

B. Product Data for each type of carpet material and installation accessory specified. Submit manufacturer's printed data on physical characteristics, durability, fade resistance, and fire-test-response characteristics. Submit methods of installation for each type of substrate.
C. Shop Drawings showing columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet. Indicate the following:

1. Carpet type, color, and dye lot.
2. Locations where dye lot changes occur.
3. Seam locations, types, and methods.
4. Type of subfloor.
5. Type of installation.
6. Pattern type, repeat size, location, direction, and starting point.
7. Pile direction.
8. Type, color, and location of insets and borders.
9. Type, color, and location of edge, transition, and other accessory strips.
10. Transition details to other flooring materials.

D. Samples for initial selection in the form of manufacturer's color charts or Samples of materials showing the full range of colors, textures, and patterns available for each type of carpet indicated.

E. Samples for verification of the following products, in manufacturer's standard sizes, showing the full range of color, texture, and pattern variations expected. Prepare Samples from the same material to be used for the Work. Label each sample with manufacturer's name, material type, color, pattern, and designation indicated on Drawings and carpet schedule. Submit the following:

1. 12-inch-square Samples of each type of carpet material required.
2. 12-inch Samples of each type of exposed edge stripping and accessory item.
3. 6-inch Samples of each type of carpet cushion.

F. Schedule of carpet using same room designations indicated on Drawings.

G. Maintenance data for carpet to include in the operation and maintenance manual specified in Division 1. Include the following:

1. Methods for maintaining carpet including manufacturer's recommended frequency for maintaining carpet.
2. Precautions for cleaning materials and methods that could be detrimental to finishes and performance. Include cleaning and stain-removal products and procedures.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced Installer who is certified by the Floor Covering Installation Board (FCIB) or who can demonstrate compliance with FCIB certification program requirements.
B. Single-Source Responsibility: Obtain each type of carpet from one source and by a single manufacturer.

C. Carpet Fire-Test-Response Characteristics: Provide carpet with the following fire-test-response characteristics as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify carpet with appropriate markings of applicable testing and inspecting agency.

2. Flame Spread: 25 or less per ASTM E 84.
3. Smoke Developed: 450 or less per ASTM E 84.

D. Performance Characteristics: As follows:
1. Critical Radiant Flux Classification: Comply with NFPA 253 for the following Classes:
   a. Class 1: 0.45 W/sq. cm or greater.
2. Dry Breaking Strength: Not less than 100 lbf (445 N) per ASTM D 2646.
3. Resistance to Insects: Comply with AATCC-24
5. Colorfastness to Crocking: Not less than 4, wet and dry, per AATCC-165.
6. Colorfastness to Light: Not less than 4 after 40 AFU (AATCC fading units) per AATCC-16.
7. Antimicrobial Activity: Not less than 2-mm halo of inhibition for gram-positive bacteria; not less than 1-mm halo of inhibition for gram-negative bacteria; no fungal growth; per AATCC-174.

E. Mockups: Before installing carpet, install mockups for each type of carpet installation required to demonstrate aesthetic effects and qualities of materials and execution. Install mockups to comply with the following requirements, using materials indicated for the completed Work:
1. Install mockups in the location and of the size indicated or, if not indicated, as directed by Architect.
2. Notify Architect seven days in advance of dates and times when mockups will be installed.
3. Demonstrate the proposed range of aesthetic effects and workmanship.
4. Obtain Architect's approval of mockups before starting work.
5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
6. Remove mockups when directed.
7. Approved mockups may become part of the completed Work if undamaged at time of Substantial Completion.

F. Substitute Requests For A Specified Entity
1. Provisions, requirements, and stipulations stated under this paragraph of this specification apply not only to this specification, but they also apply to all other specifications that are included in the project manual, on the drawings or are
otherwise a part of the Contract Documents even if not so stated in these documents.
Information requested under this paragraph heading is the minimum required
information for consideration and evaluation and additional information may be
requested. This information is required in addition to information required by any
substitute request forms that may be included in the Project Manual or Contract
Documents, or otherwise provided.

2. Where the Contract Documents list at least three entities (products, materials,
components, systems, manufacturers, installers, methods, etc.), the Architect reserves
the option to reject any and all requests for a substitute. Where the Contract
Documents list only one entity without “Or equal” or similar language, substitutes
will not be considered. Where the Contract Documents list less than 3 entities,
substitutes may be reviewed and evaluated on an individual base.

3. Include the following information on the cover page of the request:
a. Name of Project and project number as shown in the header of the specification
b. Date request is being made.
c. Name of person, company, and contact information of person requesting
substitute.
d. Specification title and number and drawing number where the specified
product is listed or shown.
e. Exact name of the specified entity and substitute entity.

4. When requesting a substitute, include all requested and required supporting data,
specifications, and performance criteria. The Architect must receive this substitute
request no later than the time stated elsewhere for submitting product substitutions. If
no time is stated, then 10 days prior to date of bid opening. When a Request For
Substitute Form is included in the Project Manual, properly complete the form and
include it with the submittal.

5. Verbal requests for a substitute or requests that do not comply with these provisions
are not acceptable, will be rejected, and will not extend the submittal deadline.
Submittals that are incomplete have vague or unspecific answers (“Better”.
“Cheaper”. “More competitive”, etc.); that lack supporting data to substantiate equal
or superior quality/design; that do not include the requested proof, verification,
reports, and substantiating documentation; or are received after submittal deadline
will be rejected. Provide convincing answers as to why the substitute should be
approved. Rejection or disapproval will not extend the submittal deadline.
a. If the substitute entity differs from specified entity, compare the substitute entity
with the specified entity in a tabular format that clearly shows all the
differences.

6. Include the following information on all requests for substitutes:
a. Length of time the manufacturer has been in business.
b. Whether the manufacturer operated under any other name, and if so, under
what name and when?
c. Length of time the substitute entity has been on the market.
d. Whether the substitute entity has been marketed under any other name, and if so, under what name and when?

e. Who will install and service the substitute entity?

f. Whether the installer is trained and certified by the manufacturer? If so, describe how this training and certification are achieved and if training records are maintained?

g. All required changes in the project design that will be required to incorporate the substitute entity.

h. Describe any known problems or failures associated with the substitute entity? If there are any, provide details.

7. The manufacturer’s published literature, description, capabilities, operating and performance parameters, options, accessories, etc. of all submitted substitutes shall meet or exceed those published by the manufacturer of the specified entity even if they are not specifically mentioned in the Contract Documents. Additionally, manufacturers whose standards are less than those of the specified entity but are capable of producing an entity that meets the specified entity shall not, for the convenience of their normal production methods, vary from the specified entity standards.

8. Where test data and standards are being submitted as supporting data and for comparison with the specified item, comply with the following requirements. Submittals not complying with these provisions will be considered incomplete, unacceptable, and will be rejected:

a. All substitutes shall meet all of the minimum performance criteria of the specified entity.

b. Submit certified data provided by an independent testing laboratory.

c. Prepare supporting data in side-by-side tabular form showing the submitted criteria next to each specified performance criteria and denoting the differences between the specified item and the substitute item.

d. Show submitted data using same tests and standards and with the values and results in the same units of measure as those shown for the specified item.

e. Where a performance criterion is not listed in the specifications, comply with the specified product manufacturer’s published data for performance criteria.

f. Where the specified entity requires certifications, registrations, approvals, policies, practices, etc., submit proof that the substitute entity is in compliance.

9. Each and all requests for substitutes shall be signed by the person making the submittal. By signing the submittal, the person requesting the substitute certifies and agrees to the following requirements. Requests without the signature of a responsible person will be rejected:

a. That the specifications have been read and are understood,

b. That the entity being submitted meets or exceeds all provisions of the specifications,

c. That all submitted information is true and accurate,
d. Will remove the substitute entity and replace it with an acceptable product, at his expense, if it is determined that the substitute does not meet the specifications as certified.

e. Agrees to pay for all necessary design changes and increased construction costs to incorporate the substitute entity.

1.6 DELIVERY, STORAGE, AND HANDLING

A. General: Comply with the Carpet and Rug Institute's CRI 104, Section 5: "Storage and Handling."

B. Deliver materials to Project site in original factory wrappings and containers, labeled with identification of manufacturer, brand name, and lot number.

C. Store materials on-site in original undamaged packages, inside well-ventilated area protected from weather, moisture, soilage, extreme temperatures, and humidity. Lay flat, on continuous blocking that is off the ground.

1.7 PROJECT CONDITIONS

A. General: Comply with CRI 104, Section 6: "Site Conditions."

B. Space Enclosure and Environmental Limitations: Do not install carpet until space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete, and ambient temperature and humidity conditions are and will be continuously maintained at values near those indicated for final occupancy.

1.8 WARRANTY

A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

B. Special Carpet Warranty: Submit a written warranty executed by carpet manufacturer and Installer agreeing to repair or replace carpet that does not meet requirements or that fails in materials or workmanship within the specified warranty period. Failures include, but are not limited to, more than 10 percent loss of face fiber, edge raveling, snags, runs, and delamination.

C. Warranty Period: 5 years from date of Substantial Completion.

1.9 EXTRA MATERIALS
A. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels clearly describing contents.

1. Carpet: Before installation begins, furnish quantity of full-width units equal to 5 percent of amount installed.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Manufacturer, color, pattern, construction as indicated on the Finish Schedule

B. Cushion: If required or indicated, Non-flammable, polyurethane foam, as recommended by the carpet manufacturer for Traffic Classification of CCC Class II, heavy traffic. Cushion shall be of proper construction, density, thickness, and weight to prevent compression set when used in the intended application. Suitable for tack down or glue down installation. Moisture, mildew, and vermin resistant.

C. Primer: Non-staining, as recommended by the carpet manufacturer.

D. Underlayment and Patching Materials: As recommended by the floor covering manufacturer to meet specific installation requirements including, but not limited to, moisture emission, floor levelness, floor flatness, surface texture, warranty, etc.

E. Adhesive, Trim, and Accessories: As recommended by the carpet manufacturer

   1. General: Use adhesives that have a maximum of than 50 g/L. content when calculated according to 40 CFR 59, Subpart D (EPA Method 24) and are acceptable to the flooring manufacturer for the intended use.

   2. Adhesive shall be a release type formulated with a biocide recommended by carpet manufacturer to suit product and substrate conditions indicated. Adhesive shall ensure proper adhesion between carpet and adhesive and substrate and adhesive when carpet or adhesive are subjected to moisture from above or below. Adhesive shall comply with Carpet and Rug Institute emissions requirements.

   3. Adhesive shall be the type required to comply with warranty requirements and best for intended application.

   4. Water-resistant: Alkali and water resistant, formulated biocide-type of the type recommended by tile manufacturers to suit floor products and substrate conditions indicated. Adhesive shall not be affected by or break down when exposed to moisture. Adhesive shall ensure proper adhesion between floor covering and adhesive and between substrate and adhesive.

   5. Waterproof: Alkali resistant epoxy adhesive, formulated biocide-type as recommended by the specific flooring manufacturer. To be used in all areas subject to moisture and wetting such as in the vicinity of exterior doors, exits from shower areas, under drinking fountains, or any area subject to wetting splash or spillage. Adhesive shall ensure proper adhesion between floor covering and adhesive and
between substrate and adhesive when floor covering or adhesive are subjected to moisture from above or below.

F. Vapor Retarder: When the specified moisture tests or other moisture tests required by the floor covering finish manufacturer do not comply with the floor covering finish manufacturer’s requirements or recommendations or when there are no requirements or recommendations, then with those specified in this Section, provide a vapor retarder system recommended by the floor covering finish manufacturer. Vapor retarder system shall be compatible with the floor covering finish, the adhesive, and shall reduce water vapor transmission to an acceptable level.

PART 3 - EXECUTION

3.1 INSPECTION AND TESTING

A. Where test and inspection results (including, but not limited to, calcium chloride, relative humidity, sounding, and tests for level and flatness) indicate that moisture and surface conditions do not meet the floor finish manufacturer’s requirements, the Contractor shall provide all labor, materials, and procedures to ensure that the substrate meets the floor finish manufacturer’s requirements prior to installing the floor finish. Neither the Contract Sum or Contract Time will not be modified to meet this provision.

B. Record results of all tests and send copies to the Owner and Architect. Show on a floor grid where each test was conducted and the test results. As a minimum, each report shall include the following information for each test that was conducted:
   1. Project name
   2. Date and Time of the Test
   3. Test Location (wall, room, etc) of test
   4. Name of person conducting test
   5. Test results
   6. Conclusions and recommendations

C. Examine subfloors and conditions, with installer and manufacturer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting performance of floor covering. Notify the Architect of conditions detrimental to the proper and timely completion of the work. Verify that there is no curing membrane on the floor. If there is a curing membrane or sealer on surfaces to receive floor covering, remove the membrane according the manufacturer’s instructions. Acid-removal is not an acceptable method to remove curing membrane or sealer.
   1. Substrate are free of cracks, ridges, depressions, scale, and foreign deposits of any kind.
   2. Prior to installing floor system, fill moving joints and non-moving kerfs as recommended by the floor system manufacturer.
   3. Ensure that concrete does not contain aggregates that are soft or break down in liquids.
D. Ensure that finished concrete complies with requirements specified in ASTM F710. Notify the Contractor and Architect, in writing, of all unacceptable conditions.

E. Ensure variations in concrete slab levels do not exceed 1/8” in 10’. High spots shall be ground down and minor low spots shall be filled with epoxy or epoxy/sand mixture or a cementitious underlayment as recommended by the floor system manufacturer.

F. The cementitious substrate shall be cured for a minimum of at least 28 days or as recommended by the floor system manufacturer, whichever is more stringent.

G. Ensure concrete substrate on or below grade are adequately waterproofed beneath and at the perimeter of the slab, and at the earth side of below-grade walls. Care should be taken not to rupture the vapor barrier during the installation.

H. Ensure the concrete has a compressive strength adequate for the activities for which the facility is designed, and the surface of the slab shall meet specifications including but not limited to, those contained herein. Slab shall properly cure and dry until adequately dry (under normal conditions 50-60 days). Slab shall be free of dust, dirt, grit, paint, grease, oil or any other foreign substances detrimental to the adhesion of the flooring.

I. The concrete floor temperature will have to be maintained at a minimum of 75°F during the installation, and the General Contractor shall make sure that the moisture content does not exceed 3% (according R.M.A. testing method).

J. Concrete: Verify that concrete slabs comply with ASTM F 710 and the following:

1. Concrete substrates are dry and free of curing compounds, sealers, hardeners, efflorescence, chloride contamination, moisture, hydrostatic water pressure, excessive capillary water action, or water vapor transmission, and other materials whose presence would interfere with bonding of adhesive. Determine adhesion and dryness characteristics by performing bond and moisture tests recommended by floor covering manufacturer.
   a. Prior to performing any tests, ensure that the bare concrete is exposed and that the concrete surfaces are clean and free of debris, dirt, oil, grease, debris, previous finishes and adhesives, or any other materials that may interfere with test results.

2. Concrete shall have a tensile strength of not less than 250 to 300 psi.
   a. Deflection: As recommended by the floor finish manufacturer for the installation. If none is recommended, then deflection shall not exceed 1/360 of span when measured with a 300 pound concentrated load. Span is considered the longest distance across the floor finish installation as well as the smaller span between two joists and studs.

3. Concrete Surface Profile
   a. Using the replicate rubber specimens inspect the concrete surface profile in accordance with ICRI Guide No. 03732. This should be performed once for every 100 square feet of surface area to be coated.

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4. pH Testing
   1. Concrete shall have a pH range as recommended by the flooring manufacturer. If a range is not recommended, then a pH range of 7-9.
      The pH of the concrete substrates will be measured using pH indicating papers. pH testing is to be performed once every 100 sq. ft. of surface area to be coated.
   2. Acceptable pH values shall be as measured by a full-range (1-12) color indicating pH paper with readable color calibrations and a scale at whole numbers (minimum). Use Hydrion Insta-Chek Jumbo 0-13 or 1-12 or equal. The paper shall be touched to the surface once using moderate finger pressure. The surface shall not be wiped or moved laterally to disturb the surface during pH testing. Following the one touch, lift the paper vertically to not “wipe” the surface. Compare the color indicated with the scale provided and record the pH.
   3. Note: If the surface of the concrete is dry, it is not possible to take a pH measurement. However, pH values are still important on dry surfaces. When a dry concrete substrate is encountered for a pH test, the surface where the pH test is to be performed shall be sprayed lightly with distilled, deionized water from a commercially available spray bottle that has been properly rinsed to preclude any dissolved solids. The spray shall just wet the surface to a “shiny” appearance. Wait 60 seconds to allow chemical equilibrium to be established and then test the pH of the water on the surface. Perform this test in accordance with ASTM D4262.

5. Moisture Testing: Perform moisture on the concrete surfaces according to Flooring Industry Guidelines as recommended by flooring manufacturer. Ensure that the results of these tests comply with the floor manufacturer’s requirements.
   a. Calcium and Relative Humidity Tests:
   b. The moisture content of the substrate shall be within the requirements for the substrate to receive floor covering when tested for moisture content using both the calcium chloride moisture test per ASTM F1869 and the relative humidity test per ASTM F2170 as recommended by the floor covering manufacturer to ensure that moisture does not affect adhesion, performance, or appearance of the floor covering. If no value is recommended, then 70 percent relative humidity. Where tests indicate moisture levels above the recommended levels, then comply with all recommendations and requirements by the floor covering manufacturer to bring conditions to a satisfactory level.
   c. Perform calcium chloride moisture tests in accordance with ASTM D1869 once for every 1000 square feet of surface area to be coated. The maximum limit for moisture vapor emissions rate per 24 hours per 1000 sq. ft. shall be as recommended by the flooring manufacturer. If none is recommended, then 3 pounds per 24 hours per 1000 square feet. If tests indicate rates higher those recommended, consult with flooring manufacturer’s Technical Service Department for further evaluation.
d. The polyethylene sheet test and measurements from moistures meters can be used as an indication of moisture, but the results of these tests cannot be used to determine the acceptability of the subfloor.

6. Conduct sounding tests, as recommended by the flooring manufacturer, to locate voids and to determine the integrity of the concrete. Record results of all tests and send copies to the Owner and Architect. Show on a floor grid where each test was conducted and the test results. As a minimum, each report shall include the following information for each test that was conducted:
   a. Project name
   b. Date and Time of the Test
   d. Test Location (wall, room, etc) of test.
   e. Type sounding test conducted
   f. Name of person conducting test
   g. Test results

K. Do not proceed with the work until unsatisfactory conditions have been corrected by the Contractor in a manner acceptable to the manufacturer and Architect.

L. Adhesion testing is described under following paragraph 3.2.

3.2 PREPARATION

A. Substrate: Perform preparation and cleaning procedures according to finish floor manufacturer’s instructions for particular substrate conditions involved and as specified. Provide clean, dry and neutral substrate for flooring application.

B. Remove substrate coatings, including curing compounds, and other substances that are incompatible with the floor covering and that contain soap, wax, oil, or silicone. Do not use liquid solvents or adhesive removers.

C. The General Contractor shall patch and repair all cracks, voids, and other imperfections of concrete with high strength portland cement based patching material. Do not use gypsum based patching materials. After completion of sanding, patching and leveling, vacuum or sweep entire surface of concrete to remove loose dust and dirt before starting the installation of the material.

D. Concrete Surfaces: Shot-blast, power scarify as required to obtain surface profile for optimum bond of flooring to concrete. Remove sufficient material to provide a sound surface, free of laitenance, glaze efflorescence, and any bond-inhibiting curing compounds or form release agents. Remove grease oil and other penetrating contaminates. Repair damaged and deteriorated concrete to acceptable condition. Leave surface free of dust, dirt, laitenance and efflorescence. Acid etching shall not be used.
E. Level substrate within to floor covering manufacturers requirements noncumulative, in all directions. Sand or grind protrusions, bumps, and ridges. Patch and repair cracks and rough areas. Fill depressions.
   1. If concrete is out of level then it should be properly leveled by an experienced underlayment contractor using cement based material that will provide a minimum of 3,000 p.s.i. compressive strength and sufficient bond to existing clean concrete surface.
   2. Use leveling and patching compounds to fill cracks, holes, and depressions in substrate as recommended by the floor covering manufacturer.

F. Broom or vacuum clean subfloors to be covered. Following cleaning, examine subfloors for moisture, alkaline salts, carbonation, or dust. Do not use oil based sweeping compounds.

G. Primer: If required, apply concrete-slab primer, according to manufacturer's directions, where recommended by the floor covering manufacturer.

H. Verify that concrete sub-floor, on or below grade, is adequately waterproofed beneath the slab and the perimeter with a suitable vapor barrier. Notify the Architect if inadequate waterproofing or vapor retarder is used.

I. Verify that the concrete was wet cured and that no curing compounds or sealers were used. Notify the Architect if sealers or curing compounds were used.

J. The building shall be dry and closed in. Flooring installation shall not begin until the installer is familiar with existing sub-floor conditions, and after completion of all other work in this area. During cold weather the room temperature shall be maintained at a minimum of 75°F.

K. Adhesion/Bond Tests: After the substrate has been properly and satisfactorily prepared, sounded, and tested for moisture, perform adhesion tests to determine compatibility of adhesive, floor finish, and subfloor. Conduct all testing after all traces of curing compounds and sealers have been removed.
   1. When performing adhesion tests, perform testing with the adhesives and floor covering to be used on this project.
   2. Conduct adhesion test as recommended by the flooring manufacturer. If none recommended, perform the following:
      a. Spread adhesive on substrate at recommended rate in two separate areas.
      b. Allow one area to remain bare and to cure for recommended curing time or a minimum of 24 hours. Apply finish floor over other area of adhesive and allow to cure for recommended curing time or a minimum of 24 hours.
      c. If adhesive can be scraped up with a putty knife, adhesion is not acceptable. Contact finish floor manufacturer for instructions. If adhesive cannot be scraped up, conditions are acceptable.
      d. Record test values for each type and combination of flooring and adhesive to be used.
      e. Send copies of test reports to the Owner and the Architect.
3.3 INSTALLATION

A. Comply with applicable section of CRI 104 for required cushion carpet, and carpet tile installation for this project.

B. Carpet Tile
   1. Comply with carpet manufacturer's recommendations for seam locations and direction of carpet; maintain uniformity of carpet direction and lay of pile. At doorways, center seams under door in closed position. Do not bridge building expansion joints with continuous carpet.
   2. Install so that carpet seams do not occur over cushion seams.
   3. Where demountable partitions, cubicles, or other items are to be installed over carpet, do not install the carpet until the demountable partitions, cubicles, or other items have been completely installed.
   4. Cut and fit carpet to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet manufacturer.
   5. Extend carpet into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
   6. Install pattern parallel to walls and borders.

3.4 CLEANING

A. Perform the following operations immediately after completing installation.
   1. Remove visible adhesive, seam sealer, and other surface blemishes using cleaner recommended by carpet manufacturer.
   2. Remove protruding yarns from carpet surface.

3.5 PROTECTION

A. General: Comply with CRI 104, Section 15: "Protection of Indoor Installation."

B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and installer, that ensure carpet is without damage or deterioration at the time of Substantial Completion.

END OF SECTION 09 68 00
SECTION 09 91 00 - PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes surface preparation, painting, and finishing of exposed new interior plywood panel and existing CMU.

B. Paint exposed surfaces whether or not colors are designated in schedules, except where a surface or material is specifically indicated not to be painted or is to remain natural. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces. If color or finish is not designated, the Architect will select from standard colors or finishes available.

E. Related Sections: The following Sections contain requirements that relate to this Section:
   21 Division 06 Section "Rough Carpentry" for new plywood panels.

1.3 SUBMITTALS

A. General: Submit the following according to Conditions of the Contract and Division 1 Specification Sections.

B. Product data for each paint system specified, including block fillers and primers.

1. Provide the manufacturer's technical information including label analysis and instructions for handling, storage, and application of each material proposed for use.

2. List each material and cross-reference the specific coating, finish system, and application. Identify each material by the manufacturer's catalog number and general classification.

3. When submitting a substitute for specified paints, submit Performance Characteristics based on same tests and units of measure as listed in published data for specified products. Drying times shall be measured at same temperature and relative humidity and gloss units measured at the same angle as those listed in the manufacturer’s published literature of the specified products. If manufacture’s published literature for substitute products states conditions that differ from those for the specified materials, submit
certified calculations that convert advertised conditions to meet the conditions of the specified product. Submittals not meeting this requirement will not be reviewed.

4. Certification by the manufacturer that products supplied comply with local regulations controlling use of volatile organic compounds (VOCs).

5. Where substitutes are being submitted for review, as a minimum the following listed properties of the substitute product shall meet or exceed the same published properties of the specified product. Submittals without these properties will not be reviewed:
   a. Generically the same
   b. Solids volume
   c. Solids weight
   d. Recommended spread rate
   e. Recommended dry film thickness
   f. Drying times measured under the same conditions as those specified
   g. Sheen/Gloss measured at the same angle as those specified
   h. VOC properties
   i. Abrasion resistance measured by the same testing standard and using the same units of measure.
   j. Hardness
   k. Chemical resistance
   l. Weather/UV resistance
   m. Pot life

C. Samples for initial color, gloss, and texture selection in the form of manufacturer's color charts.
   1. After color selection, the Architect will furnish color chips for surfaces to be coated.

D. Samples for Verification Purposes: Provide samples of each color and material to be applied, with texture to simulate actual conditions, on representative samples of the actual substrate.
   1. Provide stepped samples, defining each separate coat, including block fillers and primers. Use representative colors when preparing samples for review. Resubmit until required sheen, color, and texture are achieved. Approved samples will be used as a standard to judge, accept, or reject color, gloss, texture, and other attributes of the applied paints. The Architect will have final judgement of aesthetics of applied paints.
   2. Provide a list of material and application for each coat of each sample. Label each sample as to location and application.
   3. Submit samples on the following substrates for the Architect's review of color and texture only:
      a. Concrete Masonry: Provide two 4 x 8-inch samples of masonry, with mortar joint in the center, for each finish and color.
      b. Painted Wood: Provide two 12-inch square samples of each color and material on hardboard.

E. Paint Schedule: After all painting has been completed and accepted by the Owner, the painting contractor shall prepare and submit to the Owner an as-painted painting schedule. This
schedule shall be dated, in tabular form, and shall list the following information by room name/number:
1. Room Name
2. Room Number
3. Paint Manufacture
4. Product Name
5. Product Color
6. Product Number

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Paint manufacturer shall meet all of the following requirements:
1. Have products and paint systems listed with the Master Painters Institute (MPI) at the time of invitation or advertisement for bids for this project.
2. Be able to provide published complete product performance data sheets for the specified products. These sheets shall be available at the time of invitation or advertisement for bids for this project.
3. Have the production volume capacity to develop, produce and deliver the volume of paint and coatings required for this project within the required lead times to meet delivery dates without delaying the project.
4. Be actively engaged in researching and developing its own paint and coating formulations and systems.
5. Specialize in manufacturing paint and protective coatings of the type specified for this project.
6. Employ a fully trained and experienced technical staff capable of providing necessary field support to investigate problems and failures regarding surface preparation, application, and performance of supplied paints and coatings. As a minimum, technical staff shall have their own destruct and non-destruct testing and diagnostic equipment including, but not limited to, dry film thickness gauges, adhesion gauges, and gloss meters.
7. Have trained and experienced technical representatives/inspectors, not sales staff, and if required, be able to provide the inspector for this project.

B. Painting Contractor's Qualifications: Engage an experienced painting contractor with the following minimum qualifications:
1. Has a minimum of 10 years painting experience operating as a sole painting entity in commercial or industrial projects of comparable size and complexity that have resulted in a construction record of successful in-service performance. Joint ventures do not count as acceptable experience. Residential experience is not acceptable.
2. Has completed at least 5 projects of comparable size and complexity within the last year.
3. Has completed at least 80% of projects on time and under budget
4. Is acceptable to the specified painting manufacturers.
5. Has not, under the name shown on the business license, any other name, ever filed for protection under either Chapter 7 or 11 of the US Bankruptcy Laws within last 7 years.
6. Has own equipment including scaffolding, lifts, application equipment, etc.
7. Will be able to self-perform all work described under this contract with own employees without sub-contracting. For the purpose of this Contract, the painting contractor's own employees are considered employees for which the painting contractor contributes directly to and is directly financially responsible for the following employment expenses:
   a. All Federal, State and Local Taxes
   b. Social Security
   c. Insurance
   d. Workers Compensation
   e. Holidays
   f. Vacations
   g. Sick Time
   h. Retirement

8. Will provide only employees who are thoroughly trained, experienced, and highly skilled in their respective tasks. Trainees shall not be used.

9. Will be able to maintain a full-time non-working supervisor/foreman on the job site during times that painting is in progress and who is experienced in applying painting systems, including surface preparation, similar to type and scope required for this Project.

10. Will not subcontract any portion of the contracted painting work without the written permission of the Architect. If subcontracting painting work is permitted, the painting contractor will be fully responsible for the supervision, scheduling, and quality of each painting subcontractor. General contractors with a separate painting subcontracting division will not automatically qualify as a painting subcontractor.

11. Will be fully bondable, but will not be required to furnish a bond for this project. However, the painting contractor shall be bonded under the General Contractor’s construction bond.

12. Will have not been refused a bond in the last 5 years

13. Has current applicable contractor's license to practice in the State, county, and city where the project is located.

14. Has current applicable liability insurance commensurate with the dollar value of the project. (Proof required)

15. Has an established formal quality control program.

16. The General Contractor shall furnish a letter from its painting contractor, on the painting contractor's letter head, certifying that the painting contractor meets and complies with these special requirements. If it is determined the painting contractor does not meet the specified qualifications, even after contract execution, the General Contractor will be asked to replace the unqualified painting contractor with an acceptable painting contractor that meets the stated minimum qualifications.

C. Single-Source Responsibility: Provide primers and undercoat paint produced by the same manufacturer as the finish coats.

D. Benchmark Samples (Mockups):
   1. Provide a full-coat benchmark finish, including surface preparation, filler application, painting, sample of each type of coating, and substrate required on the Project. Comply with procedures specified in PDCA P5.
   2. Duplicate finish of approved prepared samples. If possible, prepare the mockup by the same applicators who will do actual painting and staining.
3. Prepare a mock up that represents the minimum acceptable surface preparation, including joint and fastener hole filling as determined by the paint manufacturer's technical representative.
4. Mock up shall be of sufficient size to demonstrate all surface preparation conditions to be expected.
5. Use the same procedures to prepare the mockup that will be used for the rest of the work.
6. Mockup shall be reviewed by the Architect and painting contractor, and approved by the paint manufacturer's technical representative. Approved mock up shall be the standard for judging all other surface preparation.
7. After surface preparation and prior to beginning paint application, apply a test coat of the primer over existing paint and exposed steel of a selected portion of the mock up area to determine bond and compatibility. Do not begin painting unless the test coat is passes and is acceptable.
8. The Architect will select one surface of each type surface to be painted to represent surfaces and conditions for each type of coating and substrate to be painted.
   a. Wall Surfaces: Provide samples on at least 100 sq ft of wall surface.
   b. Small Areas and Items: The Architect will designate an item or area as required.
9. Provide required sheen, color, and texture on each surface.
   a. After finishes are accepted, the Architect will use the reviewed surfaces to evaluate coating systems of a similar nature.
10. Final approval of colors, stains, finishes and overall aesthetics will be determined by the Architect.

E. Pictures: As painting progresses, take clear, sharp, and detailed high resolution digital pictures (minimum 600 dpi) of each type of substrate to be painted at the following times and retain pictures on site for record. Use close-up as necessary to show detail of prepared and painted surfaces. Provide one set of pictures to the Architect after each picture taking session and another set to the Owner at project closeout.
   1. Each approved mockup
   1. Prior to beginning work
   2. After approved surface preparation
   3. After application of each coat.

F. Inspections: The paint manufacturer's technical representative shall visit the project site at the following times to observe, inspect, and approve painting work being performed under this section of the specifications. However, before painting begins, visit the project site to determine if visits other than those listed below will be necessary, and submit a schedule of anticipated visits to the Contractor and Architect. Submit name of paint manufacturer's technical representative who will be making inspections to the Architect. This technical representative shall submit detailed reports to the Owner and Architect.
   1. Mockup preparation
   2. Surface preparation of each type substrate
   3. Finish coat application
G. Substitute Requests For Products

1. Information requested under this paragraph heading is the minimum required information for consideration and evaluation, and additional information may be requested.

2. Include the following information on the cover page of the request:
   a. Name of Project and project number as shown in the header of the specification
   b. Date request is being made.
   c. Name of person, company, and contact information of person requesting substitute.
   d. Specification title and number and drawing number where the specified product is listed or shown.
   e. Exact name of the specified entity and substitute entity.

4. When requesting a substitute, include all requested and required supporting data, specifications, and performance criteria. The Architect must receive this substitute request no later than the time stated elsewhere for submitting product substitutions. If no time is stated, then 10 days prior to date of bid opening. When a Request For Substitute Form is included in the Project Manual, properly complete the form and include it with the submittal.

5. Verbal requests for a substitute or requests that do not comply with these provisions are not acceptable, will be rejected, and will not extend the submittal deadline. Submittals that are incomplete have vague or unspecific answers (“Better”, “Cheaper”, “More competitive”, etc.); that lack supporting data to substantiate equal or superior quality/design; that do not include the requested proof, verification, reports, and substantiating documentation; or are received after submittal deadline will be rejected. Provide convincing answers as to why the substitute should be approved. Rejection or disapproval will not extend the submittal deadline.
   a. If the substitute entity differs from specified entity, compare the substitute entity with the specified entity in a tabular format that clearly shows all the differences.

6. Include the following information on all requests for substitutes:
   a. Length of time the manufacturer has been in business.
   b. Whether the manufacturer operated under any other name, and if so, under what name and when?
   c. Length of time the substitute entity has been on the market.
   d. Whether the substitute entity has been marketed under any other name, and if so, under what name and when?
e. Who will install and service the substitute entity?
f. Whether the painter is trained and certified by the manufacturer? If so, describe how this training and certification are achieved and if training records are maintained?
h. Describe any known problems or failures associated with the substitute entity? If there are any, provide details.

7. The manufacturer’s published literature, description, capabilities, options, accessories, etc. of all submitted substitutes shall meet or exceed those published by the specified manufacturer even if they are not specifically mentioned in the specifications. Additionally, manufacturers whose standards are less than those of the specified product but are capable of producing a product that meets the specified product shall not, for the convenience of their normal production methods, vary from the specified product standards.

8. Where test data and standards are being submitted as supporting data and for comparison with the specified item, comply with the following requirements. Submittals not complying with these provisions will be considered incomplete, unacceptable, and will be rejected:
   a. All substitutes shall meet all of the minimum published performance criteria of the specified entity as listed in the manufacturer's published data sheets.
   b. Submit certified data provided by an independent testing laboratory.
   c. Prepare supporting data in side-by-side tabular form showing the submitted criteria next to each specified performance criteria and denoting the differences between the specified item the substitute item.
   d. Show submitted data using same tests and standards and with the values and results in the same units of measure as those shown for the specified item.
   e. Where a performance criterion is not listed in the specifications, comply with the specified product manufacturer’s published data for performance criteria.
   f. Where the specified product requires certifications, registrations, approvals, policies, practices, etc., submit proof that the substitute entity is in compliance.

9. Each and all requests for substitutes shall be signed by the person making the submittal. By signing the submittal, the person requesting the substitute certifies and agrees to the following requirements. Requests without the signature of a responsible person will be rejected.
   a. That the specifications have been read and are understood,
   b. That the product being submitted meets or exceeds all provisions of the specifications,
   c. That all submitted information is true and accurate,
d. Will remove the substitute product and replace it with an acceptable product, at his expense, if it is determined that the substitute does not meet the specifications as certified.
e. Agrees to pay for all necessary design changes and increased construction costs to incorporate the substitute entity.

H. Pre-Painting Conference: Prior to beginning painting, appropriate representatives of the painting contractor, Architect, paint manufacturer, the Owner, and entities concerned with the performance of the paint systems shall meet to review existing conditions and schedules to ensure that there will be proper installation conditions at time of painting. Provide at least one week’s advance notice to participants prior to convening. Discussion topics include, but not are limited to, the following:
1. Safety
2. Mockups
3. Scheduling
4. Inspections
5. Job conditions
6. Substrate testing
7. Substrate repairs
8. Material availability
9. Substrate preparation
10. Acceptable standards
11. Substrate Conditions
12. Conditions of acceptance
13. Qualifications of installers
14. Location of colors and patterns
15. Protecting areas not to be painted.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to the job site in the manufacturer's original, unopened packages and containers bearing manufacturer's name and label, and the following information:
1. Product name or title of material.
2. Product description (generic classification or binder type).
3. Manufacturer's stock number and date of manufacture.
4. Contents by volume, for pigment and vehicle constituents.
5. Thinning instructions.
6. Application instructions.
7. Color name and number.

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F. Maintain containers used in storage in a clean condition, free of foreign materials and residue.
1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

1.6 JOB CONDITIONS

A. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are at manufacturer’s recommended temperature. If no recommendation, then between 50 deg F and 90 deg F.

B. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are at manufacturer’s recommended temperature. If no recommendation, then between 45 deg F. and 95 deg F.

C. Do not apply paint when the relative humidity exceeds 90 percent or at temperatures less than 5 F deg above the dew point and falling; or to damp or wet surfaces.

D. Paint that is applied under conditions other than these stated conditions will be removed, surfaces prepared, and new paint applied under acceptable conditions at no additional cost.

1.7 EXTRA MATERIALS

A. Provide 1 gallon of paint for each type and color of paint applied. Furnish extra paint in manufacturer’s sealed shipping containers. Containers shall only be opened by the painter manufacturer/supplier to formulate required colors/mixes. These extra materials shall not be opened or used by the Contractor without written permission from the Owner. Place a label, protected by clear plastic, on the lid of each container with the following typewritten information:
1. Paint Manufacturer
2. Product name and number
3. Mixing and color formulation
4. Painting contractor
5. Date that the paint container is put in the Owner’s inventory
6. Room or area number where the paint applied was used.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturer: Paint systems and manufacturers listed in the paint schedule are by The Sherwin-Williams Company and are intended to establish expected quality, performance, and type paint and are not intended to limit competition. However products submitted for review
must meet or exceed the published performance criteria of the specified product. Submitted product must be accompanied with the manufacturer’s published product date sheets that show performance criteria. Prepare supporting date in side-by-side tabular form showing the submitted criteria next to each specified performance criteria. Show submitted data using same tests and standards and with the values and results in the same units of measure as those shown for the specified item. All substitutes shall meet all of the minimum performance criteria of the specified product. Submittals not complying with this provision will be considered incomplete, unacceptable, and will not be reviewed or approved. Subject to compliance with requirements, products of one of the following manufacturers may be submitted for review.

1. Duron
2. ICI Paints
3. Porter Paints
4. PPG Industries, Pittsburgh Paints
5. Tnemec

B. The applicable paint manufacturer intended for use on this project shall review the specified paint systems for accuracy, performance, and product availability. Notify the Architect of any discrepancies and compatibility between the substrates and paint systems and for intended use. Submit a letter of review and acceptance to the Architect prior to date of Bid. Failure to submit the requested letter will be inferred as acceptance of the specified paint systems.

2.2 PAINT MATERIALS, GENERAL

A. Material Compatibility: Provide block fillers, primers, finish coat materials, and related materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by the manufacturer based on testing and field experience.

B. Material Quality: Provide the manufacturer's best-quality trade sale paint material of the various coating types specified. Paint material containers not displaying manufacturer's product identification will not be acceptable.

1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish the manufacturer's material data and certificates of performance for proposed substitutions.

C. Colors: Provide for selections made by Architect from manufacturer's full range of standard and custom styles, colors, textures, and patterns.

D. Lead-Based Paint Barrier: Where existing lead-based paint is to be top-coated (encapsulated) with a new finish paint, lead barrier paints, that contact the existing lead-based paints and act as an intermediate coat between the lead-based paint and the finish coat, shall be as recommended by the paint manufacturer. This barrier paint shall be acceptable to EPA, OSHA, and local governing officials for the intended purpose. Notify the Architect where specified paints are not suitable for lead-based paint top-coatings (encapsulation).
E. Gloss: The following gloss levels, as established by the Master Painter Institute (MPI) shall apply to all references to gloss/sheen/luster.

<table>
<thead>
<tr>
<th>MPI Gloss Level</th>
<th>Common Description</th>
<th>Gloss Units at 60 Deg.</th>
<th>Gloss Units at 20 Deg.</th>
<th>Gloss Units at 85 Deg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Flat</td>
<td>0 to 5 units</td>
<td>0 to 15</td>
<td>0 to 15</td>
</tr>
<tr>
<td>2</td>
<td>Velvet or Matte</td>
<td>5 to 10 units</td>
<td>5 to listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>3</td>
<td>Eggshell</td>
<td>10 to 25 units</td>
<td>5 to 25 units</td>
<td>5 to 25 units</td>
</tr>
<tr>
<td>4</td>
<td>Satin</td>
<td>20 to 35 units</td>
<td>10 to 40 units</td>
<td>10 to 40 units</td>
</tr>
<tr>
<td>5</td>
<td>Semi-Gloss</td>
<td>35 to 70 units</td>
<td>5 to 45 units</td>
<td>5 to 45 units</td>
</tr>
<tr>
<td>6</td>
<td>Gloss</td>
<td>70 to 85 units</td>
<td>20 to 90 units</td>
<td>20 to 90 units</td>
</tr>
<tr>
<td>7</td>
<td>High Gloss</td>
<td>Over 85 units</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

2.3 CLEANING AND CHEMICAL PAINT REMOVAL MATERIALS

A. To remove stains, spots, mold, and mildew, use Extra Muscle Pre-Paint Cleaner by Great Lakes Laboratories or equal as required by the paint manufacturer that will be providing painting materials.

B. Chemical Paint Removal: Peel-Away 7 by Dumond or equal meeting the following requirements as required by the paint manufacturer that will be providing painting materials.
   1. Suitable for interior and exterior substrates.
   2. Removes epoxies, urethanes, acrylics, chlorinated rubber, mastics, automotive and marine finishes.
   3. Removes multiple coats.
   4. Contains no methylene chloride or caustic or flammable chemicals.
   5. Does not require surface neutralization.


PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions under which painting will be performed for compliance with paint application requirements. Surfaces receiving paint must be thoroughly dry before paint is applied.
   1. Do not begin to apply paint until unsatisfactory conditions have been corrected.
   2. Start of painting will be construed as the Applicator's acceptance of surfaces and conditions within a particular area.
   3. Report to the Architect all existing substrate that cannot be painted to produce finished conditions acceptable to the Architect and quality criteria listed in Part 3 of this specification.
B. Moisture Testing. Within 8 hours of painting respective surfaces, test all interior wood and CMU surfaces to be painted with pinless moisture meter to ensure moisture level complies with manufacturer’s requirements. Moisture meter shall include a factory-supplied field calibration box, and meter calibration shall be checked when changing from one type of substrate to another. No painting will be permitted if moisture content exceeds the recommended content. Record the following minimum information and submit to the Architect:

1. Name of person making measurements
2. Date and time of measurement
3. Manufacturer and model no. of meter being used.
4. Weather conditions at time of measurements (temperature in deg. F., relative humidity in %, and dew point in deg. F.
5. Location on structure of each reading. For reference, make measurements at a protected area known to be dry to establish a baseline.
   1. One measurement for every 50 sq. feet of surface to be painted alternating between high, low, and mid-points of the surfaces to be painted.
   2. In addition to above measurements, within 6 inches of the floor, ceiling, wall junctions, exterior openings, water faucets, sinks, lavatory fixtures, etc.
      a. Where wood is in contact with masonry or concrete check moisture content of these materials on the meter’s relative scale.
6. Record moisture levels in percent for each reading.

C. Wood:
1. Interior Wood: 8 percent maximum.

D. Cementitious Materials:
1. General: Use a moisture meter to test cementitious materials to be painted for moisture content levels that are acceptable to the paint manufacturer. If acceptable levels are not available, then perform moisture tests in accordance with ASTM D4263 –Test Method For Indicating Moisture In Concrete By the Plastic Sheet Method. If there is any presence of moisture on the back of the plastic sheet after the prescribed time, the dry wall is too damp to paint. Retest in the same location after the wall has been allowed to dry. Continue testing for moisture until there is no trace of moisture. Submit reports showing locations where tests were conducted.
2. Masonry: Test all masonry surfaces that were exposed to moisture and are to be painted for moisture to ensure moisture level complies with manufacturer’s requirements. Test with a pinless moisture meter calibrated for masonry. Moisture shall be within the limits of the paint manufacturer. If none specified, 12 percent or less.

E. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers. Notify the Architect about anticipated problems using the materials specified over substrates primed by others.

3.2 PREPARATION
A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted, or provide surface-applied protection prior to surface preparation and painting. Remove these items, if necessary, to completely paint the items and adjacent surfaces. Following completion of painting operations in each space or area, have items reinstalled by workers skilled in the trades involved.

1. Painted Joints: When joints in substrates are to be painted, ensure that all joints in substrates to be painted are properly and uniformly filled to produce a smooth, even, flush, and uniform painted joint, and that the paint will not crack, wrinkle, bubble, or otherwise delaminate from thermal or moisture activity. Color shall match and be even and uniform at and on both sides of the joints.

B Cleaning: Before applying paint or other surface treatments, clean the substrates of substances that could impair the bond of the various coatings. Remove oil and grease prior to cleaning. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

C Surface Preparation: Clean and prepare surfaces to be painted according to the manufacturer's instructions for each particular substrate condition and as specified. Obtain approval of surface preparation of each type of substrate from paint manufacturer's technical representative prior to painting.

1. Where exiting painting surfaces are being repainted, perform a test area on each different type of existing pre-painted surface and new paint to determine paint compatibility. Perform tests in inconspicuous locations. Contact the Architect if existing paint and new paint are not compatible.

2. Provide barrier coats over incompatible primers or remove and reprime. Notify Architect in writing about anticipated problems using the specified finish-coat material with substrates primed by others.

3. Cementitious Substrates: Prepare concrete masonry block surfaces to be painted. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen, as required, to remove glaze and establish a suitable anchor pattern for topcoats. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.
   a. Use abrasive blast-cleaning methods if recommended by the paint manufacturer.
   b. Fill and smooth all depressions, spalls, cracks, fissures, etc. with repair materials compatible with the substrate and finish paint, according to manufacturer’s instructions. All prepared and repaired surfaces shall have a smooth and uniform finish when painted.
   c. Moisture: Determine moisture content of surfaces by performing appropriate tests. Do not paint surfaces where moisture content exceeds that permitted in manufacturer's printed directions. Submit test results along with locations where measurements were made to the Architect.
   d. Alkalinity: Determine alkalinity content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause the finish paint to blister and burn, correct this condition before application. Ensure that pH is 10 or lower.
Submit test results along with locations where measurements were made to the Architect.

4. **Wood:** Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.

   a. Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer before applying primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.

   b. Backprime paneling on interior partitions.

   c. Do not use steel wool to sand or smooth wood.

   d. Check all wood surfaces for blue stain. Remove blue stain carefully with oxalic acid or Ply Brite.

   e. Where substrate bleeds through occurs, apply as many coats of stain block as necessary to stop the bleed through. Use blocker that is recommended by the finish coat manufacturer.

   f. "Chemical Cleaning: Chemical cleaning with commercially prepared chemicals suitable for removing paint from wood are permitted for this project. Paint remover shall be acceptable to the manufacturer of the finishes to be applied. Chemicals and procedures shall be used carefully so as to not destroy the structural integrity, aesthetics, grain, or color of the wood. Strictly comply with manufacturer’s instructions for application and removal and governing authorities for removing lead base. Apply only to surfaces where paint is to be removed. Ensure that all traces of paint residue and chemical remover are removed before the chemical cleaner hardens."

   g. Remove existing paint with a bead blaster using poly bead that will softly and gently remove paint without damaging, distorting, or altering the wood surfaces. The system must have an enclosed vacuum collection and reclamation system with enclosed containers that will collect removed paint and deposit it safely in enclosed containers. System shall be totally enclosed to prevent beads and removed paint from becoming airborne. The collection system shall have provisions to separate the beads from the paint and then deposits the beads and paint in separate enclosed containers.

5. **Previously Painted CMU:**

   a. Remove grease, oil and dirt according to SSPC-SP-1 solvent cleaning with safety solvent. Do not use flammable or toxic solvents such as MEK, mineral spirits, etc. for cleaning.

   b. Remove dust, grime, loose dirt, etc. with soft brush and vacuum. Remove all loose paint back to sound paint, and knock down all gloss. Roughen, as required, to remove glaze and establish a suitable anchor pattern for topcoats. Ensure that surfaces are sufficiently abraded and roughened to provide a sound anchoring base for new paint.

   c. Where knots in wood are exposed or have damaged or discolored the finish, scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer before applying primer and finish. After priming,
fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.

d. Where paint is missing, damaged, dented, or concrete, concrete block, wood, and gypsum wallboard, are exposed, remove surface contamination, feather all edges to zero, sand surfaces smooth, and prime surfaces with primer recommended by finish coating manufacturer. Primer shall be compatible with the existing and new finish.

e. Where substrate bleeds through occurs, apply as many coats of stain block as necessary to stop the bleed through. Use blocker that is recommended by the finish coat manufacturer.

f. Where paint is loose or is not otherwise fully and tightly adhered to the substrate or to undercoats, remove all paint back to sound paint and down to the substrate and then feather all edges to zero. If 40 percent or more of the paint on a given substrate (wall, floor, ceiling, door, column, etc.) is loose or damaged or is otherwise unsound, remove all of the paint down to the substrate. If 25 percent or more of paint on given substrate is loose or is not otherwise fully and tightly adhered to the substrate or to undercoats, the technical representative of the paint manufacturer shall approve surface preparation prior to beginning painting.

g. Test small area of previously painted finish with new finish paint in the presence of the Owner. Apply finish paint to specified thickness. Do not continue coating this previously painted surface until test area has been reviewed by the Owner. Continue test for manufacturer’s recommended published “length of time before recoating”. If the previously painted surface blisters, wrinkles, dissolves, delaminates, or shows other signs of incompatibility, the previously painted surface and new finish are not compatible. Where previously painted surface is not compatible with finish coat, apply a proper barrier coat to prime coat. Allow manufacturer’s suggested drying time between succeeding coat and check film of previous coat with fingernail to be certain it is cured. Notify the Owner before applying succeeding coat so that previous coat may be inspected, if necessary, and credited as an applied coat. Failure to do so shall result in recoating at no expense to the Owner.

h. Where surrounding paint has been removed to expose substrate and the edges of removed paint have feathered to zero, touch up exposed substrate with proper and recommended primer. After touch up has properly cured, apply a complete prime coat over entire surface to be painted including the touched up surfaces.

i. A qualified technical representative from the paint manufacturer shall approve, in writing, a sample surface preparation for each type substrate to be prepared over previously painted surfaces. This approval shall state time, date, location, and substrate being evaluated. The approved sample shall be a standard for evaluating all other surface preparation for the same substrate.

j. Lead-based paints:

1) Applicators involved in the disturbance of lead-based paint must comply with OSHA 29 CFR 1926.62. OSHA requires that the employees involved in the contact of lead-based paint must be trained, must have medical examinations (if the action level is exceeded during work activities involving the disturbance of lead-based paint), and must have an exposure assessment performed. If the employee is exposed to levels over
the Permissible Exposure Limit (PEL), other work engineering and personnel protective equipment requirements of OSHA must be followed in accordance with 29 CFR 1926.62.

2) Perform required personnel air monitoring to establish employee exposure assessments in accordance with OSHA 29 CFR 1926.62 when working with lead-based paints. Send copy of the air monitoring reports to the Architect, and the Environmental Consultant (AAA Environmental).

3) Prior to the disturbance of lead-based painted surfaces, place a layer of six mil polyethylene sheeting on the floor beneath the work area. The intent of work-related activities involving the disturbance of lead-based paint is to minimize large accumulations of lead. Clean up floors and other surfaces contaminated with lead-based paint dust/chips by vacuuming and/or wet wipe methods to minimize the likelihood of lead becoming airborne. The vacuum shall be equipped with HEPA filters. Compressed air shall not be used to remove lead from any surface unless the compressed air is used in conjunction with a ventilation system designed to capture the airborne dust created by the compressed air.

4) All construction debris having painted surfaces exceeding 0.06% lead must be disposed of in a municipal solid waste landfill (lined landfill) according to SCDHEC Division of Solid and Waste Planning and Recycling pertaining to waste disposal requirements. Hazardous waste shipments shall be accompanied by a Uniform Hazardous Waste Manifest that shall be properly completed and copies returned to the Architect before the Contractor receives final payment.

5) Upon completion of all work activities involving the disturbance of lead-based painted surfaces including the exterior of the building, the Environmental Consultant will conduct a final visual inspection of the areas. Provided the areas are visibly clean, clearance testing shall be performed. The clearance test will include the collection of wipe samples from the interior areas of the building. These results will be compared to current regulatory requirements as outlined EPA 40 CFR Part 745. Should the clearance samples fail to meet the regulatory requirements outlined in EPA 40 CFR Part 745, the contractor will be required to perform additional cleaning, and a second clearance test will be performed at the Contractor’s expense for all professional and laboratory fees.

E Materials Preparation: Carefully mix and prepare paint materials according to manufacturer's directions.

1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
2. Stir material before application to produce a mixture of uniform density; stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.
3. Use only thinners approved by the paint manufacturer and only within recommended limits.
4. Do not store shellac in iron containers.
TCT Wilson Hall Renovation Design Project No. 015355.00
TriCounty Technical College January 22, 2016
Pendleton, South Carolina mcmillan | pazdan | smith
OSE Project No. H59-N903-PD

F Tinting: Tint each undercoat a lighter shade to facilitate identification of each coat where multiple coats of the same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat. Should there be a disagreement in the number of coats applied and the individual coats were not tinted so as to be distinguished, then the painting contractor shall apply, at no additional cost, the additional number of coats that when added to the number of coats already applied by the painting contractor and that can be positively distinguished, will equal the number of specified coats.

3.3 APPLICATION

A. General: Apply paint according to manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.

1. Use only primer color that is recommended on the back of the paint manufacturer’s finish color chip to achieve the required color. Where the finish color, sheen, or texture is not as represented in the approved color sample and the recommended primer was not used, apply required additional coats to achieve acceptable results. These additional coats will be applied at no increase in contract sum or time.

B. Do not paint over defective undercoat, dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.

1. Paint colors, surface treatments, and finishes are indicated in the schedules.
2. Provide finish coats that are compatible with primers used.
3. The number of coats and the film thickness required are the same regardless of the application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. Sand between applications where sanding is required to produce a smooth even surface according to the manufacturer's directions.
4. Apply additional coats if undercoats, stains, or other conditions show through final coat of paint until paint film is of uniform finish, color, texture, and appearance. Give special attention to ensure that surfaces, including edges, corners, crevices, welds, and exposed fasteners, receive a dry film thickness equivalent to that of flat surfaces. The additional coats shall be applied at no additional cost to the Owner.
5. The term exposed surfaces includes areas visible when permanent or built-in fixtures, convector covers, covers for finned tube radiation, grilles, and similar components are in place. Extend coatings in these areas, as required, to maintain the system integrity and provide desired protection.
6. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before the final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
7. Paint interior surfaces of ducts, where visible through registers or grilles, with a flat, nonspecular black paint.
8. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
9. Finish interior of wall and base cabinets and similar field-finished casework to match exterior.
10. Finish exterior doors on tops, bottoms, and side edges same as exterior faces.
11. Sand lightly between each succeeding enamel or varnish coat.
12. Omit primer on metal surfaces that have been shop-primed and touch-up painted.

C. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

1. Allow sufficient time between successive coats to permit proper drying. Do not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and where application of another coat of paint does not cause the undercoat to lift or lose adhesion.

D. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to the manufacturer's directions.

1. Brushes: Use brushes best suited for the material applied.
2. Rollers: Use rollers of carpet, velvet back, or high-pile sheep's wool as recommended by the manufacturer for the material and texture required.
3. Spray Equipment: Use airless spray equipment with orifice size as recommended by the manufacturer for the material and texture required.

E. Minimum Coating Thickness: Apply materials no thinner than the manufacturer's recommended spreading rate and dry film thickness for each coat. Provide the total dry film thickness of the entire system as recommended by the manufacturer.

F. Block Fillers: Apply block fillers to concrete masonry at a rate and as many coats as required to fill, seal, and smooth, and to ensure complete coverage with pores filled so that finish produces a smooth and cleanable surface. Prior to applying an epoxy finish to CMU in the Kitchen and Cafeteria, obtain approval from the District Food Supervisor, of the application of the block filler.

G. Prime Coats: Before applying finish coats, apply a prime coat of material, as recommended by the manufacturer, to material that is required to be painted or finished and that has not been prime-coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.

1. Back Priming: Back prime, including all edges and concealed surfaces, of all lumber, ferrous and galvanized metal prior to installation. Apply primer to the same specifications as for the exposed surfaces. Installed items not back-primed shall be removed, properly primed, and reinstalled at the Contractor’s expense. Damaged materials shall be replaced. This provision applies to both interior and exterior installations. Coordinate with all carpentry and steel specifications for materials to be painted.
H. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with specified requirements.

3.4 FIELD QUALITY CONTROL

A. Each applicator shall have a clean accurate wet film gauge for use over smooth surfaces such as wood. During application of each coat of paint, including primers, each applicator shall make regular measurements of the applied paint using a clean wet film gauge. The gauge shall be wiped clean after each measurement.

1. The project painting supervisor shall complete a Project Paint Record form similar to the form at the end of this specification. The forms shall be completed at the end of each day and submitted to the Architect weekly.
   a. Date: The date measurements were taken.
   b. Location: Room or area where measurements were made.
   c. Substrate: Drywall, CMU, concrete, wood, steel doors, structural steel, etc.
   d. Applied WFT or Spread Rate Per Coat: Show the specified wet film thickness (WFT) and the actual measured wet film thickness of each coat. Show the min-max range such as 4-6 mils. If a coat is not applicable (primer is shop-applied), no entry is required.
   e. For irregular surfaces such as CMU, thickness shall be determined by spread rate. Spread rate is determined as follows:
      1). Check the manufacturer’s published theoretic spread rate of square feet per gallon per coat.
      2). Measure off the square footage a gallon of paint is to cover on the substrate that is to be painted
      3). Apply one gallon of properly prepared paint over the measured area of substrate using equipment and procedures that will be used for actual application.
      4). If the gallon of paint completely covers the measured area in an even and uniform manner with no drips, sags, runs, or spread marks, the spread rate is acceptable. If there is paint left over, the spread rate may be too high resulting in a coat that is too thin. If the paint runs out before completing, the spread rate may be too low resulting in a coat that is too thick.

B. If the Owner or the Architect determine that the substrate or undercoats are visible through the finish, or the finish appearance is shaded, or texture is uneven, then additional coats shall be applied, at no additional cost to the Owner, to provide an acceptable finish.

C. If the Owner or Architect suspect that substrates were not properly prepared or improper primer/finishes were used, or that coatings were not applied to the recommend or specified rate or thickness, the Owner reserves the right to engage the testing and evaluation services of the either the Architect or an independent testing agency or both. The Owner reserves the right to invoke the following test procedure at any time and as often as the Owner deems necessary during the period when paint is being applied:
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1. The Owner will engage the services of an independent testing agency to sample the paint material being used. Samples of material delivered to the Project will be taken, identified, sealed, and certified in the presence of the Contractor.

2. The testing agency will perform appropriate tests for the following characteristics as required by the Owner:
   a. Quantitative materials analysis.
   b. Abrasion resistance.
   c. Apparent reflectivity including color and shading of undercoats.
   d. Flexibility.
   e. Washability.
   f. Absorption.
   g. Accelerated weathering.
   h. Dry opacity.
   i. Accelerated yellowness.
   j. Recoating.
   k. Skinning.
   l. Color retention.
   m. Alkali and mildew resistance.

3. If test results show that material being used does not comply with specified requirements, that substrate was not properly prepared, the specified or recommended number of coats were not applied, or the thickness of each coat is not as specified or recommended, then the Contractor may be directed to stop painting, remove noncomplying paint, pay for testing, repaint surfaces coated with rejected paint, and remove rejected paint from previously painted surfaces if, upon repainting with specified paint, the two coatings are incompatible.

D. Field Inspections and Testing

1. After application of each coating in the specified system and its surface has cured, measure its thickness with a properly calibrated Nordson Microtest Dry film Thickness Gauge, or equivalent. Follow standard method for measurement of dry paint thickness with magnetic gauges as outlined in Steel Structures Painting Council’s SSPC-PA2-73T.

2. Make as many measurements needed to ensure coating thickness comply with the Contract documents. Surfaces with a DFT below the specified thickness shall have additional coat(s) applied at no extra cost to the Owner to bring thickness up to specified thickness.

3. A paint manufacturer's technical representative shall visit the job site to support the paint applicator, the Owner as needed and/or as requested. Where the manufacturer's representative makes inspections, complete the form at the end of this specification. Inspections include, but are not limited to, the following attributes:
   a. Shading
   b. Overlap
   c. Cross coatings
   d. Proper application
   e. Curing procedures
f. Surface preparation

g. Application conditions

h. Correct paints and coatings

i. No drips, runs, sags, holidays

j. Individual and over all thickness

k. Proper handling of materials and substrates

4. Painting contractor shall permit inspection of his work for conformance to the Contract documents. The Owner reserves the right to reject any and all work that does not comply with the Contract Documents.

5. Acceptable Finished Painting: Acceptable criteria for evaluating painted surfaces include, but are not limited to, the following:

a. No delamination.
b. No color shading.
c. No brush or roller marks.
d. No voids, holidays, or scratches.
e. No drips, runs, sags, or holidays.
f. No cracks, bubbles, checkering, or alligatoring.
g. Smooth, even, flush, uniform joints in plywood.
h. Terminations, borders, and trim are neat, uniform and even.
i. Surface texture and color match those of approved samples.
j. Joints in substrate concealed and finished smooth, even, and flush.
k. No traces of overspray or paint on surfaces not scheduled to be painted.
l. No telegraphing of plywood grain or filled holes through the finish coat.
m. All cleanup completed and all splashes, spills, and over-paint thoroughly cleaned.

3.5 CLEANING

A. Cleanup: At the end of each work day, remove empty cans, rags, rubbish, and other discarded paint materials from the site.

1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping. Be careful not to scratch or damage adjacent finished surfaces.

3.6 PROTECTION

A. Protect work of other trades, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.

1. Protect all surfaces including, but not limited to, adjacent structures, glass, trim, walkways, pavements, vehicles, etc. that are not to be painted from drips, runs, splashes, overspray, and wind blown paint and paint residue.

B. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.
1. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.8 INTERIOR PAINT SCHEDULE

A. General: Refer to the finish schedule for the type of required paint for a specific surface and select the applicable paint system from those specified. Where film thickness and spread rate are not listed, apply paints at manufacturer’s published thickness and rate for specified paint. Review the specified painting systems and notify the Architect of any conflict between these systems and the painting manufacturer’s recommendations.

B. Existing Concrete Masonry
   High Performance Acrylic Semi-Gloss Finish: 2 finish coats over block filler
   2. Finish: 2 coats Sher-Cryl HPA Semi-Gloss B66350 at 2.5-4 mils DFT per coat.

C. Wood
   Semi-Gloss Finish: 2 coats over primer
   1. Primer: 1 coat PeeRite Classic Latex Primer at 1.6 mils DFT per coat
   2. Finish: 2 coats Sher-Cryl HPA Semi-Gloss B66350 at 2.5-4 mils DFT per coat.

END OF SECTION 09 90 00
**PAINT MANUFACTURER’S SURFACE PREPARATION EVALUATION**

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<th>DATE EVALUATED</th>
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* State reasons for rejection and what needs to be done to correct rejection.

Evaluations of the above described surfaces were conducted by me as indicated in the log.

Technical Representative’s Signature, Title, and Company

Paint Manufacturer
# PROJECT PAINT RECORD

**Project Name:** Comm. No.  
**General Contractor:**  
**Painting Contractor:**

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<tr>
<th>DATE</th>
<th>LOCATION</th>
<th>SURFACE</th>
<th>APPLIED WFT. Enter Spread rate per coat for irregular surfaces such as CMU and course concrete.</th>
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PAINTING

09 91 00 - 24 of 25
SECTION 09 91 23 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

1. Section includes surface preparation and the application of paint systems on interior substrates.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

B. Samples for Initial Selection: For each type of topcoat product.

C. Paint Schedule: Provide an interior paint schedule including Paint type, color, gloss, primer, and locations.

D. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.

1. Submit (2) Samples of each on card stock, 80 square inches.
2. Step coats on Samples to show each coat required for system.
3. Label each coat of each Sample.
4. Label each Sample for location and application area.
5. Samples of paint which will be applied to finished gypsum wallboard are to be provided within all rooms over 200 square feet (excluding service rooms, storage rooms, and stairwells) that will be painted with said color, and the sample shall not be painted until the room has lighting installed and functional, as well as all surfaces finished which may impact the light levels and color rendering in the room. Sample on wall to be 4’ x 4’ inches square (16 sq.ft.) minimum
6. Any substrate or material other than gypsum wallboard that is to be painted requires a minimum of (2) 1’ x 1’ painted samples of the substrate or material.

E. Product List: For each product indicated, include the following:

1. Printout of current "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted.
1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Paint: 5 percent, but not less than 1 gal. (3.8 L) of each material and color applied.

1.5 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Final approval of color selections will be based on mockups.
   a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

3. Apply benchmark samples after permanent lighting and other environmental services have been activated.

4. Architect will select one surface to represent surfaces and conditions for application of each paint system specified.
   a. All surfaces: Provide samples of 10 foot x 10 foot (100 Sq. Ft.) minimum.

5. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

6. Architect’s final approval of colors will be based on the benchmark samples.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).

1. Maintain containers in clean condition, free of foreign materials and residue.

2. Remove rags and waste from storage areas daily.

1.7 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).

B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.
PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product Subject to compliance with requirements. Available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Sherwin-Williams Company (The).
2. Behr Process Corporation.
5. ICI Paints.

2.2 PAINT, GENERAL

A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."

B. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

C. Colors: As indicated in a color schedule see sheet X-I003 and X-I004.

2.3 BLOCK FILLERS

A. Block Filler, Latex, Interior/Exterior: MPI #4

2.4 PRIMERS/SEALERS

A. Primer Sealer, Latex, Interior: MPI #50.

B. Primer Sealer, Alkyd, Interior: MPI #45.

C. Primer, Latex, for Interior Wood: MPI #39
2.5 METAL PRIMERS
   A. Primer, Alkyd, Quick Dry, for Metal: MPI #76.
   B. Primer, Quick Dry, for Aluminum: MPI #95.

2.6 WATER-BASED PAINTS
   A. Latex, Interior, Flat, (Gloss Level 1): MPI #53.
   B. Latex, Interior, Eggshell (Gloss Level 3): MPI #52.
   C. Latex, Interior, Semi-Gloss, (Gloss Level 5): MPI #54.

2.7 SOLVENT-BASED PAINTS
   A. Alkyd, Interior, Semi-Gloss (Gloss Level 5) MPI #47.

2.8 ALUMINUM PAINT
   A. Aluminum Paint: MPI #1.

2.9 TEXTURED COATING
   A. Primer for Textured Coating, Latex, Flat: As recommended in writing by topcoat manufacturer.
   B. Intermediate Coat for Textured Coating, Latex, Flat: As recommended in writing by topcoat manufacturer.
   C. Textured Coating, Latex, Flat: MPI #42.

2.10 FLOOR COATINGS
   A. Stain, Interior, for Concrete Floors: MPI #58.
   B. Sealer, Water Based, for Concrete Floors: MPI #99.
   C. Sealer, Solvent Based, for Concrete Floors: MPI #104.
   D. Floor Paint, Latex, Low Gloss (Maximum Gloss Level 3): MPI #60.
2.11 SOURCE QUALITY CONTROL

A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:

1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.

2. Testing agency will perform tests for compliance with product requirements.

3. Owner may direct Contractor to stop applying coatings if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Concrete: 12 percent.
2. Wood: 15 percent.
3. Gypsum Board: 12 percent.

C. Gypsum Board Substrates: Do not begin paint application until finishing compound is dry and sanded smooth.

D. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

E. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.
3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

D. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer, but not less than the following:

1. SSPC-SP 2, "Hand Tool Cleaning."
2. SSPC-SP 3, "Power Tool Cleaning."
3. SSPC-SP 7/NACE No. 4, "Brush-off Blast Cleaning."
4. SSPC-SP 11, "Power Tool Cleaning to Bare Metal."

E. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

F. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

G. Aluminum Substrates: Remove loose surface oxidation.

H. Wood Substrates:

1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
2. Sand surfaces that will be exposed to view, and dust off.
3. Prime edges, ends, faces, undersides, and backsides of wood.
4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

I. Cotton or Canvas Insulation Covering Substrates: Remove dust, dirt, and other foreign material that might impair bond of paints to substrates.
### 3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."

1. Use applicators and techniques suited for paint and substrate indicated.
2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.

C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.


1. Paint the following work flat black where exposed in equipment rooms:
   a. Uninsulated metal piping.
   b. Uninsulated plastic piping.
   c. Pipe hangers and supports.
   d. Metal conduit.
   e. Plastic conduit.
   f. Tanks that do not have factory-applied final finishes.
   g. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.

2. Paint the following work according to finish schedule, where exposed in occupied spaces:
   a. Equipment, including panelboards.
   b. Uninsulated metal piping.
   c. Uninsulated plastic piping.
   d. Pipe hangers and supports.
   e. Metal conduit.
   f. Plastic conduit.
3. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 FIELD QUALITY CONTROL

A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.

1. Contractor shall touch up and restore painted surfaces damaged by testing.
2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

END OF SECTION 09 91 23