PROJECT MANUAL

September 24, 2026

La Crosse Housing Authority
2026 Capital Improvement Projects

La Crosse, Wisconsin

LA CROSSE HOUSING AUTHORITY
CITY OF LA CROSSE, WISCONSIN
"WE NEED A ROOF OVER OUR HEADS"

HSR No: 26039

ARCHITECTURE
ENGINEERING
INTERIOR DESIGN

HSR Associates, Inc.
100 Milwaukee Street
La Crosse, WI 54603
608.784.1830 Fax: 608.782.5844
www.hsrassociates.com

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DOCUMENT 00 01 01
PROJECT MANUAL TITLE PAGE

PROJECT: HOUSING AUTHORITY OF THE CITY OF LA CROSSE
2026 CAPITAL IMPROVEMENT PROJECTS
1307 BADGER STREET
LA CROSSE, WISCONSIN 54601
HSR PROJECT NUMBER: **26039**
DATE OF PROJECT MANUAL: SEPTEMBER 24, 2026

OWNER: HOUSING AUTHORITY OF THE CITY OF LA CROSSE
1307 BADGER STREET
P.O. BOX 1053
LA CROSSE, WISCONSIN 54602-1054

ARCHITECT/ ENGINEER: HSR ASSOCIATES, INC.
100 MILWAUKEE STREET
LA CROSSE, WISCONSIN 54603
TEL: 608-784-1830

PROJECT MANAGER	DOUG RAMSEY	608-785-4710
PROJECT ARCHITECT	MIKE LORENS	608-785-4705
INTERIOR DESIGN	BRANDY ERNST	608-785-4723
SPECIFICATIONS	TOBIN FAUCHEUX	608-785-4717
PLUMBING	RYAN JOHNSON	608-785-4718
MECHANICAL	JAKE BERAN	608-785-4709
ELECTRICAL	CHRIS CRANDALL	608-785-4737

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END OF DOCUMENT 00 01 10

SECTION 00 11 13
ADVERTISEMENT FOR BIDS

Sealed bids for the construction of:

HOUSING AUTHORITY OF THE CITY OF LA CROSSE
2026 CAPITAL IMPROVEMENT PROJECTS
1307 BADGER STREET
LA CROSSE, WISCONSIN 54603
HSR PROJECT NUMBER: **26039**
DATE OF PROJECT MANUAL: SEPTEMBER 24, 2026

will be received by:

HOUSING AUTHORITY OF THE CITY OF LA CROSSE
1307 BADGER STREET
P.O. BOX 1053
LA CROSSE, WISCONSIN 54602-1054
STEVE SCHAUF – EXECUTIVE DIRECTOR

until 2:00 PM on Thursday, October 22, 2026, after which they will be publicly and read aloud. Bids received after the time set for receipt of bids will not be accepted.

In general, the Project consists of 2026 Capital Maintenance and Improvement work for the Housing Authority of the City of La Crosse at multiple high-rise residential facilities in La Crosse, Wisconsin. Work generally includes cleaning of kitchen and bathroom exhaust ductwork and trash chutes; conversion of existing bathroom exhaust systems to centralized exhaust systems; exterior door and frame replacements; exterior air-conditioning sleeve and under-window panel painting and caulking; and miscellaneous interior building renovations. Interior renovations at Solberg Heights include improvements to the trash room, men's and women's toilet rooms, and adjacent corridor, including architectural finishes, doors, ceilings, lighting, electrical, plumbing, heating, and ventilation improvements. Additional work includes exterior door replacements at Stoffel Court and Solberg Heights and exterior painting and caulking work at Sauber Manor. All work will be included under one Bid Package and one construction contract.

LUMP-SUM BIDS WILL BE RECEIVED FOR A SINGLE PRIME CONTRACT.

The Project Drawings, Project Manual and other Bidding Documents may be examined at the following locations:

AE'S OFFICE:

HSR ASSOCIATES, INC.
100 Milwaukee Street
La Crosse, WI 54603
608-784-1830

BUILDER'S EXCHANGES:

La Crosse, WI
Northwest Regional (Eau Claire/Chippewa Falls)
Wausau, WI
Builders Exchange of Wisconsin (Appleton)

Minneapolis, MN
Rochester, MN
Northern IA (Mason City, IA)
Master Builders IA (Des Moines, IA)
Builders Exchange of Michigan
Construct Connect
Dodge Data & Analytics (West Allis, WI)

Electronic Bidding Documents (.pdf) will be available from HSR Associates, Inc. via Sharefile electronic distribution. Contact Britni Ruppert at bruppert@hsrassociates.com. Bidding documents will also be distributed to the listed Builders Exchanges. Electronic versions of addenda will be distributed via the same systems.

Hardcopy Bidding Documents may be picked up at HSR Associates' office. Bidders may request shipment of hardcopies by sending a check made out to HSR Associates in the amount of $20.00. The shipping fee will not be refunded and must be received prior to shipment.

HSR Associates is responsible for distribution of addenda only to those who have requested project documents from HSR in formats described above.

HSR Associates will make AutoCAD files available to the Contractor following award of contract.

HSR Associates maintains a plan holder list at www.hsrassociates.com. This list includes only those who have requested plans from HSR and those who have requested to be added our list.

Bid Security in the amount of five (5**%**) of the maximum amount of the Bid must accompany each Bid as described in the Project Manual, Instructions to Bidders.

The Owner reserves the right to waive irregularities and to reject any or all Bids. Bids may only be withdrawn in accordance with the Project Manual, Instructions to Bidder

A non-mandatory pre-bid meeting will be conducted by the Owner and Architect/Engineer to answer questions and examine the bidding documents. Subcontractor bidders are welcome to attend. Pre-bid meeting will occur at 10:00 AM on October 8, 2026 at HSR Associates located at 100 Milwaukee Street, La Crosse, WI 54603.

By: Steve Schauf

TITLE: EXECUTIVE DIRECTOR

Public Notice Weeks: September 21, 2026 and September 28, 2026

Publication: La Crosse Tribune

END OF DOCUMENT 00 11 13

DOCUMENT 00 21 13
INSTRUCTIONS TO BIDDERS

REFERENCE DOCUMENT:

A. Form HUD-5369 Instructions to Bidders for Contracts Public and Indian Housing Programs.

RELATED REQUIREMENTS:

A. Document 00 22 13 - Supplementary Instructions to Bidders: Modify Instructions to Bidders with the revisions, additions and deletions presented in the Supplementary Instructions to Bidders.

B. Document 00 41 00 - Bid Form.

C. Document 00 43 25 - Substitution Request Form - During Procurement.

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U.S. Department of Housing and Urban Development
Office of Public and Indian Housing

Instructions to Bidders for Contracts Public and Indian Housing Programs

Instructions to Bidders for Contracts

Public and Indian Housing Programs

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1. Bid Preparation and Submission

(a) Bidders are expected to examine the specifications, drawings, all instructions, and, if applicable, the construction site (see also the contract clause entitled **Site Investigation and Conditions Affecting the Work** of the *General Conditions of the Contract for Construction*). Failure to do so will be at the bidders' risk.

(b) All bids must be submitted on the forms provided by the Public Housing Agency/Indian Housing Authority (PHA/IHA). Bidders shall furnish all the information required by the solicitation. Bids must be signed and the bidder's name typed or printed on the bid sheet and each continuation sheet which requires the entry of information by the bidder. Erasures or other changes must be initialed by the person signing the bid. Bids signed by an agent shall be accompanied by evidence of that agent's authority. (Bidders should retain a copy of their bid for their records.)

(c) Bidders must submit as part of their bid a completed form HUD-5369-A, "Representations, Certifications, and Other Statements of Bidders."

(d) All bid documents shall be sealed in an envelope which shall be clearly marked with the words "Bid Documents," the Invitation for Bids (IFB) number, any project or other identifying number, the bidder's name, and the date and time for receipt of bids.

(e) If this solicitation requires bidding on all items, failure to do so will disqualify the bid. If bidding on all items is not required, bidders should insert the words "No Bid" in the space provided for any item on which no price is submitted.

(f) Unless expressly authorized elsewhere in this solicitation, alternate bids will not be considered.

(g) Unless expressly authorized elsewhere in this solicitation, bids submitted by telegraph or facsimile (fax) machines will not be considered.

(h) If the proposed contract is for a Mutual Help project (as described in 24 CFR Part 905, Subpart E) that involves Mutual Help contributions of work, material, or equipment, supplemental information regarding the bid advertisement is provided as an attachment to this solicitation.

2. Explanations and Interpretations to Prospective Bidders

(a) Any prospective bidder desiring an explanation or interpretation of the solicitation, specifications, drawings, etc., must request it at least 7 days before the scheduled time for bid opening. Requests may be oral or written. Oral requests must be confirmed in writing. The only oral clarifications that will be provided will be those clearly related to solicitation procedures, i.e., not substantive technical information. No other oral explanation or interpretation will be provided. Any information given a prospective bidder concerning this solicitation will be furnished promptly to all other prospective bidders as a written amendment to the solicitation, if that information is necessary in submitting bids, or if the lack of it would be prejudicial to other prospective bidders.

(b) Any information obtained by, or provided to, a bidder other than by formal amendment to the solicitation shall not constitute a change to the solicitation.

3. Amendments to Invitations for Bids

(a) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

(b) Bidders shall acknowledge receipt of any amendment to this solicitation (1) by signing and returning the amendment, (2) by identifying the amendment number and date on the bid form, or (3) by letter, telegram, or facsimile, if those methods are authorized in the solicitation. The PHA/IHA must receive acknowledgement by the time and at the place specified for receipt of bids. Bids which fail to acknowledge the bidder's receipt of any amendment will result in the rejection of the bid if the amendment(s) contained information which substantively changed the PHA's/IHA's requirements.

(c) Amendments will be on file in the offices of the PHA/IHA and the Architect at least 7 days before bid opening.

4. Responsibility of Prospective Contractor

(a) The PHA/IHA will award contracts only to responsible prospective contractors who have the ability to perform successfully under the terms and conditions of the proposed contract. In determining the responsibility of a bidder, the PHA/IHA will consider such matters as the bidder's:

(1) Integrity;

(2) Compliance with public policy;

(3) Record of past performance; and

(4) Financial and technical resources (including construction and technical equipment).

(b) Before a bid is considered for award, the bidder may be requested by the PHA/IHA to submit a statement or other documentation regarding any of the items in paragraph (a) above. Failure by the bidder to provide such additional information shall render the bidder nonresponsible and ineligible for award.

5. Late Submissions, Modifications, and Withdrawal of Bids

(a) Any bid received at the place designated in the solicitation after the exact time specified for receipt will not be considered unless it is received before award is made and it:

(1) Was sent by registered or certified mail not later than the fifth calendar day before the date specified for receipt of offers (e.g., an offer submitted in response to a solicitation requiring receipt of offers by the 20th of the month must have been mailed by the 15th);

(2) Was sent by mail, or if authorized by the solicitation, was sent by telegram or via facsimile, and it is determined by the PHA/IHA that the late receipt was due solely to mishandling by the PHA/IHA after receipt at the PHA/IHA; or

(3) Was sent by U.S. Postal Service Express Mail Next Day Service - Post Office to Addressee, not later than 5:00 p.m. at the place of mailing two working days prior to the date specified for receipt of proposals. The term "working days" excludes weekends and observed holidays.

(b) Any modification or withdrawal of a bid is subject to the same conditions as in paragraph (a) of this provision.

(c) The only acceptable evidence to establish the date of mailing of a late bid, modification, or withdrawal sent either by registered or certified mail is the U.S. or Canadian Postal Service postmark both on the envelope or wrapper and on the original receipt from the U.S. or Canadian Postal Service. Both postmarks must show a legible date or the bid, modification, or withdrawal shall be processed as if mailed late. "Postmark" means a printed, stamped, or otherwise placed impression (exclusive of a postage meter machine impression) that is readily identifiable without further action as having been supplied and affixed by employees of the U.S. or Canadian Postal Service on the date of mailing. Therefore, bidders should request the postal clerk to place a hand cancellation bull's-eye postmark on both the receipt and the envelope or wrapper.

(d) The only acceptable evidence to establish the time of receipt at the PHA/IHA is the time/date stamp of PHA/IHA on the proposal wrapper or other documentary evidence of receipt maintained by the PHA/IHA.

(e) The only acceptable evidence to establish the date of mailing of a late bid, modification, or withdrawal sent by Express Mail Next Day Service-Post Office to Addressee is the date entered by the post office receiving clerk on the "Express Mail Next Day Service-Post Office to Addressee" label and the postmark on both the envelope or wrapper and on the original receipt from the U.S. Postal Service. "Postmark" has the same meaning as defined in paragraph (c) of this provision, excluding postmarks of the Canadian Postal Service. Therefore, bidders should request the postal clerk to place a legible hand cancellation bull's eye postmark on both the receipt and Failure by a bidder to acknowledge receipt of the envelope or wrapper.

(f) Notwithstanding paragraph (a) of this provision, a late modification of an otherwise successful bid that makes its terms more favorable to the PHA/IHA will be considered at any time it is received and may be accepted.

(g) Bids may be withdrawn by written notice, or if authorized by this solicitation, by telegram (including mailgram) or facsimile machine transmission received at any time before the exact time set for opening of bids; provided that written confirmation of telegraphic or facsimile withdrawals over the signature of the bidder is mailed and postmarked prior to the specified bid opening time. A bid may be withdrawn in person by a bidder or its authorized representative if, before the exact time set for opening of bids, the identity of the person requesting withdrawal is established and the person signs a receipt for the bid.

6. Bid Opening

All bids received by the date and time of receipt specified in the solicitation will be publicly opened and read. The time and place of opening will be as specified in the solicitation. Bidders and other interested persons may be present.

7. Service of Protest

(a) Definitions. As used in this provision:

"Interested party" means an actual or prospective bidder whose direct economic interest would be affected by the award of the contract.

"Protest" means a written objection by an interested party to this solicitation or to a proposed or actual award of a contract pursuant to this solicitation.

(b) Protests shall be served on the Contracting Officer by obtaining written and dated acknowledgement from —

Steve Schauf
Housing Authority of the City of La Crosse
P.O. Box 1053
1307 Badger Street
La Crosse, WI 54601

[Contracting Officer designate the official or location where a protest may be served on the Contracting Officer]

(c) All protests shall be resolved in accordance with the PHA's/IHA's protest policy and procedures, copies of which are maintained at the PHA/IHA.

8. Contract Award

(a) The PHA/IHA will evaluate bids in response to this solicitation without discussions and will award a contract to the responsible bidder whose bid, conforming to the solicitation, will be most advantageous to the PHA/IHA considering only price and any price-related factors specified in the solicitation.

(b) If the apparent low bid received in response to this solicitation exceeds the PHA's/IHA's available funding for the proposed contract work, the PHA/IHA may either accept separately priced items (see 8(e) below) or use the following procedure to determine contract award. The PHA/IHA shall apply in turn to each bid (proceeding in order from the apparent low bid to the high bid) each of the separately priced bid deductible items, if any, in their priority order set forth in this solicitation. If upon the application of the first deductible item to all initial bids, a new low bid is within the PHA's/IHA's available funding, then award shall be made to that bidder. If no bid is within the available funding amount, then the PHA/IHA shall apply the second deductible item. The PHA/IHA shall continue this process until an evaluated low bid, if any, is within the PHA's/IHA's available funding. If upon the application of all deductibles, no bid is within the PHA's/IHA's available funding, or if the solicitation does not request separately priced deductibles, the PHA/IHA shall follow its written policy and procedures in making any award under this solicitation.

(c) In the case of tie low bids, award shall be made in accordance with the PHA's/IHA's written policy and procedures.

(d) The PHA/IHA may reject any and all bids, accept other than the lowest bid (e.g., the apparent low bid is unreasonably low), and waive informalities or minor irregularities in bids received, in accordance with the PHA's/IHA's written policy and procedures.

(e) Unless precluded elsewhere in the solicitation, the PHA/IHA may accept any item or combination of items bid.

(f) The PHA/IHA may reject any bid as nonresponsive if it is materially unbalanced as to the prices for the various items of work to be performed. A bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated for other work.

(g) A written award shall be furnished to the successful bidder within the period for acceptance specified in the bid and shall result in a binding contract without further action by either party.

9. Bid Guarantee (applicable to construction and equipment contracts exceeding $25,000)

All bids must be accompanied by a negotiable bid guarantee which shall not be less than five percent (5%) of the amount of the bid. The bid guarantee may be a certified check, bank draft, U.S. Government Bonds at par value, or a bid bond secured by a surety company acceptable to the U.S. Government and authorized to do business in the state where the work is to be performed. In the case where the work under the contract will be performed on an Indian reservation area, the bid guarantee may also be an irrevocable Letter of Credit (see provision 10, Assurance of Completion, below). Certified checks and bank drafts must be made payable to the order of the PHA/IHA. The bid guarantee shall insure the execution of the contract and the furnishing of a method of assurance of completion by the successful bidder as required by the solicitation. Failure to submit a bid guarantee with the bid shall result in the rejection of the bid. Bid guarantees submitted by unsuccessful bidders will be returned as soon as practicable after bid opening.

10. Assurance of Completion

(a) Unless otherwise provided in State law, the successful bidder shall furnish an assurance of completion prior to the execution of any contract under this solicitation. This assurance may be [Contracting Officer check applicable items] —

[X] (1) a performance and payment bond in a penal sum of 100 percent of the contract price; or, as may be required or permitted by State law;

[ ] (2) separate performance and payment bonds, each for 50 percent or more of the contract price;

[ ] (3) a 20 percent cash escrow;

[ ] (4) a 25 percent irrevocable letter of credit; or,

[ ] (5) an irrevocable letter of credit for 10 percent of the total contract price with a monitoring and disbursements agreement with the IHA (applicable only to contracts awarded by an IHA under the Indian Housing Program).

(b) Bonds must be obtained from guarantee or surety companies acceptable to the U.S. Government and authorized to do business in the state where the work is to be performed. Individual sureties will not be considered. U.S. Treasury Circular Number 570, published annually in the Federal Register, lists companies approved to act as sureties on bonds securing Government contracts, the maximum underwriting limits on each contract bonded, and the States in which the company is licensed to do business. Use of companies listed in this circular is mandatory. Copies of the circular may be downloaded on the U.S. Department of Treasury website **http://www.fms.treas.gov/c570/index.html**, or ordered for a minimum fee by contacting the Government Printing Office at (202) 512-2168.

(c) Each bond shall clearly state the rate of premium and the total amount of premium charged. The current power of attorney for the person who signs for the surety company must be attached to the bond. The effective date of the power of attorney shall not precede the date of the bond. The effective date of the bond shall be on or after the execution date of the contract.

(d) Failure by the successful bidder to obtain the required assurance of completion within the time specified, or within such extended period as the PHA/IHA may grant based upon reasons determined adequate by the PHA/IHA, shall render the bidder ineligible for award. The PHA/IHA may then either award the contract to the next lowest responsible bidder or solicit new bids. The PHA/IHA may retain the ineligible bidder's bid guarantee.

11. Preconstruction Conference (applicable to construction contracts)

After award of a contract under this solicitation and prior to the start of work, the successful bidder will be required to attend a preconstruction conference with representatives of the PHA/IHA and its architect/engineer, and other interested parties convened by the PHA/IHA. The conference will serve to acquaint the participants with the general plan of the construction operation and all other requirements of the contract (e.g., Equal Employment Opportunity, Labor Standards). The PHA/IHA will provide the successful bidder with the date, time, and place of the conference.

12. Indian Preference Requirements (applicable only if this solicitation is for a contract to be performed on a project for an Indian Housing Authority)

(a) HUD has determined that the contract awarded under this solicitation is subject to the requirements of section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e(b)). Section 7(b) requires that any contract or subcontract entered into for the benefit of Indians shall require that, to the greatest extent feasible

(1) Preferences and opportunities for training and employment (other than core crew positions; see paragraph (h) below) in connection with the administration of such contracts or subcontracts be given to qualified "Indians." The Act defines "Indians" to mean persons who are members of an Indian tribe and defines "Indian tribe" to mean any Indian tribe, band, nation, or other organized group or community, including any Alaska Native village or regional or village corporation as defined in or established pursuant to the Alaska Native Claims Settlement Act, which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians; and,

(2) Preference in the award of contracts or subcontracts in connection with the administration of contracts be given to Indian organizations and to Indian-owned economic enterprises, as defined in section 3 of the Indian Financing Act of 1974 (25 U.S.C. 1452). That Act defines "economic enterprise" to mean any Indian-owned commercial, industrial, or business activity established or organized for the purpose of profit, except that the Indian ownership must constitute not less than 51 percent of the enterprise; "Indian organization" to mean the governing body of any Indian tribe or entity established or recognized by such governing body; "Indian" to mean any person who is a member of any tribe, band, group, pueblo, or community which is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs and any "Native" as defined in the Alaska Native Claims Settlement Act; and Indian "tribe" to mean any Indian tribe, band, group, pueblo, or community including Native villages and Native groups (including

corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act, which is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs.

(b) (1) The successful Contractor under this solicitation shall comply with the requirements of this provision in awarding all subcontracts under the contract and in providing training and employment opportunities.

(2) A finding by the IHA that the contractor, either (i) awarded a subcontract without using the procedure required by the IHA, (ii) falsely represented that subcontracts would be awarded to Indian enterprises or organizations; or, (iii) failed to comply with the contractor's employment and training preference bid statement shall be grounds for termination of the contract or for the assessment of penalties or other remedies.

(c) If specified elsewhere in this solicitation, the IHA may restrict the solicitation to qualified Indian-owned enterprises and Indian organizations. If two or more (or a greater number as specified elsewhere in the solicitation) qualified Indian-owned enterprises or organizations submit responsive bids, award shall be made to the qualified enterprise or organization with the lowest responsive bid. If fewer than the minimum required number of qualified Indian-owned enterprises or organizations submit responsive bids, the IHA shall reject all bids and readvertise the solicitation in accordance with paragraph (d) below.

(d) If the IHA prefers not to restrict the solicitation as described in paragraph (c) above, or if after having restricted a solicitation an insufficient number of qualified Indian enterprises or organizations submit bids, the IHA may advertise for bids from non-Indian as well as Indian-owned enterprises and Indian organizations. Award shall be made to the qualified Indian enterprise or organization with the lowest responsive bid if that bid is -

(1) Within the maximum HUD-approved budget amount established for the specific project or activity for which bids are being solicited; and

(2) No more than the percentage specified in 24 CFR 905.175(c) higher than the total bid price of the lowest responsive bid from any qualified bidder. If no responsive bid by a qualified Indian-owned economic enterprise or organization is within the stated range of the total bid price of the lowest responsive bid from any qualified enterprise, award shall be made to the bidder with the lowest bid.

(e) Bidders seeking to qualify for preference in contracting or subcontracting shall submit proof of Indian ownership with their bids. Proof of Indian ownership shall include but not be limited to:

(1) Certification by a tribe or other evidence that the bidder is an Indian. The IHA shall accept the certification of a tribe that an individual is a member.

(2) Evidence such as stock ownership, structure, management, control, financing and salary or profit sharing arrangements of the enterprise.

(f) (1) All bidders must submit with their bids a statement describing how they will provide Indian preference in the award of subcontracts. The specific requirements of that statement and the factors to used by the IHA in determining the statement's adequacy are included as an attachment to this solicitation. Any bid that fails to include the required statement shall be rejected as nonresponsive. The IHA may require that comparable statements be provided by subcontractors to the successful Contractor, and may require the Contractor to reject any bid or proposal by a subcontractor that fails to include the statement.

(2) Bidders and prospective subcontractors shall submit a certification (supported by credible evidence) to the IHA in any instance where the bidder or subcontractor believes it is infeasible to provide Indian preference in subcontracting. The acceptance or rejection by the IHA of the certification shall be final. Rejection shall disqualify the bid from further consideration.

(g) All bidders must submit with their bids a statement detailing their employment and training opportunities and their plans to provide preference to Indians in implementing the contract; and the number or percentage of Indians anticipated to be employed and trained. Comparable statements from all proposed subcontractors must be submitted. The criteria to be used by the IHA in determining the statement(s)'s adequacy are included as an attachment to this solicitation. Any bid that fails to include the required statement(s), or that includes a statement that does not meet minimum standards required by the IHA shall be rejected as nonresponsive.

(h) Core crew employees. A core crew employee is an individual who is a bona fide employee of the contractor at the time the bid is submitted; or an individual who was not employed by the bidder at the time the bid was submitted, but who is regularly employed by the bidder in a supervisory or other key skilled position when work is available. Bidders shall submit with their bids a list of all core crew employees.

(i) Preference in contracting, subcontracting, employment, and training shall apply not only on-site, on the reservation, or within the IHA's jurisdiction, but also to contracts with firms that operate outside these areas (e.g., employment in modular or manufactured housing construction facilities).

(j) Bidders should contact the IHA to determine if any additional local preference requirements are applicable to this solicitation.

(k) The IHA [ ] does [ ] does not [Contracting Officer check applicable box] maintain lists of Indian-owned economic enterprises and Indian organizations by specialty (e.g., plumbing, electrical, foundations), which are available to bidders to assist them in meeting their responsibility to provide preference in connection with the administration of contracts and subcontracts.

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SECTION 00 22 13
SUPPLEMENTARY INSTRUCTIONS

GENERAL

APPLICATION

The following Supplementary Instructions to Bidders modify, change, delete from or add to HUD 5369 - Instructions to Bidders for Contracts. Where any Clause of the Instructions to Bidders is modified or any Paragraph, Subparagraph or Clause thereof is modified or deleted by these Supplementary Instructions to Bidders, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

PROJECT IDENTIFICATION

PROJECT

Housing Authority of the City of La Crosse

2026 Capital Improvement Projects

1307 Badger Street

La Crosse, Wisconsin 54601

OWNER

Housing Authority of the City of La Crosse

1307 Badger Street

P.O. Box 1053

La Crosse, Wisconsin 54602-1054

ARCHITECT

HSR Associates, Inc.

100 Milwaukee Street

La Crosse, WI 54603

CLAUSE 1 - BID PREPARATION AND SUBMISSION

ADD NEW SUBPARAGRAPHS (i), (j), AND (k) TO CLAUSE 1

Bidders may obtain bidding documents as described in the document 00 11 13 Advertisement for Bids.

ADD SUBPARAGRAPHS 1 (b) (1), 1 (b) (2), AND 1 (b) (3) TO CLAUSE 1 PARAGRAPH (b) AS FOLLOWS:

(1) Prepare Bid on unaltered form provided in the Project Manual or on an exact copy of it. Fill in all applicable spaces with ink or typewriter and state amounts in both words and figures. In case of difference between written words and figures, the amount stated in written words shall apply. Remove Bid Form from Project Manual. Do not submit entire Project Manual.

(2) If erasures or other changes appear on Bid Forms, such erasure or change must be initialed by the person signing the Bid.

(3) Each Bidder must bid on all Alternates and unit prices in the spaces provided on the Bid form, if any. Insert the words, “No Change” if the Alternate does not reflect a change in the Base Bid; where both “Add” and “Deduct” spaces occur enter amount in appropriate space and delete inapplicable word.

ADD NEW SUBPARAGRAPH 1 (c) (1) TO CLAUSE 1 PARAGRAPH (c) AS FOLLOWS:

(1) In addition to HUD Form 5369-A each bid must be accompanied by the documents / items identified as attachments on the signature page of the Bid Form.

ADD NEW SUBPARAGRAPH 1 (d) (1) TO CLAUSE 1 PARAGRAPH (d) AS FOLLOWS:

(1) If Bid is submitted by mail, enclose sealed Bid in a second envelope addressed to the Owner with the Bidder's return address clearly indicated on the envelope. The Owner will not be responsible for the premature opening of any Bid not properly addressed and identified.

REPLACE PARAGRAPH IN CLAUSE 1 (e) WITH THE FOLLOWING:

(e) This solicitation requires bidding on all items, failure to do so will disqualify the bid.

CLAUSE 3 – AMENDMENTS TO INVITATIONS FOR BIDS

REPLACE CLAUSE 3 (b) WITH THE FOLLOWING:

(b) Bidders shall acknowledge receipt of any amendment to this solicitation by identifying the amendment number and date on the bid form. The PHA/IHA must receive acknowledgement by the time and at the place specified for receipt of bids. Bids which fail to acknowledge the bidder's receipt of any amendment will result in the rejection of the bid if the amendment(s) contained information which substantively changed the PHA's/IHA's requirements.

CLAUSE 5 – LATE SUBMISSIONS, MODIFICATIONS, AND WITHDRAWAL OF BIDS

ADD THE FOLLOWING WORDING TO THE END OF PARAGRAPH 5 (g) OF CLAUSE 5:

Withdrawn bids may be resubmitted up to the time designated for the receipt of Bids provided that they are fully in conformance with the Instructions to Bidders.

CLAUSE 9 – BID GUARANTEE

ADD THE FOLLOWING WORDING TO THE END OF CLAUSE 9:

PHA reserves the right to retain the Bid Security of the next two lowest Bidders in each work category until the low Bidder enters into Contract with the Owner or until the specified time before withdrawal of bids has elapsed after opening Bid, the Owner will retain the Bidder's Bid Security as liquidated damages, but not as a penalty.

CLAUSE 10 – ASSURANCE OF COMPLETION

ADD NEW PARAGRAPH 10 (e) AT THE END OF CLAUSE 10:

(e) The successful bidder shall provide documentation of assurance of completion within ten days after notification of award.

ADDITIONAL CLAUSES

ADD NEW CLAUSE 13 - DEFINITIONS

Each of the terms "OWNER", "LOCAL AUTHORITY", "LHA" as used in the Contract Documents shall mean "OWNER" as described on the Project Manual Title Page.

ADD NEW CLAUSE 14 – SUBSTITUTION REQUESTS:

(a) Proprietary materials, products and equipment described in the Bidding Documents establish the standard of required function, dimension, appearance and quality to be met by any proposed substitution.

(b) Conditions for securing approval of proposed substitutions for specified proprietary items are as follows:

(1) Requests for approved substitutions shall be submitted in writing by the Bidder, Sub-bidder, Supplier, or Manufacturer and received by the Architect no later than seven days prior to the time set for receipt of bids.

(2) Substitutions will be approved only by written addendum issued by the Architect to all Bidders.

(3) Proposed substitutions shall be described in detail and supported by substantiating specifications and other applicable data. Identify proposed substitutions by reference to the specific Project Specification section and paragraph to which the substitution pertains. Provide any additional information required by the Architect to determine conformity to specified requirements.

(4) Under no circumstances will the Architect be required to prove that an item proposed for substitution is not equal to the specified item. The decision of the Architect on all requests for substitutions is final.
(5) The Architect will reject any materials and workmanship, either before or after installation is complete, which is substituted and has not been approved by the Architect in writing.

(c) Refer to Section 01 25 00 Substitution Procedures for procedures.

ADD NEW CLAUSE 15 – WAGE RATES:

Refer to SUPPLEMENTARY CONDITIONS to see wage requirements applicable to the project.

ADD NEW CLAUSE 16 - DOCUMENTATION FOLLOWING AWARD:

(a) Provide documentation of insurance per Clause 36 of HUD-5370.

(b) Provide documentation of performance and payment bonds as mentioned in Clause10 of HUD-5369 and as described elsewhere in the bidding documents.

(c) Provide Schedule of Amounts for Contract Payments as described in form HUD-51000.

(b) Submit a list of subcontractors, suppliers and products to the Owner for approval within 7 days after the award of the Contract. List classification of work and name and address of each principal subcontractor and supplier. List only one person or entity for a given classification of work.

END OF SECTION

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DOCUMENT 00 41 00
BID FORM

BIDDER: _____

BID TYPE: SINGLE PRIME CONTRACT

PROJECT: HOUSING AUTHORITY OF THE CITY OF LA CROSSE
2026 CAPITAL IMPROVEMENT PROJECTS
1307 BADGER STREET
LA CROSSE, WISCONSIN 54601
HSR PROJECT NUMBER: **26039**
DATE OF PROJECT MANUAL: SEPTEMBER 24, 2026

OWNER: HOUSING AUTHORITY OF THE CITY OF LA CROSSE
1307 BADGER STREET
P.O. BOX 1053
LA CROSSE, WISCONSIN 54602-1054

BASE BID

The undersigned, having examined the site where the Work is to be executed and become familiar with local conditions affecting the cost of the Work and carefully examined the Project Manual, the Project Drawings, all other Bidding Documents and Addenda thereto prepared by the AE, HSR Associates, Inc., hereby agrees to provide all labor, materials, equipment and services necessary for the complete and satisfactory execution of the ENTIRE WORK, in the time frame stipulated in these contract documents, for the Base Bid stipulated sum of:

_____

_____ Dollars ($_____.00)

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In submitting this Bid, the undersigned agrees to:

1. Hold this bid open for 30 days.
2. Accept the requirements of the Bidding Documents regarding disposition of bid security.
3. Enter into and execute an agreement, if awarded.
4. Furnish Performance and Payment Bonds according to the requirements of the Bidding Documents.
5. Accomplish the work according to the Contract Documents.
6. Complete the work by the time stated in Section 01 10 00 Summary of the Work.

Receipt of the following Addenda and inclusion of their provisions in this Bid is hereby acknowledged:

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Attached hereto are the required:

☐ Bid Security

☐ 00 43 41 Certification of Intent to Comply with Section 3 Requirements

☐ 00 45 46 - Appendix 1 HUD Representations and Certifications – HUD 5369A

☐ 00 45 46 - Appendix 2 Previous Participation Certification – HUD 2530

Affix Corporate Seal

(if corporation)

Firm: _____

By: _____

Title: _____

By: _____

Title: _____

Date: _____

Address: _____

Telephone: _____

END OF DOCUMENT 00 41 00

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DOCUMENT 00 43 25
SUBSTITUTION REQUEST FORM – DURING PROCUREMENT

Use this form for substitution requests that will be made prior to signed agreement. This form is not strictly mandatory but may be required by the Architect for specific requests. The bidding documents, including those identified below, define the process for requesting a substitution.

Complete the form and provide attachments that document any other information necessary for an evaluation of the substitute items. Provide a complete description of the proposed substitution including the name of the material or equipment proposed, performance and test data, and relevant drawings. Identify reference standards and provide test results that fully explain how the proposed substitution compares to the specified items. Identify any changes to contract documents that are necessary for inclusion of the substitute items into the project.

Send form to Tobin Faucheux, tfaucheux@hsrassociates.com, 608-785-4717.

Reference Documents (HUD-5369):
A. Supplementary Instructions to Bidders Clause 14.
B. Section 01 25 00 Substitution Procedures.

PROJECT NAME: _____ PROJ. #: _____

REQUESTING COMPANY: _____

CONTACT PERSON: _____ DATE OF REQUEST: _____

CONTACT EMAIL: _____ CONTACT PHONE: _____

SPECIFIED ITEM: _____ SECTION #: _____

PROPOSED SUBSTITUTE ITEM: _____

REASON FOR REQUESTED SUBSTITUTION: _____

_____

ATTACHMENTS:

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

1. The proposed substitution does not affect dimensions shown on drawings.
2. The undersigned will pay for changes to the building design, including architectural/engineering design, detailing and construction costs caused by the requested substitution.
3. The proposed substitution will have no adverse affect on other trades, the construction schedule, or specified warranty requirements.
4. Maintenance and service parts will be locally available for the proposed substitution.
5. The function appearance and quality of the Proposed Substitution are equivalent or superior to the Specified Item

SUBMITTER SIGNATURE: _____

HSR Reviewer: _____

☐ Watch for acceptance of the substitution in a future addendum and any associated notes clarifying the acceptance.

☐ This item can be submitted as a bidder's choice substitution if bidder choice substitutions are defined and permitted on the bid form.

☐ Not accepted.

☐ Received too late.

HSR Reviewer Notes: _____

_____

_____

_____

END OF DOCUMENT

DOCUMENT 00 43 41
CERTIFICATION OF INTENT TO COMPLY WITH SECTION 3 REQUIREMENTS

Section 3 of the Housing and Urban Development Act of 1968 [12 U.S.C. 1701u and 24 CFR Part 75] is HUD's legislative directive for ensuring that economic opportunities resulting from HUD financial assistance, including employment, job training, and contracting are, to the greatest extent feasible, directed to low- and very low-income persons. The regulations seek to ensure that public housing residents and low and very low- income persons, and the businesses that employ these individuals, are notified about the expenditure of HUD funds in their community and encouraged to seek opportunities, if created.

A Section 3 Worker is defined as any worker who currently fits or when hired within the past five years fit at least one of the following categories, as documented:

1. The worker's income for the previous or annualized calendar year is below the applicable income limit established by HUD,

2. The worker is employed by a Section 3 Business Concern, or

3. The worker is a YouthBuild participant.

A Targeted Section 3 Worker is defined as a Section 3 worker who fits one of the following categories:

1. a worker employed by a Section 3 business concern; or

2. a worker who currently fits or when hired fit at least one of the following categories, as documented within the past five years:

a. a resident of public housing or Section 8 -assisted housing,

b. a resident of other public housing projects or Section 8-assisted housing manages by the PHA that is providing the assistance, or

b. a YouthBuild participant.

A Section 3 Business Concern is defined as a business in which:

1. At least 51% owned by low- or very low-income persons,

2. Over 75 percent of the labor hours performed for the business over the prior three-month period are performed by Section 3 workers, or

3. At least 51% owned and controlled by current public housing residents or residents who currently live in Section 8-assisted housing.

Note: If your business meets the definition of a Section 3 business, you are encouraged to register as a Section 3 Business through HUD's Business

Registry here:
https://portalapps.hud.gov/Sec3BusReg/BRegistry/RegisterBusiness

Businesses who self-certify that they meet one of the regulatory definitions of a Section 3 Business Concern will be included in a searchable online database. The database can be used by agencies that receive HUD funds, developers,

contractors, and others to facilitate the award of covered construction and non-construction contracts to Section 3 Business Concerns.

Complete the following:

1. Is the bidder (upon award) willing to participate with the Owner to comply with the requirements of Section 3 Clause and the Owner's Section 3 requirements.

☐ Yes ☐ No

2. Is the bidder (upon award) willing to work to achieve the purpose of Section 3 through recruiting, hiring, training and contracting. This includes considering hiring Section 3 Workers for future employment opportunities that are direct result of this HUD funded project. This includes considering subcontracting with Section 3 business concerns and including Section 3 requirements in subcontracts for the work of this project.

☐ Yes ☐ No

3. Is the bidder (upon award) willing to perform information gathering, reporting, record retention, and comply with auditor requirements? This includes completing and submitting forms included in these bidding documents. This includes providing total labor hours, labor hours for Section 3 workers and labor hours for Targeted Section 3 Workers.

☐ Yes ☐ No

4. Is the bidder a Section 3 Business Concern?

☐ Yes ☐ No

I understand that this contracting opportunity is subject to HUD Section 3 requirements (24 CFR Part 75). I have read and understand the Section 3 requirements as generally described above and presented in the Section 3 contract language included in the procurement documents for this project. If awarded a contract, the business commits to following Section 3 requirements, as they apply to this project. If awarded a contract for this project, the business agrees to provide reports to the Owner on Section 3 efforts and accomplishments.

_____

Name of Business:

_____

Street Address City State Zip

_____ _____

Print Name Title

_____ _____

Signature Date

END OF DOCUMENT 00 43 41

DOCUMENT 00 45 46
HUD REPRESENTATIONS AND CERTIFICATIONS

1.01 DOCUMENT INCLUDES

A. Form HUD-5369-A "Representations, Certifications, and Other Statements of Bidders": The document is included in this project manual immediately following this coversheet type of section.

B. Form HUD-2530 "Previous Participation Certification": The document is included in this project manual immediately following this coversheet.

1.02 RELATED REQUIREMENTS

A. Section 00 21 13 - Instructions to Bidders: Identification of other related requirements.

END OF SECTION

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U.S. Department of Housing and Urban Development

Office of Public and Indian Housing

Representations, Certifications, and Other Statements of Bidders

Public and Indian Housing Programs

Representations, Certifications, and Other Statements of Bidders

Public and Indian Housing Programs

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1. Certificate of Independent Price Determination

(a) 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 competitive proposal 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 or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(l) through (a)(3) above; or

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(l) through (a)(3) above.

_____ [insert full name of person(s) in the bidder's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the bidder's organization];

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

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

(c) If the bidder deletes or modifies subparagraph (a)2 above, the bidder must furnish with its bid a signed statement setting forth in detail the circumstances of the disclosure.

[X] [Contracting Officer check if following paragraph is applicable]

(d) Non-collusive affidavit. (applicable to contracts for construction and equipment exceeding $50,000)

(1) Each bidder shall execute, in the form provided by the PHA/IHA, an affidavit to the effect that he/she has not colluded with any other person, firm or corporation in regard to any bid submitted in response to this solicitation. If the successful bidder did not submit the affidavit with his/her bid, he/she must submit it within three (3) working days of bid opening. Failure to submit the affidavit by that date may render the bid nonresponsive. No contract award will be made without a properly executed affidavit.

(2) A fully executed "Non-collusive Affidavit" [ ] is, [ ] is not included with the bid.

2. Contingent Fee Representation and Agreement

(a) Definitions. As used in this provision:

"Bona fide employee" means a person, employed by a bidder and subject to the bidder's supervision and control as to time, place, and manner of performance, who neither exerts, nor proposes to exert improper influence to solicit or obtain contracts nor holds out as being able to obtain any contract(s) through improper influence.

"Improper influence" means any influence that induces or tends to induce a PHA/IHA employee or officer to give consideration or to act regarding a PHA/IHA contract on any basis other than the merits of the matter.

(b) The bidder represents and certifies as part of its bid that, except for full-time bona fide employees working solely for the bidder, the bidder:

(1) [ ] has, [ ] has not employed or retained any person or company to solicit or obtain this contract; and

(2) [ ] has, [ ] has not paid or agreed to pay to any person or company employed or retained to solicit or obtain this contract any commission, percentage, brokerage, or other fee contingent upon or resulting from the award of this contract.

(c) If the answer to either (a)(1) or (a)(2) above is affirmative, the bidder shall make an immediate and full written disclosure to the PHA/IHA Contracting Officer.

(d) Any misrepresentation by the bidder shall give the PHA/IHA the right to (1) terminate the contract; (2) at its discretion, deduct from contract payments the amount of any commission, percentage, brokerage, or other contingent fee; or (3) take other remedy pursuant to the contract.

3. Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions (applicable to contracts exceeding $100,000)

(a) The definitions and prohibitions contained in Section 1352 of title 31, United States Code, are hereby incorporated by reference in paragraph (b) of this certification.

(b) The bidder, by signing its bid, hereby certifies to the best of his or her knowledge and belief as of December 23, 1989 that:

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of a contract resulting from this solicitation;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the bidder shall complete and submit, with its bid, OMB standard form LLL, "Disclosure of Lobbying Activities;" and

(3) He or she will include the language of this certification in all subcontracts at any tier and require that all recipients of subcontract awards in excess of $100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision or who fails to file or amend the disclosure form to be filed or amended by this provision, shall be subject to a civil penalty of not less than $10,000, and not more than $100,000, for each such failure.

(d) Indian tribes (except those chartered by States) and Indian organizations as defined in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450B) are exempt from the requirements of this provision.

4. Organizational Conflicts of Interest Certification

The bidder certifies that to the best of its knowledge and belief and except as otherwise disclosed, he or she does not have any organizational conflict of interest which is defined as a situation in which the nature of work to be performed under this proposed contract and the bidder's organizational, financial, contractual, or other interests may, without some restriction on future activities:

(a) Result in an unfair competitive advantage to the bidder; or,

(b) Impair the bidder's objectivity in performing the contract work.

[ ] In the absence of any actual or apparent conflict, I hereby certify that to the best of my knowledge and belief, no actual or apparent conflict of interest exists with regard to my possible performance of this procurement.

5. Bidder's Certification of Eligibility

(a) By the submission of this bid, the bidder certifies that to the best of its knowledge and belief, neither it, nor any person or firm which has an interest in the bidder's firm, nor any of the bidder's subcontractors, is ineligible to:

(1) Be awarded contracts by any agency of the United States Government, HUD, or the State in which this contract is to be performed; or,

(2) Participate in HUD programs pursuant to 24 CFR Part 24.

(b) The certification in paragraph (a) above is a material representation of fact upon which reliance was placed when making award. If it is later determined that the bidder knowingly rendered an erroneous certification, the contract may be terminated for default, and the bidder may be debarred or suspended from participation in HUD programs and other Federal contract programs.

6. Minimum Bid Acceptance Period

(a) "Acceptance period," as used in this provision, means the number of calendar days available to the PHA/IHA for awarding a contract from the date specified in this solicitation for receipt of bids.

(b) This provision supersedes any language pertaining to the acceptance period that may appear elsewhere in this solicitation.

(c) The PHA/IHA requires a minimum acceptance period of [Contracting Officer insert time period] calendar days.

(d) In the space provided immediately below, bidders may specify a longer acceptance period than the PHA's/IHA's minimum requirement. The bidder allows the following acceptance period: calendar days. The bid acceptance period is shown in the Bid Form.

(e) A bid allowing less than the PHA's/IHA's minimum acceptance period will be rejected.

(f) The bidder agrees to execute all that it has undertaken to do, in compliance with its bid, if that bid is accepted in writing within (1) the acceptance period stated in paragraph (c) above or (2) any longer acceptance period stated in paragraph (d) above.

7. Small, Minority, Women-Owned Business Concern Representation

The bidder represents and certifies as part of its bid/ offer that it --

(a) [ ] is, [ ] is not a small business concern. "Small business concern," as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding, and qualified as a small business under the criteria and size standards in 13 CFR 121.

(b) [ ] is, [ ] is not a women-owned business enterprise. "Women-owned business enterprise," as used in this provision, means a business that is at least 51 percent owned by a woman or women who are U.S. citizens and who also control and operate the business.

(c) [ ] is, [ ] is not a minority business enterprise. "Minority business enterprise," as used in this provision, means a business which is at least 51 percent owned or controlled by one or more minority group members or, in the case of a publicly owned business, at least 51 percent of its voting stock is owned by one or more minority group members, and whose management and daily operations are controlled by one or more such individuals. For the purpose of this definition, minority group members are:

(Check the block applicable to you)

[ ] Black Americans	[ ] Asian Pacific Americans
[ ] Hispanic Americans	[ ] Asian Indian Americans
[ ] Native Americans	[ ] Hasidic Jewish Americans

8. Indian-Owned Economic Enterprise and Indian Organization Representation (applicable only if this solicitation is for a contract to be performed on a project for an Indian Housing Authority)

The bidder represents and certifies that it:

(a) [ ] is, [ ] is not an Indian-owned economic enterprise. "Economic enterprise," as used in this provision, means any commercial, industrial, or business activity established or organized for the purpose of profit, which is at least 51 percent Indian owned. "Indian," as used in this provision, means any person who is a member of any tribe, band, group, pueblo, or community which is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs and any "Native" as defined in the Alaska Native Claims Settlement Act.

(b) [ ] is, [ ] is not an Indian organization. "Indian organization," as used in this provision, means the governing body of any Indian tribe or entity established or recognized by such governing body. Indian "tribe" means any Indian tribe, band, group, pueblo, or

community including Native villages and Native groups (including corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act, which is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs.

9. Certification of Eligibility Under the Davis-Bacon Act (applicable to construction contracts exceeding $2,000)

(a) By the submission of this bid, the bidder certifies that neither it nor any person or firm who has an interest in the bidder's firm is a person or firm ineligible to be awarded contracts by the United States Government by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(b) No part of the contract resulting from this solicitation shall be subcontracted to any person or firm ineligible to be awarded contracts by the United States Government by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(c) The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U.S.C. 1001.

10. Certification of Nonsegregated Facilities (applicable to contracts exceeding $10,000)

(a) The bidder's attention is called to the clause entitled **Equal Employment Opportunity** of the General Conditions of the Contract for Construction.

(b) "Segregated facilities," as used in this provision, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom, or otherwise.

(c) By the submission of this bid, the bidder certifies that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The bidder agrees that a breach of this certification is a violation of the Equal Employment Opportunity clause in the contract.

(d) The bidder further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) prior to entering into subcontracts which exceed $10,000 and are not exempt from the requirements of the Equal Employment Opportunity clause, it will:

(1) Obtain identical certifications from the proposed subcontractors;

(2) Retain the certifications in its files; and

(3) Forward the following notice to the proposed subcontractors (except if the proposed subcontractors have submitted identical certifications for specific time periods):

Notice to Prospective Subcontractors of Requirement for Certifications of Nonsegregated Facilities

A Certification of Nonsegregated Facilities must be submitted before the award of a subcontract exceeding $10,000 which is not exempt from the provisions of the Equal Employment Opportunity clause of the prime contract. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

Note: The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.

11. Clean Air and Water Certification (applicable to contracts exceeding $100,000)

The bidder certifies that:

(a) Any facility to be used in the performance of this contract [ ] is, [ ] is not listed on the Environmental Protection Agency List of Violating Facilities:

(b) The bidder will immediately notify the PHA/IHA Contracting Officer, before award, of the receipt of any communication from the Administrator, or a designee, of the Environmental Protection Agency, indicating that any facility that the bidder proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities; and,

(c) The bidder will include a certification substantially the same as this certification, including this paragraph (c), in every nonexempt subcontract.

12. Previous Participation Certificate (applicable to construction and equipment contracts exceeding $50,000)

(a) The bidder shall complete and submit with his/her bid the Form HUD-2530, "Previous Participation Certificate." If the successful bidder does not submit the certificate with his/her bid, he/she must submit it within three (3) working days of bid opening. Failure to submit the certificate by that date may render the bid nonresponsive. No contract award will be made without a properly executed certificate.

(b) A fully executed "Previous Participation Certificate"

[ ] is, [ ] is not included with the bid.

13. Bidder's Signature

The bidder hereby certifies that the information contained in these certifications and representations is accurate, complete, and current.

_____
(Signature and Date)

_____
(Typed or Printed Name)

_____
(Title)

_____
(Company Name)

(Company Address)

Previous Participation Certification

OMB Approval No. 2502-0118
(Exp. 02/29/2016)

US Department of Housing and Urban Development
Office of Housing/Federal Housing Commissioner

US Department of Agriculture
Farmers Home Administration

Part I to be completed by Principals of Multifamily Projects *(See instructions)* Reason for submission:		**For HUD HQ/FmHA use only**	
1. Agency name and City where the application is filed		**2.** Project Name, Project Number, City and Zip Code	
3. Loan or Contract amount $	**4.** Number of Units or Beds	**5.** Section of Act	**6.** Type of Project (check one) ☐ Existing ☐ Rehabilitation ☐ Proposed (New)

7. List all proposed Principals and attach organization chart for all organizations

Name and address of Principals and Affiliates (Name: Last, First, Middle Initial) proposing to participate	**8 Role of Each Principal in Project**	**9. Expected % Ownership in Project**	**10. SSN or IRS Employer Number**

Certifications: The principal(s) listed above hereby apply to HUD or USDA FmHA, as the case maybe, for approval to participate as principal(s) in the role(s) and project listed above. The principal(s) each certify that all the statements made on this form are true, complete and correct to the best of their knowledge and belief and are made in good faith, including any Exhibits attached to this form. **Warning:** HUD will prosecute false claims and statements. Conviction may result in criminal and/or civil penalties. The principal(s) further certify that to the best of their knowledge and belief:

1. Schedule A contains a listing, for the last ten years, of every project assisted or insured by HUD, USDA FmHA and/or State and local government housing finance agencies in which the principal(s) have participated or are now participating.
2. For the period beginning 10 years prior to the date of this certification, and except as shown on the certification:

a. No mortgage on a project listed has ever been in default, assigned to the Government or foreclosed, nor has it received mortgage relief from the mortgagee;
b. The principals have no defaults or noncompliance under any Conventional Contract or Turnkey Contract of Sale in connection with a public housing project;
c. There are no known unresolved findings as a result of HUD audits, management reviews or other Governmental investigations concerning the principals or their projects;
d. There has not been a suspension or termination of payments under any HUD assistance contract due to the principal's fault or negligence;
e. The principals have not been convicted of a felony and are not presently the subject of a complaint or indictment charging a felony. (A felony is defined as any offense punishable by imprisonment for a term exceeding one year, but does not include any offense classified as a misdemeanor under the laws of a State and punishable by imprisonment of two years or less);
f. The principals have not been suspended, debarred or otherwise restricted by any Department or Agency of the Federal Government or of a State Government from doing business with such Department or Agency;
g. The principals have not defaulted on an obligation covered by a surety or performance bond and have not been the subject of a claim under an employee fidelity bond;

3. All the names of the principals who propose to participate in this project are listed above.
4. None of the principals is a HUD/FmHA employee or a member of a HUD/FmHA employee's immediate household as defined in Standards of Ethical Conduct for Employees of the Executive Branch in 5 C.F.R. Part 2635 (57 FR 35006) and HUD's Standard of Conduct in 24 C.F.R. Part 0 and USDA's Standard of Conduct in 7 C.F.R. Part 0 Subpart B.
5. None of the principals is a participant in an assisted or insured project as of this date on which construction has stopped for a period in excess of 20 days or which has been substantially completed for more than 90 days and documents for closing, including final cost certification, have not been filed with HUD or FmHA.
6. None of the principals have been found by HUD or FmHA to be in noncompliance with any applicable fair housing and civil rights requirements in 24 CFR 5.105(a). (If any principals or affiliates have been found to be in noncompliance with any requirements, attach a signed statement explaining the relevant facts, circumstances, and resolution, if any).
7. None of the principals is a Member of Congress or a Resident Commissioner nor otherwise prohibited or limited by law from contracting with the Government of the United States of America.
8. Statements above (if any) to which the principal(s) cannot certify have been deleted by striking through the words with a pen, and the relevant principal(s) have initialed each deletion (if any) and have attached a true and accurate signed statement (if applicable) to explain the facts and circumstances.

Name of Principal	**Signature of Principal**	**Certification Date(mm/dd/yyyy**	**Area Code and Tel. No.**
This form prepared by (print name)		**Area Code and Tel. No.**	

Previous Participation Certification

OMB Approval No. 2502-0118
(Exp. 02/29/2016)

Schedule A: List of Previous Projects and Section 8 Contracts. Below is a complete list of the principals' previous participation projects and participation history in multifamily Housing programs of HUD/FmHA, State and local Housing Finance Agencies. **Note:** Read and follow the instruction sheet carefully. Make full disclosure. Add extra sheets if you need more space. Double check for accuracy. If no previous projects, write by your name, "**No previous participation, First Experienceò**.

1. Principals Name (Last, First)	2. List of previous projects (Project name, project ID and, Govt. agency involved)	3.List Principals' Role(s) (indicate dates participated, and if fee or identity of interest participant)	4. Status of loan (current, defaulted, assigned, foreclosed)	5.Was the Project ever in default during your participation **Yes**	**No**	**If yes, explain**	6. Last MOR rating and Physical Insp. Score and date

Part II- For HUD Internal Processing Only

Received and checked by me for accuracy and completeness; recommend approval or refer to Headquarters after checking appropriate box.

Date (mm/dd/yyyy)	Tel No. and area code	☐ A. No adverse information; form HUD-2530 approval recommended.	☐ C. Disclosure or Certification problem
Staff	Processing and Control	☐ B. Name match in system	☐ D. Other (attach memorandum)

Supervisor	Director of Housing/Director, Multifamily Division	Approved ☐ Yes ☐ No	Date (mm/dd/yyyy)

Instructions for Completing the Previous Participation Certificate, form HUD-2530

Carefully read these instructions and the applicable regulations. A copy of those regulations published at 24 C.F.R. 200.210 to 200.245 can be obtained from the Multifamily Housing Representative at any HUD Office. Type or print neatly in ink when filling out this form. Mark answers in all blocks of the form. If the form is not filled completely, it will delay approval of your application.

Attach extra sheets as you need them. Be sure to indicate "Continued on Attachments" wherever appropriate. Sign each additional page that you attach if it refers to you or your record.

Carefully read the certification before you sign it. Any questions regarding the form or how to complete it can be answered by your HUD Office Multifamily Housing Representative.

Purpose: This form provides HUD with a certified report of all previous participation in HUD multifamily housing projects by those parties making application. The information requested in this form is used by HUD to determine if you meet the standards established to ensure that all principal participants in HUD projects will honor their legal, financial and contractual obligations and are acceptable risks from the underwriting standpoint of an insurer, lender or governmental agency. HUD requires that you certify your record of previous participation in HUD/USDA-FmHA, State and Local Housing Finance Agency projects by completing and signing this form, before your project application or participation can be approved.

HUD approval of your certification is a necessary precondition for your participation in the project and in the capacity that you propose. If you do not file this certification, do not furnish the information requested accurately, or do not meet established standards, HUD will not approve your certification.

Note that approval of your certification does not obligate HUD to approve your project application, and it does not satisfy all other HUD program requirements relative to your qualifications.

Who Must Sign and File Form HUD-2530:

Form HUD-2530 must be completed and signed by all principals applying to participate in HUD multifamily housing projects, including those who have no previous participation. The form must be signed and filed by all principals and their affiliates who propose participating in the HUD project. Use a separate form for each role in the project unless there is an identity of interest.

Principals include all individuals, joint ventures, partnerships, corporations, trusts, non-profit organizations, any other public or private entity that will participate in the proposed project as a sponsor, owner, prime contractor, turnkey developer, managing agent, nursing home administrator or operator, packager, or consultant. Architects and attorneys who have any interest in the project other than an arm's length fee arrangement for professional services are also considered principals by HUD.

In the case of partnerships, all general partners regardless of their percentage interest and limited partners having a 25 percent or more interest in the partnership are considered principals. In the case of public or private corporations or governmental entities, principals include the president, vice president, secretary, treasurer and all other executive officers who are directly responsible to the board of directors, or any equivalent governing body, as well as all directors and each stockholder having a 10 percent or more interest in the corporation.

Affiliates are defined as any person or business concern that directly or indirectly controls the policy of a principal or has the power to do so. A holding or parent corporation would be an example of an affiliate if one of its subsidiaries is a principal.

Exception for Corporations – All principals and affiliates must personally sign the certificate except in the following situation. When a corporation is a principal, all of its officers, directors, trustees and stockholders with 10 percent or more of the common (voting) stock need not sign personally if they all have the same record to report. The officer who is authorized to sign for the corporation or agency will list the names and title of those who elect not to sign. However, any person who has a record of participation in HUD projects that is separate from that of his or her organization must report that activity on this form and sign his or her name. The objective is **full** disclosure.

Exemptions ï The names of the following parties do not need to be listed on form HUD-2530: Public Housing Agencies, tenants, owners of less than five condominium or cooperative units and all others whose interests were acquired by inheritance or court order.

Where and When Form HUD-2530 Must Be Filed: The original of this form must be submitted to the HUD Office where your project application will be processed at the same time you file your initial project application. This form must be filed with applications for projects, or when otherwise required in the situations listed below:

- Projects to be financed with mortgages insured under the National Housing Act (FHA).
- Projects to be financed according to Section 202 of the Housing Act of 1959 (Elderly and Handicapped).
- Projects in which 20 percent or more of the units are to receive a subsidy as described in 24 C.F.R. 200.213.
- Purchase of a project subject to a mortgage insured or held by the Secretary of HUD.
- Purchase of a Secretary-owned project.
- Proposed substitution or addition of a principal or principal participation in a different capacity from that previously approved for the same project.
- Proposed acquisition by an existing limited partner of an additional interest in a project resulting in a total interest of 25 percent or more or proposed acquisition by a corporate stockholder of an additional interest in a project resulting in a total interest of 10 percent or more.
- Projects with U.S.D.A., Farmers Home Administration, or with state or local government housing finance agencies that include rental assistance under Section 8 of the Housing Act of 1937. For projects of this type, form HUD-2530 should be filed with the appropriate applications directly to those agencies.

Review of Adverse Determination: If approval of your participation in a HUD project is denied, withheld, or conditionally granted on the basis of your record of previous participation, you will be notified by the HUD Office. You may request reconsideration by the HUD Review Committee. Alternatively, you may request a hearing before a Hearing Officer. Either request must be made in writing within 30 days from your receipt of the notice of determination.

If you do request reconsideration by the Review Committee and the reconsideration results in an adverse determination, you may then request a hearing before a Hearing Officer. The Hearing Officer will issue a report to the Review Committee. You will be notified of the final ruling by certified mail.

Specific Line Instructions:

Reason for submitting this Certification: e.g., refinance, change in ownership, change in management agent, transfer of physical assets, etc.

Block 1: Fill in the name of the agency to which you are applying. For example: HUD Office, Farmers Home Administration District office, or the name of a State or local housing finance agency. Below that, fill in the name of the city where the office is located.

Block 2: Fill in the name of the project, such as "Greenwood Apts." If the name has not yet been selected, write "Name unknown." Below that, enter the HUD contract or project identification number, the Farmers Home Administration project number, or the State or local housing finance agency project or contract number. Include **all** project or contract identification numbers that are relevant to the project. Also enter the name of the city in which the project is located, and the ZIP Code.

Block 3: Fill in the dollar amount requested in the proposed mortgage, or the annual amount of rental assistance requested.

Block 4: Fill in the number of apartment units proposed, such as "40 units." For hospital projects or nursing homes, fill in the number of beds proposed, such as "100 beds."

Block 5: Fill in the section of the Housing Act under which the application is filed.

Block 7: Definitions of all those who are considered principals and affiliates are given above in the section titled "Who Must Sign and File...."

Block 8: Beside the name of each principal, fill in the appropriate role. The following are examples of possible roles that the principals may assume: Owner/Mortgagor, Managing Agent, Sponsor, Developer, General Con-tractor, Packager, Consultant, Nursing Home Administrator etc.

Block 9: Fill in the percentage of ownership in the proposed project that each principal is expected to have.

Block 10: Fill in the Social Security Number or IRS employer number of every principal listed, including affiliates.

Instructions for Completing Schedule A:

Be sure that Schedule A is filled-in completely, accurately and the certification is properly dated and signed, because it will serve as a legal record of your previous experience. All Multifamily Housing projects involving HUD/ FmHA, and State and local Housing Finance Agencies in which you have previously participated **must be** listed. Applicants are reminded that previous participation pertains to the individual principal within an entity as well as the entity itself. A newly formed company may not have previous participation, but the principals within the company may have had extensive participation and disclosure of that activity is required.

Column 2. ***All previous projects must be listed or your certification cannot be processed.*** Include the name of all projects, project number, city where it is located and the governmental agency (HUD, USDA-FmHA or state or local housing finance agency) that was involved.

Column 3. List the role(s) as a principal, dates participated and if fee or identity of interest (IOI) with owners.

Column 4. Indicate the current status of the loan. Except for current loan, the date associated with the status is required. Loans under a workout arrangement are considered assigned. For all noncurrent loans, an explanation of the status is required.

Column 5. Explain any project defaults during your participation.

Column 6. Provide the latest Management Review (MOR) rating and Physical Inspection score.

Certification: After you have completed all other parts of form HUD-2530, including schedule A, read the Certification carefully. In the box below the statement of the certification, fill in the names of all principals and affiliates as listed in block 7. Each principal should sign the certification with the exception in some cases of individuals associated with a corporation (see "Exception for Corporations" in the section of the instructions titled "Who Must Sign and File Form HUD-2530). Principal who is signing on behalf of the entity should attach signature authority document. Each principal who signs the form should fill in the date of the signature and a telephone number. By providing a telephone number, HUD can reach you in the event of any questions.

If you cannot certify and sign the certification as it is printed because some statements do not correctly describe your record, use a pen to strike through those parts that differ with your record, and then sign and certify.

Attach a signed statement of explanation of the items you have struck out on the certification. Item 2e. relates to felony convictions within the past 10 years. If you are convicted of a felony within the past 10 years, strike out 2e. and attach statement of explanation. A felony conviction will not necessarily cause your participation to be disapproved unless there is a criminal record or other evidence that your previous conduct or method of doing business has been such that your participation in the project would make it an unacceptable risk from the underwriting stand point of an insurer, lender or governmental agency.

The Department of Housing and Urban Development (HUD) is authorized to collect this information by law (42 U.S.C. 3535(d) and 24 C.F.R. 200.217) and by regulation at 24 CFR 200.210. This information is needed so that principals applying to participate in multifamily programs can become HUD-approved participants. The information you provide will enable HUD to evaluate your record with respect to established standards of performance, responsibility and eligibility. Without prior approval, a principal may not participate in a proposed or existing multifamily project. HUD uses this information to evaluate whether or not principals pose an unsatisfactory underwriting risk. The information is used to evaluate the potential principals and approve only individuals and organizations that will honor their legal, financial and contractual obligations.

Privacy Act Statement: The Housing and Community Development Act of 1987, 42 U.S.C. 3543 requires persons applying for a Federally-insured or guaranteed loan to furnish his/her Social Security Number (SSN). HUD must have your SSN for identification of your records. HUD may use your SSN for automated processing of your records and to make requests for information about you and your previous records with other public agencies and private sector sources. HUD may disclose certain information to Federal, State and local agencies when relevant to civil, criminal, or regulatory investigations and prosecutions. It will not be otherwise disclosed or released outside of HUD, except as required and permitted by law. You must provide all of the information requested in this application, including your SSN.

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. This agency may not collect this information, and you are not required to complete this form, unless it displays a currently valid OMB control number.

A response is mandatory. Failure to provide any of the information will result in your disapproval of participation in this HUD program.

DOCUMENT 00 52 13
AGREEMENT FORMS

The following agreement form will be provided by the Owner and shall be reviewed and completed by the successful Contractor and submitted to the Owner at the Owner's direction following notification.

1. "Standard Form of Agreement Between Owner and Contractor - Stipulated Sum", AIA Document A101, 2017 Edition. The standard form has been modified to suit the standard HUD documents. Review the changes in the Additions and Deletions Report within the sample document.

END OF DOCUMENT 00 52 13

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AIA® Document A101® – 2017

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

AGREEMENT made as of the day of in the year
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

and the Contractor:
(Name, legal status, address and other information)

SAMPLE

for the following Project:
(Name, location and detailed description)

The Architect:
(Name, legal status, address and other information)

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101®–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201®–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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TABLE OF ARTICLES

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(Paragraph deleted)

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

SAMPLE

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:
(Check one of the following boxes.)

[ ] The date of this Agreement.

[ ] A date set forth in a notice to proceed issued by the Owner.

[ ] Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:
(Check one of the following boxes and complete the necessary information.)

[ ] Not later than ( ) calendar days from the date of commencement of the Work.

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[ ] By the following date:

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be ($), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance

SAMPLE

§ 4.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price

§ 4.4 Unit prices, if any:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit ($0.00)

§ 4.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

§ 4.6 Other:
(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

ARTICLE 5 PAYMENTS

Article 27 of HUD-5370 (01/2014) and Section 01 20 00 Price and Payment Procedures define payment procedures.

(Paragraphs deleted)

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ARTICLE 6 DISPUTE RESOLUTION

Article 31 of HUD-5370 (01/2014) defines the process for resolving claims.

(Paragraphs deleted)

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 32 of HUD-5370 (01/2014).

§ 7.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 34 of HUD-5370 (01/2014), then the Owner shall pay the Contractor a termination fee as follows:
(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)

§ 7.2 The Work may be suspended by the Owner as provided in Article 30 of HUD-5370.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of HUD-5370 (01/2014) General Conditions for Construction Contracts – Public Housing Programs, or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner's Contracting Officer:
(Name, address, email address, and other information)

SAMPLE

§ 8.3 The Contractor's representative:
(Name, address, email address, and other information)

§ 8.4 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in Article 36 of HUD-5370, Document 00 73 00 Supplementary Conditions, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in Article 10 of HUD-5369 (10/2002), and elsewhere in the Contract Documents.

(Paragraphs deleted)

§ 8.7 Other provisions:

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ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor

.2 HUD-5369 (10/2002) Instructions to Bidders for Contracts Public and Indian Housing Programs

.3

(Paragraphs deleted)

HUD-5370 (01/2014) General Conditions for Construction Contract – Public Housing Programs

.5 Drawings

Number	Title	Date

.6 Specifications

Section	Title	Date	Pages

.7 Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

.8 Other Exhibits:
(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

SAMPLE

[ ] AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017 incorporated into this Agreement.)

[ ] The Sustainability Plan:

Title	Date	Pages

[X] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
00 22 13	Supplementary Instructions to Bidders		
00 73 00	Supplementary Conditions		

.9 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

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This Agreement entered into as of the day and year first written above.

OWNER *(Signature)*	**CONTRACTOR** *(Signature)*
(Printed name and title)	*(Printed name and title)*

SAMPLE

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Additions and Deletions Report for
AIA® Document A101® – 2017

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 13:23:03 ET on 04/25/2022.

PAGE 2

~~**EXHIBIT A INSURANCE AND BONDS**~~

PAGE 3

Article 27 of HUD-5370 (01/2014) and Section 01 20 00 Price and Payment Procedures define payment procedures.

~~**§ 5.1 Progress Payments**~~
~~**§ 5.1.1** Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.~~

~~**§ 5.1.2** The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:~~

SAMPLE

~~**§ 5.1.3** Provided that an Application for Payment is received by the Architect not later than the day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the day of the month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than ( ) days after the Architect receives the Application for Payment.~~ ~~*(Federal, state or local laws may require payment within a certain period of time.)*~~

~~**§ 5.1.4** Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.~~

~~**§ 5.1.5** Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.~~

~~**§ 5.1.6** In accordance with AIA Document A201™ 2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:~~

~~**§ 5.1.6.1** The amount of each progress payment shall first include:~~

- ~~.1 That portion of the Contract Sum properly allocable to completed Work;~~
- ~~.2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and~~

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.3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

.1 The aggregate of any amounts previously paid by the Owner;

.2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;

.3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;

.4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and

.5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:

(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

§ 5.1.7.1.1 The following items are not subject to retainage:

(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:

(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

SAMPLE

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:

(Insert any other conditions for release of retainage upon Substantial Completion.)

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Architect.

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~~§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:~~

~~§ 5.3 Interest~~

~~Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.~~
~~*(Insert rate of interest agreed upon, if any.)*~~

~~—%~~

Article 31 of HUD-5370 (01/2014) defines the process for resolving claims.

~~§ 6.1 Initial Decision Maker~~

~~The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.~~
~~*(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)*~~

~~§ 6.2 Binding Dispute Resolution~~

~~For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, the method of binding dispute resolution shall be as follows:~~
~~*(Check the appropriate box.)*~~

~~[–] Arbitration pursuant to Section 15.4 of AIA Document A201–2017~~

~~[–] Litigation in a court of competent jurisdiction~~

~~[–] Other *(Specify)*~~

SAMPLE

~~If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.~~

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article ~~14 of AIA Document A201–2017.~~32 of HUD-5370 (01/2014).

§ 7.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article ~~14 of AIA Document A201–2017,~~ 34 of HUD-5370 (01/2014), then the Owner shall pay the Contractor a termination fee as follows:
PAGE 4

§ 7.2 The Work may be suspended by the Owner as provided in Article ~~14 of AIA Document A201–2017.~~30 of HUD-5370.

...

§ 8.1 Where reference is made in this Agreement to a provision of ~~AIA Document A201–2017~~ HUD-5370 (01/2014) General Conditions for Construction Contracts – Public Housing Programs, or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

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§ 8.2 The Owner's ~~representative:~~Contracting Officer:

...

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in ~~AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds,~~ Article 36 of HUD-5370, Document 00 73 00 Supplementary Conditions, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in ~~AIA Document A101™–2017 Exhibit A,~~ Article 10 of HUD-5369 (10/2002), and elsewhere in the Contract Documents.

~~**§ 8.6** Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:~~
~~*(If other than in accordance with AIA Document E203–2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)*~~

SAMPLE

.2 ~~AIA Document A101™–2017, Exhibit A, Insurance and Bonds~~ HUD-5369 (10/2002) Instructions to Bidders for Contracts Public and Indian Housing Programs

.3 ~~AIA Document A201™–2017, General Conditions of the Contract for Construction~~

.4 ~~AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:~~
~~*(Insert the date of the E203–2013 incorporated into this Agreement.)*~~

HUD-5370 (01/2014) General Conditions for Construction Contract – Public Housing Programs

...

[X] Supplementary and other Conditions of the Contract:

...

00 22 13	Supplementary Instructions to Bidders
00 73 00	Supplementary Conditions

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DOCUMENT 00 55 00
NOTICE TO PROCEED

TO: _____

DATE: _____

PROJECT: HOUSING AUTHORITY OF THE CITY OF LA CROSSE
2026 CAPITAL IMPROVEMENT PROJECTS
1307 BADGER STREET
LA CROSSE, WISCONSIN 54601
HSR PROJECT NUMBER: **26039**
DATE OF PROJECT MANUAL: SEPTEMBER 24, 2026

OWNER: HOUSING AUTHORITY OF THE CITY OF LA CROSSE
1307 BADGER STREET
P.O. BOX 1053
LA CROSSE, WISCONSIN 54603

Pursuant to the terms of your contract, dated _____, 20__, for the above referenced project, you are notified to commence work thereunder at the start of business on,

_____, 20__, The Time for Completion set forth in the contract is _____-

calendar days, including the starting day, which establishes _____, 20___, as the completion date.

Please note carefully and fulfill the requirements of the General Conditions relative to the submittal and approval of insurance.

You are informed that _____has been appointed Contracting Officer and is duly authorized to administer your Contract for, and in the name of Housing Authority of the City of La Crosse.

Separately, we are sending one executed set of Contract Documents, consisting of the Contract, Performance and Payment Bond, Project Manual and Project Drawings.

You are instructed to submit for our approval a breakdown of your Contract Price on the enclosed forms without delay.

Acknowledge receipt of this Notice by signing and returning all copies promptly to the office.

ACCEPTED (CONTRACTOR): _____

BY: _____ BY: _____

TITLE: _____ TITLE: _____

DATE: _____

END OF DOCUMENT 00 55 00

PAGE INTENTIONALLY LEFT BLANK

Document 00 55 01
Sales and Use Tax Exemption Certificate (Sample)

WISCONSIN SALES AND USE TAX EXEMPTION CERTIFICATE

Check One ► ☐ Single Purchase ☐ Continuous

Purchaser's Business Name	Purchaser's Address

The above purchaser, whose signature appears on the reverse side of this form, claims exemption from Wisconsin state, county, baseball or football stadium, local exposition, and premier resort sales or use tax on the purchase, lease, license, or rental of tangible personal property, property under sec. 77.52(1)(b), items under sec. 77.52(1)(c), goods under sec. 77.52(1)(d), or taxable services, as indicated by the box(es) checked below.

I hereby certify that I am engaged in the business of selling, leasing, licensing, or renting: _____

_____

(Purchaser's description of property, items, goods, or services sold by purchaser.)

Purchaser's description of property or services purchased (itemize property, items, or goods purchased if "single purchase"):

_____

_____

Seller's Name	Seller's Address

REASON FOR EXEMPTION

☐ **Resale** (Enter purchaser's seller's permit or use tax certificate number) _____

Manufacturing and Biotechnology

☐ Tangible personal property (TPP) or item under s.77.52(1)(b) that is used exclusively and directly by a manufacturer in manufacturing an article of TPP or items or property under s.77.52(1)(b) or (c) that is destined for sale and that becomes an ingredient or component part of the article of TPP or items or property under s.77.52(1)(b) or (c) destined for sale or is consumed or destroyed or loses its identity in manufacturing the article of TPP or items or property under s.77.52(1)(b) or (c) destined for sale.

☐ Machines and specific processing equipment and repair parts or replacements thereof, exclusively and directly used by a manufacturer in manufacturing tangible personal property or items or property under s.77.52(1)(b) or (c) and safety attachments for those machines and equipment.

☐ The repair, service, alteration, fitting, cleaning, painting, coating, towing, inspection, and maintenance of machines and specific processing equipment, that the above purchaser would be authorized to purchase without sales or use tax, at the time the service is performed. Tools used to repair exempt machines are not exempt.

☐ Fuel and electricity consumed in manufacturing tangible personal property or items or property under s.77.52(1)(b) or (c) in this state.
Percent of fuel exempt _____ % Percent of electricity exempt _____ %

☐ Portion of the amount of fuel converted to steam for purposes of resale. Percent of fuel exempt: _____ %

☐ Property used exclusively and directly in qualified research, by persons engaged in manufacturing at a building assessed under s. 70.995, by persons engaged primarily in biotechnology in Wisconsin, or a combined group member conducting qualified research for another combined group member that meets these requirements.

Farming

(To qualify for this exemption, the purchaser must use item(s) exclusively and directly in the business of farming, including dairy farming, agriculture, horticulture, floriculture, silviculture, or custom farming services.)

☐ Tractors (except lawn and garden tractors), all-terrain vehicles (ATV) and farm machines, including accessories, attachments, and parts, lubricants, nonpowered equipment, and other tangible personal property or items or property under s.77.52(1)(b) or (c) that are used exclusively and directly, or are consumed or lose their identities in the business of farming. This includes services to the property and items above.

☐ Feed, seeds for planting, plants, fertilizer, soil conditioners, sprays, pesticides, and fungicides.

☐ Breeding and other livestock, poultry, and farm work stock.

☐ Containers for fruits, vegetables, grain, hay, and silage (including containers used to transfer merchandise to customers), and plastic bags, sleeves, and sheeting used to store or cover hay and silage. Baling twine and baling wire.

☐ Animal waste containers or component parts thereof (may only mark certificate as "Single Purchase").

☐ Animal bedding, medicine for farm livestock, and milk house supplies.

SAMPLE DOCUMENT

This Form May Be Reproduced

Governmental Units and Other Exempt Entities

Enter CES No., if applicable

- ☐ The United States and its unincorporated agencies and instrumentalities.
- ☐ Any federally recognized American Indian tribe or band in this state.
- ☐ Wisconsin state and local governmental units, including the State of Wisconsin or any agency thereof, Wisconsin counties, cities, villages, or towns, and Wisconsin public schools, school districts, universities, or technical college districts.
- ☐ Organizations organized and operated exclusively for religious, charitable, scientific, or educational purposes, or for the prevention of cruelty to children or animals. CES Number _____ (Required for Wisconsin organizations).

Other

- ☐ Containers and other packaging, packing, and shipping materials, used to transfer merchandise to customers of the purchaser.
- ☐ Trailers and accessories, attachments, parts, supplies, materials, and service for motor trucks, tractors, and trailers which are used exclusively in common or contract carriage under LC, IC, or MC No. (if applicable) _____.
- ☐ Machines and specific processing equipment used exclusively and directly in a fertilizer blending, feed milling, or grain drying operation, including repair parts, replacements, and safety attachments.
- ☐ Building materials acquired solely for and used solely in the construction or repair of holding structures used for weighing and dropping feed or fertilizer ingredients into a mixer or for storage of such grain, if such structures are used in a fertilizer blending, feed milling, or grain drying operation.
- ☐ Tangible personal property purchased by a person who is licensed to operate a commercial radio or television station in Wisconsin, if the property is used exclusively and directly in the origination or integration of various sources of program material for commercial radio or television transmissions that are generally available to the public free of charge without a subscription or service agreement.
- ☐ Fuel and electricity consumed in the origination or integration of various sources of program material for commercial radio or television transmissions that are generally available to the public free of charge without a subscription or service agreement.

  Percent of fuel exempt: _____ % Percent of electricity exempt: _____ %
- ☐ Tangible personal property and items, property and goods under s.77.52(1)(b), (c), and (d) to be resold by _____ on my behalf where _____ is registered to collect and remit sales tax to the Department of Revenue on such sales.
- ☐ Tangible personal property, property, items and goods under s.77.52(1)(b), (c), and (d), or services purchased by a Native American with enrollment # _____, who is enrolled with and resides on the _____ Reservation, where buyer will take possession of such property, items, goods, or services.
- ☐ Tangible personal property and items and property under s.77.52(1)(b) and (c) becoming a component of an industrial or municipal waste treatment facility, including replacement parts, chemicals, and supplies used or consumed in operating the facility. Caution: Do not check the "continuous" box at the top of page 1.
- ☐ Portion of the amount of electricity or natural gas used or consumed in an industrial waste treatment facility. (Percent of electricity or natural gas exempt _____ %)
- ☐ Electricity, natural gas, fuel oil, propane, coal, steam, corn, and wood (including wood pellets which are 100% wood) used for fuel for **residential** or **farm** use.

	% of Electricity Exempt	% of Natural Gas Exempt	% of Fuel Exempt
☐ Residential	_____ %	_____ %	_____ %
☐ Farm	_____ %	_____ %	_____ %

  Address Delivered: _____
- ☐ Percent of printed advertising material solely for out-of-state use. _____ %
- ☐ Catalogs, and the envelopes in which the catalogs are mailed, that are designed to advertise and promote the sale of merchandise or to advertise the services of individual business firms.
- ☐ Computers and servers used primarily to store copies of the product that are sent to a digital printer, a plate-making machine, or a printing press or are used primarily in prepress or postpress activities, by persons whose NAICS code is 323111, 323117, or 323120.
- ☐ Purchases from out-of-state sellers of tangible personal property that are temporarily stored, remain idle, and not used in this state and that are then delivered and used solely outside this state, by persons whose NAICS code is 323111, 323117, or 323120.
- ☐ Other purchases exempted by law. (State items and exemption). _____

_____

I hereby certify that if the item(s) being purchased are not used in an exempt manner, I will remit use tax on the purchase price at the time of first taxable use. I understand that failure to remit the use tax may result in a future liability that may include tax, interest, and penalty.

Signature of Purchaser	Print or Type Name	Title	Date

(DETACH AND PRESENT TO SELLER)

INSTRUCTIONS

This certificate may be used to claim exemption from Wisconsin state, county, baseball and football stadium, local exposition, and premier resort sales or use taxes.

Under the sales and use tax law, all receipts from sales of tangible personal property, property, items and goods under sec. 77.52(1)(b), (c), and (d), or taxable services are subject to the tax until the contrary is established. However, a seller who receives a fully completed exemption certificate no later than 90 days after the date of sale is relieved of any responsibility for collection or payment of the tax upon transactions covered by the certificate. A fully completed certificate is one which is completely filled in and indicates the reason for exemption.

RESALE: A purchaser using the resale exemption is attesting that the tangible personal property, property, items, or goods under sec. 77.52(1)(b), (c), or (d), or taxable services being purchased will be resold, leased, licensed, or rented. However, in the event any such property, items, or goods is used for any purpose other than retention, demonstration, or display while holding it for sale, lease, license, or rental in the regular course of business, the purchaser is required to report and pay the tax on the purchase of the property, item, or good.

The following purchasers may make purchases for resale even though they do not hold a Wisconsin seller's permit or use tax certificate: (a) A wholesaler who only sells to other sellers for resale may insert "Wholesale only" in the space for the seller's permit number; (b) A person who only sells or repairs exempt property, such as to a manufacturer or farmer, may insert "Exempt sales only"; (c) A nonprofit organization may insert "Exempt sales only" if its subsequent sales of the tangible personal property, property, items, or goods under sec. 77.52(1)(b), (c), or (d), or taxable services are exempt as occasional sales.

A seller is allowed to accept an exemption certificate from an out-of-state retailer claiming the resale exemption for tangible personal property and items, property, and goods under sec. 77.52(1)(b), (c) and (d), Wis. Stats., drop shipped to a Wisconsin location, regardless of whether or not the out-of-state retailer holds a Wisconsin seller's permit. The out-of-state retailer's permit number, if the other state issues one, and state should be listed on the exemption certificate. If the exemption certificate does not list the Wisconsin seller's permit number or the out-of-state retailer's permit number and state, to be fully complete and valid the exemption certificate must contain a statement indicating the out-of-state retailer is a seller that is not required to hold a permit.

A resale exemption may be granted if the purchaser is unable to ascertain at the time of purchase whether the property will be sold or will be used for some other purpose. If the buyer purchases an item without tax for resale, but uses the item, the buyer owes use tax on its purchase of the item.

MANUFACTURING: "Manufacturing" means the production by machinery of a new article of tangible personal property or items or property under sec. 77.52(1)(b) or (c) with a different form, use, and name from existing materials, by a process popularly regarded as manufacturing, and that begins with the conveying raw materials and supplies from plant inventory to the place where work is performed in the same plant and ends with conveying finished units of tangible personal property or items or property under sec. 77.52(1)(b) or (c) to the point of first storage in the same plant.

FARMING: This certificate may not be used by farmers to claim exemption for the purchase of motor vehicles or trailers for highway use, lawn or garden tractors, snowmobiles, or for items used for the personal convenience of the farmer. When claiming an exemption for an ATV which is also registered for public use, a written description including the percentages of time for personal and farm use, must be submitted with the ATV Registration Application.

The sales price from the sale of electricity, natural gas, and other fuels for use in farming are exempt all 12 months of the year. Farmers claiming this exemption should check the box for electricity and fuel located in the "Other" section.

This certificate cannot be used as an exemption for paying Wisconsin motor vehicle fuel tax.

GOVERNMENTAL UNITS AND OTHER EXEMPT ENTITIES: A seller may accept exemption certificates from federal and Wisconsin governmental units and federally recognized American Indian tribes or bands in Wisconsin. Instead of obtaining an exemption certificate, a seller may (1) accept a purchase order from the governmental unit or tribe or band, or (2) record the governmental unit or tribe or band's Certificate of Exempt Status (CES) number on its invoices. Governmental units of other countries and states are not exempt from Wisconsin sales tax.

The exemption for the United States and its unincorporated agencies and instrumentalities may also be claimed by any incorporated agency or instrumentality of the United States wholly owned by the United States or by a corporation wholly owned by the United States.

The exemption for Wisconsin governmental units and other exempt entities may be claimed by: Local Exposition District, Professional Baseball Park District, Professional Football Stadium District, UW Hospitals and Clinics Authority, Wisconsin Aerospace Authority, Health Insurance Risk-Sharing Plan Authority, Wisconsin Economic Development Authority, Fox River Navigational System Authority, public inland lake protection and rehabilitation districts, municipal public housing authorities, uptown business improvement districts, local cultural arts districts, county-city hospitals, sewerage commissions, metropolitan sewerage districts, or joint local water authorities.

Organizations holding a Certificate of Exempt Status (CES) number: Wisconsin organizations organized and operated exclusively for religious, charitable, scientific, or educational purposes, or for the prevention of cruelty to children or animals, may purchase products or services exempt from Wisconsin sales tax if the organization holds a CES number issued by the Wisconsin Department of Revenue. Wisconsin and federal governmental units, and any federally recognized American Indian tribe or band in Wisconsin, will also qualify for a CES.

A similar out-of-state organization, generally organized under sec. 501(c)(3) of the Internal Revenue Code, may purchase products or services exempt from Wisconsin sales tax even though it has not been issued a CES number. This exemption does *not* apply to out-of-state public schools, including public colleges and universities, and governmental units from other states.

Purchases (for lodging, meals, auto rental, etc.) by employees/representatives of exempt organizations performing organization business, are exempt from sales tax, provided 1) the retailer issues the billing or invoice in the name of the exempt organization, 2) the CES number is entered on the billing or invoice, and 3) the retailer retains a copy of that document.

OTHER:

Containers: This exemption applies regardless of whether or not the containers are returnable. Containers used by the purchaser only for storage or to transfer merchandise owned by the purchaser from one location to another do not qualify for the exemption.

Common or contract carriers: The exemption available to common or contract carriers for certain vehicles and repairs listed on this certificate applies only to those units used "exclusively" in such common or contract carriage. A carrier may qualify for the common or contract carriage exemption even if it does not hold a LC or IC number. The fact that a carrier holds a LC or IC number is not in itself a reason for exemption. A carrier may qualify for the common or contract carrier exemption even if it does not hold an LC or IC number.

Waste treatment facilities: The exemption applies to the sale of tangible personal property and items and property under sec. 77.52(1)(b) and (c) to a contractor for incorporation into real property which is part of an industrial or commercial waste treatment facility that qualifies for property tax exemption or a Wisconsin or federal governmental waste treatment facility.

Electricity, natural gas, fuel oil, coal, steam, corn, and wood (including wood pellets which are 100% wood) used for fuel:

- The sales price from the sale of electricity and natural gas for residential use during the months of November through April are exempt from sales and use tax.
- The sales price from sales of fuel oil, propane, coal, steam, corn, and wood (including wood pellets which are 100% wood) used for fuel sold for residential use are exempt from sales or use tax. Wood pellets are considered 100% wood even though the pellets may contain a small amount of binding material used to form the pellets.
- The sales price from the sale of fuel and electricity for use in farming are exempt all year.

A retailer of electricity, fuel, or natural gas shall have a signed exemption certificate for exempt sales for residential or farm use unless any of the following apply:

1. 100% of the electricity, fuel, or natural gas is for exempt use.
2. The sale is to an account which is properly classified as residential or farm pursuant to schedules which are filed for rate tariff with the Wisconsin Public Service Commission which are in force at the time of sale.
3. The sale is to an account which is properly classified as residential or farm for classification purposes as directed by the Federal Rural Electrification Administration.

"Farm use" means used in farming, including use in a tractor or other farm machines used directly in farming, in a furnace heating a farm building, in providing lighting in farm buildings, and use in operating motors of machines used directly in farming.

"Residential use" means use in a structure or portion of a structure which is a person's permanent principal residence. It does not include use in motor homes, travel trailers, other recreational vehicles, or transient accommodations. "Transient accommodations" means rooms or lodging available to the public for a fee for a continuous period of less than one month in a building such as a hotel, motel, inn, tourist home, tourist house or court, summer camp, resort lodge, or cabin.

Other purchases exempted by law include:

1. Printed material which is designed to advertise and promote the sale of merchandise, or to advertise the services of individual business firms, which printed material is purchased and stored for the purpose of subsequently transporting it outside the state by the purchaser for use thereafter solely outside the state.
2. Parts, supplies, or repairs for a school bus used exclusively as a contract carrier pursuant to a contract with a school or other organization.
3. Waste reduction and recycling machinery and equipment, including parts and repairs, which are exclusively and directly used for waste reduction and recycling activities.
4. Railway cars, locomotives, and other rolling stock used in railroad operations, or accessories, attachments, parts, lubricants, or fuel therefor.
5. Commercial vessels and barges of 50-ton burden or over engaged in interstate or foreign commerce or commercial fishing, and accessories, attachments, parts, and fuel therefor.
6. Fuel sold for use in motorboats that are regularly employed in carrying persons for hire for sport fishing in and upon the outlying waters, as defined in sec. 29.001(63), Wis. Stats., and the rivers and tributaries specified in sec. 29.2285(2)(a)1. and 2., Wis. Stats., if the owner and all operators are licensed under sec. 29.514, Wis. Stats., to operate the boat for that purpose.
7. A product whose power source is the wind, direct radiant energy received from the sun, or gas generated by the anaerobic digestion of animal manure and other agricultural waste, if the product produces at least 200 watts of alternating current or at least 600 British thermal units per day, but not including a product that is an uninterruptible power source that is designed primarily for computers.
8. Effective July 1, 2013, snowmaking and snow-grooming machines and equipment, including accessories, attachments, and parts for the machines and fuel and electricity used to operate such machines and equipment, that are used exclusively and directly for snowmaking at ski hills, ski slopes, and ski trails.
9. Effective July 1, 2013, advertising and promotional direct mail and printing services used to produce advertising and promotional direct mail.

SIGNATURE: For corporations, this form must be signed by an employee or officer of the corporation.

QUESTIONS: If you have questions, please contact us.

WISCONSIN DEPARTMENT OF REVENUE
Customer Service Bureau
PO Box 8949
Madison WI 53708-8949

Phone: (608) 266-2776
Fax: (608) 267-1030
Website: revenue.wi.gov

End Document 00 55 01

AIA® Document A312™ – 2010

Performance Bond

CONTRACTOR:
(Name, legal status and address)

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

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

OWNER:
(Name, legal status and address)

CONSTRUCTION CONTRACT
Date:

Amount:

Description:
(Name and location)

BOND
Date:
(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: ☐ None ☐ See Section 16

CONTRACTOR AS PRINCIPAL		**SURETY**	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:		Signature:	
Name and Title:		Name and Title:	

(Any additional signatures appear on the last page of this Performance Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or **BROKER:**

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)

Sample

Init.
/

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§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

.1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

.2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

.3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

Sample

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§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

.2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and

.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, 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.

§ 14 Definitions

§ 14.1 Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

Sample

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§ 16 Modifications to this bond are as follows:

Sample

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL		SURETY	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:		Signature:	
Name and Title:		Name and Title:	
Address		Address	

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AIA® Document A312™ – 2010

Payment Bond

CONTRACTOR:
(Name, legal status and address)

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

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

OWNER:
(Name, legal status and address)

CONSTRUCTION CONTRACT
Date:

Amount:

Description:
(Name and location)

BOND
Date:
(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: ☐ None ☐ See Section 18

CONTRACTOR AS PRINCIPAL
Company: *(Corporate Seal)*

Signature: _____
Name and Title:

SURETY
Company: *(Corporate Seal)*

Signature: _____
Name and Title:

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)
AGENT or **BROKER:**

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)

Sample

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§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and

.2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

Sample

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§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, 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.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

Sample

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§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

Sample

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL		**SURETY**	
Company:	*(Corporate Seal)*	Company:	*(Corporate Seal)*
Signature:		Signature:	
Name and Title:		Name and Title:	
Address		Address	

Init.

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End of Document 00 61 13.16

Document 00 62 01
Payroll WH-347

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.

U.S. Wage and Hour Division

Rev. Dec. 2008

OMB No.:1235-0008
Expires: 07/31/2024

NAME OF CONTRACTOR ☐ OR SUBCONTRACTOR ☐	ADDRESS	
PAYROLL NO.	FOR WEEK ENDING	PROJECT AND LOCATION / PROJECT OR CONTRACT NO.

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE — HOURS WORKED EACH DAY	(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS: FICA	WITH-HOLDING TAX			OTHER	TOTAL DEDUCTIONS	(9) NET WAGES PAID FOR WEEK
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While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that is will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date _____

I, _____ _____
(Name of Signatory Party) (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

_____ on the
(Contractor or Subcontractor)

_____; that during the payroll period commencing on the
(Building or Work)

_____ day of _____, _____, and ending the _____ day of _____, _____,

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

_____ from the full
(Contractor or Subcontractor)

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

_____

_____

_____

_____

(2) That any payrolls otherwise under this contract required to be submitted for the above period are correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the applicable wage rates contained in any wage determination incorporated into the contract; that the classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:

(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

☐ – in addition to the basic hourly wage rates paid to each laborer or mechanic listed in the above referenced payroll, payments of fringe benefits as listed in the contract have been or will be made to appropriate programs for the benefit of such employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

☐ – Each laborer or mechanic listed in the above referenced payroll has been paid, as indicated on the payroll, an amount not less than the sum of the applicable basic hourly wage rate plus the amount of the required fringe benefits as listed in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 3729 OF TITLE 31 OF THE UNITED STATES CODE.

Document 00 62 41.01

Section 3 Public Housing/Section 8 Certification Form (based on HUD Form 4736)

The purpose of this form is to comply with Section 3 of the HUD Act of 1968 certification requirements listed in 24 CFR § 75.31.

This form should be completed by either a representative of a Public Housing Authority, the owner or property manager of project-based Section 8-assisted housing, or the administrator of tenant-based Section 8 assisted housing.

Please provide the worker's information below:

Printed Name of Worker: _____

_____

Street Address (N*ot a PO Box*) Apt# City State Zip

Phone #: _____ Email: _____

I/We, the undersigned, certify under penalty of perjury that the information provided above is true and correct information and certifies that the worker identified above is a participant in a PHA or Section 8 assisted housing program.

WARNING: Anyone who knowingly submits a false claim or makes a false statement is subject to criminal and/or civil penalties, including confinement for up to 5 years, fines, and civil and administrative penalties. (18 U.S.C. §§ 287, 1001, 1010, 1012; 31 U.S.C. §3729, 3802)

_____ _____

Housing Representative Signature Date

END OF DOCUMENT 00 62 41.01

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DOCUMENT 00 62 41.03

SECTION 3 EMPLOYER CERTIFICATION FORM (BASED ON HUD FORM 4736B)

The purpose of this form is to comply with Section 3 of the HUD Act of 1968 employer certification requirements listed in 24 CFR § 75.31.

This form is to be filled out by a representative of an employer of a Section 3 worker.

Please provide the following information about the business/employer:

Name of Business: _____

Street Address _____ City _____ State _____ Zip _____

Phone #: _____ Email: _____

Please provide the following information about the worker/employee:

Printed Name of Worker: _____

Street Address (N*ot a PO Box*) _____ Apt# _____ City _____ State _____ Zip _____

Phone #: _____ Email: _____

Please indicate which of the following is true for the worker listed above: (Select all that apply)

☐ Worker's income from your employment is below the income limit based on a calculation of what the worker's wage rate would translate to if annualized on a full-time basis* ☐ Worker is employed by a Section 3 Business Concern (Select if your business qualifies as a Section 3 Business Concern)	Income limit** $_____

*Currently or at the time of hire if hired within the past 5 years
** See www.huduser.gov/portal/datasets/il.html for current limits, reference "Low Income".

I/We, the undersigned, certify under penalty of perjury that the information provided above is true and correct and certifies that the worker identified above meets the definition of a Section 3 worker.
WARNING: Anyone who knowingly submits a false claim or makes a false statement is subject to criminal and/or civil penalties, including confinement for up to 5 years, fines, and civil and administrative penalties. (18 U.S.C. §§ 287, 1001, 1010, 1012; 31 U.S.C. §3729, 3802)

_____ _____
Signature Date

END OF DOCUMENT 00 62 41.03

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Document 00 62 41.05

Section 3 Worker Self-Certification Form (based on HUD Form 4736D)

The purpose of this form is to comply with Section 3 of the HUD Act of 1968 self-certification requirements. To qualify as a Section 3 worker, the United States legal resident's annual income must not exceed the HUD income limits for the year before the worker was hired, or, the individual's current income annualized on a full-time basis for the year must be below the HUD income limit. Additionally, an individual can qualify as a Section 3 worker if they are a YouthBuild participant or employee of a Section 3 Business concern.

Printed Name: _____

_____

Street Address (N*ot a PO Box*) Apt# City State Zip

Phone #: _____ Email: _____

To qualify as a Section 3 Worker, you must self-certify that you meet one of the following requirements OR have your employer certify that you are employed by a Section 3 Business concern:

• Income for the previous year is below income limit* • A participant in a means-tested program such as public housing or Section 8-assisted housing • A YouthBuild Participant*	Income limit** $_____

*Currently or at the time of hire if hired within the past 5 years.
** See www.huduser.gov/portal/datasets/il.html for current limits, reference "Low Income".

☐ I meet at least one of the requirements in the box above and therefore qualify to be counted as a Section 3 Worker under 24 CFR § 75.

If applicable, please indicate which requirement listed below you meet to be considered a Targeted Section 3 worker in the box below. If you do not meet any of these requirements or do not know if you meet any of the requirements listed below, you may leave this section blank.

- A participant in a means-tested program such as public housing or Section 8-assisted housing
- A YouthBuild participant*

*Currently or at the time of hire if hired within the past 5 years

☐ In addition to qualifying as a Section 3 Worker, I meet at least one of the requirements in the box above and therefore qualify to be counted as a Targeted Section 3 Worker under 75 CFR § 75.

I/We, the undersigned, certify under penalty of perjury that the information provided above is true and correct and certifies that the worker identified above meets the definition of a Section 3 worker.
WARNING: Anyone who knowingly submits a false claim or makes a false statement is subject to criminal and/or civil penalties, including confinement for up to 5 years, fines, and civil and administrative penalties. (18 U.S.C. §§ 287, 1001, 1010, 1012; 31 U.S.C. §3729, 3802)

_____ _____

Signature Date

END OF DOCUMENT 00 62 41.05

DOCUMENT 00 62 41.07

SECTION 3 NON-CERTIFIED EMPLOYEE FORM

This form is not based on a HUD form. Use it to document each employee that is not certified as a Section 3 worker. This information is used by the housing authority to review and document Section 3 compliance.

Contractor / Subcontractor Name: _____

Project Name & Number: _____

Please provide the worker's information below:

Printed Name of Worker: _____

_____

Street Address (N*ot a PO Box*) Apt# City State Zip

Phone #: _____ Email: _____

I/We, the undersigned recognize that the individual listed above is not certified as a Section 3 worker.

_____ _____

Submitter Date

END OF DOCUMENT 00 62 41.07

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DOCUMENT 00 62 43.01

SECTION 3 LABOR REPORTING PER CONTRACTOR / SUBCONTRACTOR

The purpose of this form is to comply with Section 3 of the HUD Act of 1968 requirements listed in 24 CFR § 75.15 and 24 CFR § 75.31.

This form is intended to be completed by the Contractor and by Subcontractors that employ Section 3 (ref. 75.5) or Targeted Section 3 workers (ref. 75.11). Provide this form to the Contractor for each project for each reporting period.

An alternative to the use of this form can be from a business or employer's good faith assessment of the labor hours of a full-time or part-time employee informed by the employer's existing salary or time and attendance based payroll systems, unless the project or activity is otherwise subject to requirements specifying time and attendance reporting.

Contractor / Subcontractor Name: _____

Project Name & Number: _____

Period included in this Report: From (date) _____ To (date) _____

Table 1 – Total number of hours worked by Section 3 and Targeted Section 3 workers

Employee Name	Section 3 Worker (check if applicable)	Targeted Section 3 Worker (check if applicable)	Labor hours worked by this employee on this project during this period	Labor hours worked by Section 3 workers	Labor hours worked by Targeted Section 3 workers
Section 3 and Targeted Section 3 Workers					
	☐	☐			
	☐	☐			
	☐	☐			
	☐	☐			
	☐	☐			
	☐	☐			
	☐	☐			
	☐	☐			
Section 3 and Targeted Section 3 Workers in Professional Services					
	☐	☐			
	☐	☐			
	☐	☐			
			Totals	0	0

Table 2 – Total number of labor hours worked

Labor Hours for all project workers: - You may include labor hours for Section 3 Professional Services workers. - Do not include labor hours for non-section 3 Professional Services workers. - Ref. 24 CFR 75.15 (a)(4) to see the wording of the regulation.	

_____ _____

Form Completed By Date

END OF DOCUMENT 00 62 43.01

Attachment A to Document 00 62 43.01

Resources for completing the Section 3 Labor Reporting Per Contractor / Subcontractor form.

Documents:
The following forms included in this project manual are intended to collect and record information that can be used by the employer to categorize employees as Section 3 Workers and Targeted Section 3 Workers.

- 00 62 41.01 Section 3 Public Housing – Section 8 Certification
- 00 62 41.03 Section 3 Employer Certification Form
- 00 62 41.05 Section 3 Worker Self-Certification Form

Definitions (as defined in 24 CFR 75):

- Professional Services means non-construction services that require an advanced degree or professional licensing, including but not limited to, contracts for legal services, financial consulting, accounting services, environmental assessment, architectural services, and civil engineering services.

- Section 3 worker means:
  (1) Any worker who currently fits or when hired within the past five years fit at least one of the following categories, as documented:
    (i) The worker's income for the previous or annualized calendar year is below the income limit established by HUD.
    (ii) The worker is employed by a Section 3 business concern.
    (iii) The worker is a YouthBuild participant.
  (2) The status of a Section 3 worker shall not be negatively affected by a prior arrest or conviction.
  (3) Nothing in this part shall be construed to require the employment of someone who meets this definition of a Section 3 worker. Section 3 workers are not exempt from meeting the qualifications of the position to be filled.

- Targeted Section 3 worker means a Section 3 worker who is:
  (1) A worker employed by a Section 3 business concern; or
  (2) A worker who currently fits or when hired fit at least one of the following categories, as documented within the past five years:
    (i) A resident of public housing or Section 8-assisted housing;
    (ii) A resident of other public housing projects or Section 8-assisted housing managed by the PHA that is providing the assistance; or
    (iii) A YouthBuild participant.

Note: Section 3 workers' and Targeted Section 3 workers' labor hours may be counted for five years from when their status as a Section 3 worker or Targeted Section 3 worker is established pursuant to § 75.31.

Example Table 1 – Total number of hours worked by Section 3 and Targeted Section 3 workers

Employee Name	Section 3 Worker (check if applicable)	Targeted Section 3 Worker (check if applicable)	Labor Hours on this project this period	Section 3 Labor Hours	Targeted Section 3 Labor Hours
Section 3 and Targeted Section 3 Workers					
Gerald Black	X	X	40	40	40
Lindsey White	X		40	40	0
Section 3 and Targeted Section 3 Workers in Professional Services					
Martin Green	X	X	10	10	10
			Totals	90	50

DOCUMENT 00 62 43.03

SECTION 3 PERIODIC PROJECT LABOR REPORTING

The purpose of this form is to comply with Section 3 of the HUD Act of 1968 certification requirements listed in 24 CFR § 75.15 and 24 CFR § 75.31.

This form is intended to be completed by the Contractor. Subcontractors may use Document 00 62 43.03 to communicate labor hours for their employees to the Contractor.

An alternative to the use of this form can be from a business or employer's good faith assessment of the labor hours of a full-time or part-time employee informed by the employer's existing salary or time and attendance based payroll systems, unless the project or activity is otherwise subject to requirements specifying time and attendance reporting.

Project Name & Number: _____

Period included in this Report: From (date) _____ To (date) _____

Table 1 – Labor Hours for the Period

Business Name	Section 3 Labor Hours (total from table 1 in form 00 62 43.01)	Targeted Section 3 Labor Hours (total from table 1 in form 00 62 43.01)	Total Labor Hours (total from table 2 in form 00 62 43.01)	Section 3 Labor Hours Percentage (column 2 divided by column 4)	Targeted Section 3 Labor Hour Percentage (column 3 divided by column 4)
Totals					

_____
Contractor

_____ _____
Form Completed By Date

END OF DOCUMENT 00 62 43.03

Attachment A to Document 00 62 43.03

Resources for completing the Section 3 Periodic Project Labor Reporting form.

Documents:

The following forms included in this project manual are intended to collect and record information that can be used by the employer to categorize employees as Section 3 Workers and Targeted Section 3 Workers.

- 00 62 41.01 Section 3 Public Housing – Section 8 Certification
- 00 62 41.03 Section 3 Employer Certification Form
- 00 62 41.05 Section 3 Worker Self-Certification Form

Document 00 62 43.01 “Section 3 Labor Reporting per Contractor – Subcontractor” can be used to collect and communicate information needed to complete the current form.

DOCUMENT 00 62 45

SECTION 3 QUALITATIVE EFFORTS FORM

The purpose of this form is to comply with Section 3 of the HUD Act of 1968 self-certification requirements. This form may be used by the Owner, Contractor or a Subcontractor to report and record on the qualitative nature or their Section 3 compliance activities if Section 3 benchmarks are not met. Reference 25 CFR 75.15(b) for additional description of requirements.

The state of Iowa created a guide to Qualitative Efforts that is not binding but can be used as a guide. See slides 20-43 in the following link: https://www.iowaeda.com/UserDocs/2023cdbg-section-3-qualitative-efforts-dos-and-donts.pdf.

Checkmark and describe qualitative efforts listed below. Add additional sheets / information as needed to record the efforts.

☐ 1. Engaged in outreach efforts to generate job applicants who are Targeted Section 3 Workers.

☐ 2. Provided training or apprenticeship opportunities.

☐ 3. Provided technical assistance to help Section 3 workers compete for jobs e.g., resume assistance, coaching.

☐ 4. Provided or connected Section 3 workers with assistance in seeking employment including: drafting resumes, preparing for interviews, and finding job opportunities connecting residents to job placement services.

☐ 5. Held one or more job fairs.

☐ 6. Provided or referred Section 3 workers to services supporting work readiness and retention (e.g., work readiness activities, interview clothing, test fees, transportation, child care).

☐ 7. Provided assistance employees to apply for/or attend community college, a four-year educational institution, or vocational/ technical training.

☐ 8. Assisted Section 3 workers to obtain financial literacy training and/or coaching.

☐ 9. Engaged in outreach efforts to identify and secure bids from Section 3 business concerns.

☐ 10. Provided technical assistance to help Section 3 business concerns understand and bid on contracts.

☐ 11. Divided contracts into smaller jobs to facilitate participation by Section 3 business concerns.

☐ 12. Provided bonding assistance, guaranties, or other efforts to support viable bids from Section 3 business concerns.

☐ 13. Promoted use of business registries designed to create opportunities for disadvantaged and small businesses.

☐ 14. Outreach, engagement, or referrals with the state one-stop system as defined in Section 21(e)(2) of the Workforce Innovation and Opportunity Act.

☐ 15. Other. Specify:

Identify documents attached to this form that have additional information:

END OF DOCUMENT 00 62 45

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Schedule of Amounts for Contract Payments

U.S. Department of Housing and Urban Development
Office of Public and Indian Housing

OMB Approval No. 2577-0157
(Exp. 11/30/2023)

No progress payments shall be made to the contractor unless a schedule of amounts for contract payments in accordance with the construction contract is received.

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. HUD may not conduct or sponsor, and an applicant is not required to respond to a collection of information unless it displays a currently valid OMB control number. Construction practices and HUD administrative requirements establish the need that HAs maintain certain records or submit certain documents in conjunction with the oversight of the award of construction contracts for the construction of new low-income housing developments or modernization of existing developments. These forms are used by HAs to provide information on the construction progress schedule and schedule of amounts for contract payments. Responses to the collection of information are required to obtain a benefit or to retain a benefit. The information requested does not lend itself to confidentiality.

Project Name and Location	Project Number

Name, Address, and Zip Code of Contractor

Nature of Contract	Contract Number

Approved for Contractor by	Title	Date (mm/dd/yyyy)

Approved for Architect by	Title	Date (mm/dd/yyyy)

Approved for Owner by	Title	Date (mm/dd/yyyy)

Item No. (1)	Description of Item (2)	Quantity (3)	Unit of Measure (4)	Unit Price in Place (5)	Amount of Sub-Item (6)	Amount of Principal Item (7)
			D			
Total Amount of Contract or Carried Forward						$

To the best of my knowledge, all the information stated herein, as well as any information provided in the accompaniment herewith, is true and accurate.
Warning: HUD will prosecute false claims and statements. Conviction may result in criminal and/or civil penalties. (18 U.S.C. 1001, 1010, 1012; 31 U.S.C. 3729, 3802)

Signature of authorized represenative	Date signed (mm/dd/yyyy)

Instructions for Preparation of form HUD-51000

1. A separate breakdown is required for each project and prime contract instructions for preparation are given below.
   a. **Heading.** Enter all identifying information required for both forms.
   b. **Columns 1 and 2.** In column 1, enter the item numbers starting with No. 1, and in column 2 enter each principal division of work incorporated in the contract work.
      (1) **Master List.** The Master list contains the basic items into which any construction contract may be subdivided for the purpose of preparing the Construction Progress Schedule and the Periodical Estimates for Partial Payments. Only those items shall be selected which apply to the particular contract. To ensure uniformity, no change shall be made in the item numbers. Generally, about 25 to 40 major items appear in a contract.
      (2) **Items Subdivided.** In the Contractor's breakdown, against which all periodical estimates will be checked prior to payment, each major item must be subdivided into sub-items pertinent to the project involved and in agreement with the Contractor's intended basis for requesting monthly payments.
   c. **Column 3.** Enter the total quantity for each sub-item of each principal division of work listed in the breakdown.
   d. **Column 4.** Enter the appropriate unit of measure for each sub-item of work opposite the quantities described in column 3, such as “sq. ft.,” “cu. yd.,” “tons,” “lb.,” “lumber per M/BM,” “brickwork per M,” etc., applicable to the particular sub-item. Items shown on “lump sum” or equivalent basis will be paid for only on completion of the whole item and not on a percentage of completion basis.
   e. **Column 5.** Enter the unit price, in place, of each sub-item of work.
   f. **Column 6.** Enter the amount of each sub-item obtained by multiplying the quantities in column 3 by the corresponding unit prices in column 5.
   g. **Column 7.** Enter the amount of principal item only, obtained by adding the amounts of all sub-items of each principal division of work listed in column 6. Continue with the breakdown on form HUD-51000.
   h. The “Schedule of Amounts for Contract Payments” shall be signed and dated in the space provided at the bottom of each sheet of the form by the individual who prepared the breakdown for the Contractor.

2. The minimum number of copies required for each submission for approval is an original and two copies. When approved, one fully approved copy will be returned to the Contractor.

Master List of Items

Item No.	Division of Work
1	Bond
2	General Conditions
3	Demolition & Clearing
	Structures
4	General Excavation
5	Footing Excavation
6	Backfill
7	Foundation Piles & Caissons
8	Concrete Foundations
9	Concrete Superstructures
10	Reinforcing Steel
11	Waterproofing & Dampproofing
12	Spandrel Waterproofing
13	Structural Steel
14	Masonry
15	Stonework
16	Miscellaneous & Ornamental Metal
17	Metal Windows
18	Roofing
19	Sheet Metal
20	Rough Carpentry
21	Metal Bucks
22	Caulking
23	Weatherstripping
24	Lath & Plastering-Drywall
25	Stucco
26	Finish Carpentry
27	Finish Hardware
28	Glass & Glazing
29	Metal Doors
30	Metal Base & Trim
31	Toilet Partitions
32	Floors
33	Painting & Decorating
34	Screens
35	Plumbing
36	Heating
37	Ventilating System
38	Electrical
39	Elevators
40	Elevator Enclosures—Metal
41	Incinerators—Masonry & Parts
42	(Other)
43	(Other)
	Site Improvements
44	Retaining Walls
45	Storm Sewers
46	Sanitary Sewers
47	Water Distribution System
48	Gas Distribution System
49	Electrical Distribution System
50	Street & Yard Lighting
51	Fire & Police Alarm System
52	Fire Protection System
53	Street Work
54	Yard Work
55	(Other)
56	(Other)
	Equipment
57	Shades & Drapery Rods
58	Ranges
59	Refrigerators
60	Kitchen Cabinets & Work Tables
61	Laundry Equipment
62	(Other)
63	**Punch List** \2
64	Lawns & Planting

1 General Conditions should be 3% to 5% of contract amount.
2 Punch List should be approximately 1/2 of 1% or $30 per dwelling unit, whichever is greater.

DOCUMENT 00 63 25
SUBSTITUTION REQUEST FORM – DURING CONSTRUCTION

Use this form for substitution requests following signed agreement. This form is not strictly mandatory but may be required by the Architect for specific requests. The contract documents, including those identified below, define the process for requesting a substitution or getting approval of an item.

Complete the form and provide attachments that document any other information necessary for an evaluation of the substitute items. Provide a complete description of the proposed substitution including the name of the material or equipment proposed, performance and test data, and relevant drawings. Identify reference standards and provide point by point comparison that documents how the proposed substitute item compares to the specified item. Identify any changes to contract documents that are necessary for inclusion of the substitute items into the project.

Submit substitutions requests to arch. spec. writer: tfaucheux@hsrassociates.com

Reference Documents (HUD 5370):
A. General Conditions for Construction Contracts Clause 14.
B. Section 01 25 00 Substitution Procedures.

PROJECT NAME: _____ PROJ. #: _____

REQUESTING COMPANY: _____

CONTACT PERSON: _____ DATE OF REQUEST: _____

CONTACT EMAIL: _____ CONTACT PHONE: _____

SPECIFIED ITEM: _____ SECTION #: _____

PROPOSED SUBSTITUTE ITEM: _____

REASON FOR NOT PROVIDING THE SPECIFIED ITEM: _____

_____

COST SAVINGS TO OWNER FOR SUBSTITUTION: $ _____

SCHEDULE IMPACT DUE TO SUBSTITUTION: _____

DAYS ADD:_____ DAYS DEDUCT: _____ NEW SUB. COMP. DATE:_____

ATTACHMENTS:

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

1. The proposed substitution does not affect dimensions shown on drawings.
2. The undersigned will pay for changes to the building design, including architectural/engineering design, detailing and construction costs caused by the requested substitution.
3. The proposed substitution will have no adverse affect on other trades, the construction schedule, or specified warranty requirements.
4. Maintenance and service parts will be locally available for the proposed substitution.
5. The function appearance and quality of the Proposed Substitution are equivalent or superior to the Specified Item.
6. Cost and schedule information provided are complete. Any additional costs or schedule delays associated with this substitution will paid for and remediated by the requestor without claim to the Owner or Architect.

SUBMITTER SIGNATURE: _____

HSR Reviewer: _____

HSR Reviewer Notes: _____

_____

_____

_____

Contracting Officer (Owner): _____

Contracting Officer Notes: _____

_____

_____

_____

Response to submittal request:

☐ Watch for acceptance of the substitution in a future addendum and any associated notes clarifying the acceptance.

☐ Not accepted.

Date of Response: _____

END OF DOCUMENT

DOCUMENT 00 65 15

WAGE RATE CERTIFICATE OF COMPLIANCE

PROJECT: HOUSING AUTHORITY OF THE CITY OF LA CROSSE
2026 CAPITAL IMPROVEMENT PROJECTS
1307 BADGER STREET
LA CROSSE, WISCONSIN 54601
HSR PROJECT NUMBER: **26039**
DATE OF PROJECT MANUAL: SEPTEMBER 22, 2026

OWNER: HOUSING AUTHORITY OF THE CITY OF LA CROSSE
1307 BADGER STREET
P.O. BOX 1053
LA CROSSE, WISCONSIN 54603

I hereby certify that I have fully complied with the Contract provisions relating to the payment of wage rates included therein as determination WI20260003.

I also certify that I have received evidence from each of my agents and subcontractors of their compliance with the same provisions.

Signed _____

Title _____

Contractor _____

Subscribed and sworn to me this day of _____, 20 Notary Public _____ County _____ My Commission expires _____

END OF DOCUMENT 00 65 15

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DOCUMENT 00 65 19.19
CONSENT OF SURETY TO FINAL PAYMENT

PROJECT: HOUSING AUTHORITY OF THE CITY OF LA CROSSE
2026 CAPITAL IMPROVEMENT PROJECTS
1307 BADGER STREET
LA CROSSE, WISCONSIN 54601
HSR PROJECT NUMBER: **26039**
DATE OF PROJECT MANUAL: SEPTEMBER 22, 2026

OWNER: HOUSING AUTHORITY OF THE CITY OF LA CROSSE
1307 BADGER STREET
P.O. BOX 1053
LA CROSSE, WISCONSIN 54602-1054

CONTRACT FOR: ENTIRE WORK FOR SINGLE PRIME CONTRACT.

CONTRACTOR: _____

CONTRACT DATE: _____

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above,

_____, Surety Company on bond of

_____, Contractor, hereby approves of

the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety Company of any of its obligations to the Owner, named above, as set forth in said Surety Company's bond.

It is further agreed that, in giving this consent, the Surety has made its own investigation to determine that said payment should be made to the Contractor and has not relied on any representation by the Architect/Engineer which has induced it to consent to such payment. Surety hereby expressly waives all claims against the Architect/Engineer and the Owner for wrongful release of funds to the Contractor.

IN WITNESS WHEREOF:
The Surety Company has hereunto set its hand this day of _____ , 20_____

Surety Company _____

Attest: Signature of Authorized Representative _____

Title _____

(Seal)

END OF DOCUMENT 00 65 19.19

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DOCUMENT 00 72 00
GENERAL CONDITIONS

HUD-5370 (1/2014) - "General Conditions of the Contract for Construction - Public Housing Program", 19 pages. See amendments in Document 00 73 00 – Supplementary Conditions

END OF DOCUMENT 00 72 00

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General Conditions for Construction Contracts - Public Housing Programs

U.S. Department of Housing and UrbanDev elopment
Office of Public and Indian Housing
OMB Approval No. 2577-0157 (exp. 11/30/2023)

Applicability. This form is applicable to any construction/development contract greater than $150,000.

Public reporting burden for this collection of information is estimated to average 1 hour. This includes the time for collecting, reviewing, and reporting the data. The information requested is required to obtain a benefit. This form includes those clauses required by OMB's common rule on grantee procurement, implemented at HUD in 2 CFR 200, and those requirements set forth in Section 3 of the Housing and Urban Development Act of 1968 and its amendment by the Housing and Community Development Act of 1992, implemented by HUD at 24 CFR Part 135. The form is required for construction contracts awarded by Public Housing Agencies (PHAs). The form is used by Housing Authorities in solicitations to provide necessary contract clauses. If the form were not used, PHAs would be unable to enforce their contracts.. There are no assurances of confidentiality. HUD may not conduct or sponsor, and an applicant is not required to respond to a collection of information unless it displays a currently valid OMB control number.

	Clause	Page		Clause	Page
1.	Definitions	2		**Administrative Requirements**	
2.	Contractor's Responsibility for Work	2	25.	Contract Period	9
3.	Architect's Duties, Responsibilities and Authority	2	26.	Order of Precedence	9
4.	Other Contracts	3	27.	Payments	9
	Construction Requirements		28.	Contract Modifications	10
5.	Preconstruction Conference and Notice to Proceed	3	29.	Changes	10
6.	Construction Progress Schedule	3	30.	Suspension of Work	11
7.	Site Investigation and Conditions Affecting the Work	3	31.	Disputes	11
8.	Differing Site Conditions	4	32.	Default	11
9.	Specifications and Drawings for Construction	4	33.	Liquidated	12
10.	As-Built Drawings	5	34.	Termination of Convenience	12
11.	Material and Workmanship	5	35.	Assignment of Contract	12
12.	Permits and Codes	5	36.	Insurance	12
13.	Health, Safety, and Accident Prevention	6	37.	Subcontracts	13
14.	Temporary Buildings and Transportation Materials	6	38.	Subcontracting with Small and Minority Firms, Women's Business Enterprise, and Labor Surplus Area Firms	13
15.	Availability and Use of Utility Services	6	39.	Equal Employment Opportunity	13
16.	Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements	6	40.	Employment, Training, and Contracting Opportunities for Low-Income Persons, Section 3 of the Housing and Urban Development Act of 1968	14
17.	Temporary Buildings and Transportation Materials	7	41.	Interest of Members of Congress	15
18.	Clean Air and Water	7	42.	Interest of Members, Officers, or Employees and Former Members, Officers, or Employees	15
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1. Definitions

(a) "Architect" means the person or other entity engaged by the PHA to perform architectural, engineering, design, and other services related to the work as provided for in the contract. When a PHA uses an engineer to act in this capacity, the terms "architect" and "engineer" shall be synonymous. The Architect shall serve as a technical representative of the Contracting Officer. The Architect's authority is as set forth elsewhere in this contract.

(b) "Contract" means the contract entered into between the PHA and the Contractor. It includes the forms of Bid, the Bid Bond, the Performance and Payment Bond or Bonds or other assurance of completion, the Certifications, Representations, and Other Statements of Bidders (form HUD-5370), these General Conditions of the Contract for Construction (form HUD-5370), the applicable wage rate determinations from the U.S. Department of Labor, any special conditions included elsewhere in the contract, the specifications, and drawings. It includes all formal changes to any of those documents by addendum, change order, or other modification.

(c) "Contracting Officer" means the person delegated the authority by the PHA to enter into, administer, and/or terminate this contract and designated as such in writing to the Contractor. The term includes any successor Contracting Officer and any duly authorized representative of the Contracting Officer also designated in writing. The Contracting Officer shall be deemed the authorized agent of the PHA in all dealings with the Contractor.

(d) "Contractor" means the person or other entity entering into the contract with the PHA to perform all of the work required under the contract.

(e) "Drawings" means the drawings enumerated in the schedule of drawings contained in the Specifications and as described in the contract clause entitled Specifications and Drawings for Construction herein.

(f) "HUD" means the United States of America acting through the Department of Housing and Urban Development including the Secretary, or any other person designated to act on its behalf. HUD has agreed, subject to the provisions of an Annual Contributions Terms and Conditions (ACC), to provide financial assistance to the PHA, which includes assistance in financing the work to be performed under this contract. As defined elsewhere in these General Conditions or the contract documents, the determination of HUD may be required to authorize changes in the work or for release of funds to the PHA for payment to the Contractor. Notwithstanding HUD's role, nothing in this contract shall be construed to create any contractual relationship between the Contractor and HUD.

(g) "Project" means the entire project, whether construction or rehabilitation, the work for which is provided for in whole or in part under this contract.

(h) "PHA" means the Public Housing Agency organized under applicable state laws which is a party to this contract.

(j) "Specifications" means the written description of the technical requirements for construction and includes the criteria and tests for determining whether the requirements are met.

(l) "Work" means materials, workmanship, and manufacture and fabrication of components.

2. Contractor's Responsibility for Work

(a) The Contractor shall furnish all necessary labor, materials, tools, equipment, and transportation necessary for performance of the work. The Contractor shall also furnish all necessary water, heat, light, and power not made available to the Contractor by the PHA pursuant to the clause entitled Availability and Use of Utility Services herein.

(b) The Contractor shall perform on the site, and with its own organization, work equivalent to at least [ ] (12 percent unless otherwise indicated) of the total amount of work to be performed under the order. This percentage may be reduced by a supplemental agreement to this order if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the PHA.

(c) At all times during performance of this contract and until the work is completed and accepted, the Contractor shall directly superintend the work or assign and have on the work site a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Contractor.

(d) The Contractor shall be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence, and shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. The Contractor shall hold and save the PHA, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

(e) The Contractor shall lay out the work from base lines and bench marks indicated on the drawings and be responsible for all lines, levels, and measurements of all work executed under the contract. The Contractor shall verify the figures before laying out the work and will be held responsible for any error resulting from its failure to do so.

(f) The Contractor shall confine all operations (including storage of materials) on PHA premises to areas authorized or approved by the Contracting Officer.

(g) The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. After completing the work and before final inspection, the Contractor shall (1) remove from the premises all scaffolding, equipment, tools, and materials (including rejected materials) that are not the property of the PHA and all rubbish caused by its work; (2) leave the work area in a clean, neat, and orderly condition satisfactory to the Contracting Officer; (3) perform all specified tests; and, (4) deliver the installation in complete and operating condition.

(h) The Contractor's responsibility will terminate when all work has been completed, the final inspection made, and the work accepted by the Contracting Officer. The Contractor will then be released from further obligation except as required by the warranties specified elsewhere in the contract.

3. Architect's Duties, Responsibilities, and Authority

(a) The Architect for this contract, and any successor, shall be designated in writing by the Contracting Officer.

(b) The Architect shall serve as the Contracting Officer's technical representative with respect to architectural, engineering, and design matters related to the work performed under the contract. The Architect may provide direction on contract performance. Such direction shall be within the scope of the contract and may not be of a nature which: (1) institutes additional work outside the scope of the contract; (2) constitutes a change as defined in the Changes clause herein; (3) causes an increase or decrease in the cost of the contract; (4) alters the Construction Progress Schedule; or (5) changes any of the other express terms or conditions of the contract.

(c) The Architect's duties and responsibilities may include but shall not be limited to:

(1) Making periodic visits to the work site, and on the basis of his/her on-site inspections, issuing written reports to the PHA which shall include all observed deficiencies. The Architect shall file a copy of the report with the Contractor's designated representative at the site;

(2) Making modifications in drawings and technical specifications and assisting the Contracting Officer in the preparation of change orders and other contract modifications for issuance by the Contracting Officer;

(3) Reviewing and making recommendations with respect to - (i) the Contractor's construction progress schedules; (ii) the Contractor's shop and detailed drawings; (iii) the machinery, mechanical and other equipment and materials or other articles proposed for use by the Contractor; and, (iv) the Contractor's price breakdown and progress payment estimates; and,

(4) Assisting in inspections, signing Certificates of Completion, and making recommendations with respect to acceptance of work completed under the contract.

4. Other Contracts

The PHA may undertake or award other contracts for additional work at or near the site of the work under this contract. The Contractor shall fully cooperate with the other contractors and with PHA employees and shall carefully adapt scheduling and performing the work under this contract to accommodate the additional work, heeding any direction that may be provided by the Contracting Officer. The Contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor or by PHA employees

Construction Requirements

5. Pre-construction Conference and Notice to Proceed

(a) Within ten calendar days of contract execution, and prior to the commencement of work, the Contractor shall attend a preconstruction conference with representatives of the PHA, its Architect, and other interested parties convened by the PHA. The conference will serve to acquaint the participants with the general plan of the construction operation and all other requirements of the contract. The PHA will provide the Contractor with the date, time, and place of the conference.

(b) The contractor shall begin work upon receipt of a written Notice to Proceed from the Contracting Officer or designee. The Contractor shall not begin work prior to receiving such notice.

6. Construction Progress Schedule

(a) The Contractor shall, within five days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval three copies of a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring labor, materials, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of progress payments or take other remedies under the contract until the Contractor submits the required schedule.

(b) The Contractor shall enter the actual progress on the chart as required by the Contracting Officer, and immediately deliver three copies of the annotated schedule to the Contracting Officer. If the Contracting Officer determines, upon the basis of inspection conducted pursuant to the clause entitled Inspection and Acceptance of Construction, herein that the Contractor is not meeting the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the PHA. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the Contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the Default clause of this contract.

7. Site Investigation and Conditions Affecting the Work

(a) The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to, (1) conditions bearing upon transportation, disposal, handling, and storage of materials; (2) the availability of labor, water, electric power, and roads;(3) uncertainties of weather, river stages, tides, or similar physical conditions at the site; (4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is

reasonably ascertainable from an inspection of the site, including all exploratory work done by the PHA, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the PHA.

(b) The PHA assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the PHA. Nor does the PHA assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

8. Differing Site Conditions

(a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or (2) unknown physical conditions at the site(s), of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.

(b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. Work shall not proceed at the affected site, except at the Contractor's risk, until the Contracting Officer has provided written instructions to the Contractor. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, the Contractor shall file a claim in writing to the PHA within ten days after receipt of such instructions and, in any event, before proceeding with the work. An equitable adjustment in the contract price, the delivery schedule, or both shall be made under this clause and the contract modified in writing accordingly.

(c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the written notice required; provided, that the time prescribed in (a) above for giving written notice may be extended by the Contracting Officer.

(d) No request by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract.

9. Specifications and Drawings for Construction

(a) The Contractor shall keep on the work site a copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.

(b) Wherever in the specifications or upon the drawings the words "directed", "required", "ordered", "designated", "prescribed", or words of like import are used, it shall be understood that the "direction", "requirement", "order", "designation", or "prescription", of the Contracting Officer is intended and similarly the words "approved", "acceptable", "satisfactory", or words of like import shall mean "approved by", or "acceptable to", or "satisfactory to" the Contracting Officer, unless otherwise expressly stated.

(c) Where "as shown" "as indicated", "as detailed", or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word "provided" as used herein shall be understood to mean "provide complete in place" that is "furnished and installed".

(d) "Shop drawings" means drawings, submitted to the PHA by the Contractor, subcontractor, or any lower tier subcontractor, showing in detail (1) the proposed fabrication and assembly of structural elements and (2) the installation (i.e., form, fit, and attachment details) of materials of equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the work required by the contract. The PHA may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with other contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor's approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the PHA's reasons therefore. Any work done before such approval shall be at the Contractor's risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.

(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Architect approves any such variation and the Contracting Officer concurs, the Contracting Officer shall issue an appropriate modification to the contract, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.

(g) It shall be the responsibility of the Contractor to make timely requests of the PHA for such large scale and full size drawings, color schemes, and other additional information, not already in his possession, which shall be

required in the planning and production of the work. Such requests may be submitted as the need arises, but each such request shall be filed in ample time to permit appropriate action to be taken by all parties involved so as to avoid delay.

(h) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the PHA and one set will be returned to the Contractor. As required by the Contracting Officer, the Contractor, upon completing the work under this contract, shall furnish a complete set of all shop drawings as finally approved. These drawings shall show all changes and revisions made up to the time the work is completed and accepted.

(i) This clause shall be included in all subcontracts at any tier. It shall be the responsibility of the Contractor to ensure that all shop drawings prepared by subcontractors are submitted to the Contracting Officer.

10. As-Built Drawings

(a) "As-built drawings," as used in this clause, means drawings submitted by the Contractor or subcontractor at any tier to show the construction of a particular structure or work as actually completed under the contract. "As-built drawings" shall be synonymous with "Record drawings."

(b) As required by the Contracting Officer, the Contractor shall provide the Contracting Officer accurate information to be used in the preparation of permanent as-built drawings. For this purpose, the Contractor shall record on one set of contract drawings all changes from the installations originally indicated, and record final locations of underground lines by depth from finish grade and by accurate horizontal offset distances to permanent surface improvements such as buildings, curbs, or edges of walks.

(c) This clause shall be included in all subcontracts at any tier. It shall be the responsibility of the Contractor to ensure that all as-built drawings prepared by subcontractors are submitted to the Contracting Officer.

11. Material and Workmanship

(a) All equipment, material, and articles furnished under this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the contract to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of, and as approved by the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.

(b) Approval of equipment and materials.

(1) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the machinery and mechanical and other equipment. When required by this contract or by the Contracting Officer, the Contractor shall also obtain the Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting approval, the Contractor shall provide full information concerning the material or articles. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

(2) When required by the specifications or the Contracting Officer, the Contractor shall submit appropriately marked samples (and certificates related to them) for approval at the Contractor's expense, with all shipping charges prepaid. The Contractor shall label, or otherwise properly mark on the container, the material or product represented, its place of origin, the name of the producer, the Contractor's name, and the identification of the construction project for which the material or product is intended to be used.

(3) Certificates shall be submitted in triplicate, describing each sample submitted for approval and certifying that the material, equipment or accessory complies with contract requirements. The certificates shall include the name and brand of the product, name of manufacturer, and the location where produced.

(4) Approval of a sample shall not constitute a waiver of the PHA right to demand full compliance with contract requirements. Materials, equipment and accessories may be rejected for cause even though samples have been approved.

(5) Wherever materials are required to comply with recognized standards or specifications, such specifications shall be accepted as establishing the technical qualities and testing methods, but shall not govern the number of tests required to be made nor modify other contract requirements. The Contracting Officer may require laboratory test reports on items submitted for approval or may approve materials on the basis of data submitted in certificates with samples. Check tests will be made on materials delivered for use only as frequently as the Contracting Officer determines necessary to insure compliance of materials with the specifications. The Contractor will assume all costs of retesting materials which fail to meet contract requirements and/or testing materials offered in substitution for those found deficient.

(6) After approval, samples will be kept in the Project office until completion of work. They may be built into the work after a substantial quantity of the materials they represent has been built in and accepted.

(c) Requirements concerning lead-based paint. The Contractor shall comply with the requirements concerning lead-based paint contained in the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4821-4846) as implemented by 24 CFR Part 35.

12. Permits and Codes

(a) The Contractor shall give all notices and comply with all applicable laws, ordinances, codes, rules and regulations. Notwithstanding the requirement of the Contractor to comply with the drawings and specifications in the contract, all work installed shall comply with all applicable codes and regulations as amended by any

waivers. Before installing the work, the Contractor shall examine the drawings and the specifications for compliance with applicable codes and regulations bearing on the work and shall immediately report any discrepancy it may discover to the Contracting Officer. Where the requirements of the drawings and specifications fail to comply with the applicable code or regulation, the Contracting Officer shall modify the contract by change order pursuant to the clause entitled Changes herein to conform to the code or regulation.

(b) The Contractor shall secure and pay for all permits, fees, and licenses necessary for the proper execution and completion of the work. Where the PHA can arrange for the issuance of all or part of these permits, fees and licenses, without cost to the Contractor, the contract amount shall be reduced accordingly.

13. Health, Safety, and Accident Prevention

(a) In performing this contract, the Contractor shall:
(1) Ensure that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his/her health and/or safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation;
(2) Protect the lives, health, and safety of other persons;
(3) Prevent damage to property, materials, supplies, and equipment; and,
(4) Avoid work interruptions.

(b) For these purposes, the Contractor shall:
(1) Comply with regulations and standards issued by the Secretary of Labor at 29 CFR Part 1926. Failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (Public Law 91-54, 83 Stat. 96), 40 U.S.C. 3701 et seq.; and
(2) Include the terms of this clause in every subcontract so that such terms will be binding on each subcontractor.

(c) The Contractor shall maintain an accurate record of exposure data on all accidents incident to work performed under this contract resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment, and shall report this data in the manner prescribed by 29 CFR Part 1904.

(d) The Contracting Officer shall notify the Contractor of any noncompliance with these requirements and of the corrective action required. This notice, when delivered to the Contractor or the Contractor's representative at the site of the work, shall be deemed sufficient notice of the noncompliance and corrective action required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to take corrective action promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not base any claim or request for equitable adjustment for additional time or money on any stop order issued under these circumstances.

(e) The Contractor shall be responsible for its subcontractors' compliance with the provisions of this clause. The Contractor shall take such action with respect to any subcontract as the PHA, the Secretary of Housing and Urban Development, or the Secretary of Labor shall direct as a means of enforcing such provisions.

14. Temporary Heating

The Contractor shall provide and pay for temporary heating, covering, and enclosures necessary to properly protect all work and materials against damage by dampness and cold, to dry out the work, and to facilitate the completion of the work. Any permanent heating equipment used shall be turned over to the PHA in the condition and at the time required by the specifications.

15. Availability and Use of Utility Services

(a) The PHA shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. Unless otherwise provided in the contract, the amount of each utility service consumed shall be charged to or paid for by the Contractor at prevailing rates charged to the PHA or, where the utility is produced by the PHA, at reasonable rates determined by the Contracting Officer. The Contractor shall carefully conserve any utilities furnished without charge.

(b) The Contractor, at its expense and in a manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of each utility used for the purpose of determining charges. Before final acceptance of the work by the PHA, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.

16. Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements

(a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed under this contract, and which do not unreasonably interfere with the work required under this contract.

(b) The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during performance of this contract, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

(c) The Contractor shall protect from damage all existing improvements and utilities (1) at or near the work site and (2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. Prior to disturbing the ground at the construction site, the Contractor shall ensure that all underground utility lines are clearly marked.

(d) The Contractor shall shore up, brace, underpin, secure, and protect as necessary all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of the site, which may be affected by the excavations or other operations connected with the construction of the project.

(e) Any equipment temporarily removed as a result of work under this contract shall be protected, cleaned, and replaced in the same condition as at the time of award of this contract.

(f) New work which connects to existing work shall correspond in all respects with that to which it connects and/or be similar to existing work unless otherwise required by the specifications.
(g) No structural members shall be altered or in any way weakened without the written authorization of the Contracting Officer, unless such work is clearly specified in the plans or specifications.
(h) If the removal of the existing work exposes discolored or unfinished surfaces, or work out of alignment, such surfaces shall be refinished, or the material replaced as necessary to make the continuous work uniform and harmonious. This, however, shall not be construed to require the refinishing or reconstruction of dissimilar finishes previously exposed, or finished surfaces in good condition, but in different planes or on different levels when brought together by the removal of intervening work, unless such refinishing or reconstruction is specified in the plans or specifications.
(i) The Contractor shall give all required notices to any adjoining or adjacent property owner or other party before the commencement of any work.
(j) The Contractor shall indemnify and save harmless the PHA from any damages on account of settlement or the loss of lateral support of adjoining property, any damages from changes in topography affecting drainage, and from all loss or expense and all damages for which the PHA may become liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.
(k) The Contractor shall repair any damage to vegetation, structures, equipment, utilities, or improvements, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

17. Temporary Buildings and Transportation of Materials

(a) Temporary buildings (e.g., storage sheds, shops, offices, sanitary facilities) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the PHA. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.
(b) The Contractor shall, as directed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any federal, state, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

18. Clean Air and Water

The contactor shall comply with the Clean Air Act, as amended, 42 USC 7401 et seq., the Federal Water Pollution Control Water Act, as amended, 33 U.S.C. 1251 et seq., and standards issued pursuant thereto in the facilities in which this contract is to be performed.

19. Energy Efficiency

The Contractor shall comply with mandatory standards and policies relating to energy efficiency which are contained in the energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub.L. 94-163) for the State in which the work under the contract is performed.

20. Inspection and Acceptance of Construction

(a) Definitions. As used in this clause -
(1) “Acceptance” means the act of an authorized representative of the PHA by which the PHA approves and assumes ownership of the work performed under this contract. Acceptance may be partial or complete.
(2) “Inspection” means examining and testing the work performed under the contract (including, when appropriate, raw materials, equipment, components, and intermediate assemblies) to determine whether it conforms to contract requirements.
(3) “Testing” means that element of inspection that determines the properties or elements, including functional operation of materials, equipment, or their components, by the application of established scientific principles and procedures.
(b) The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to contract requirements. All work is subject to PHA inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.
(c) PHA inspections and tests are for the sole benefit of the PHA and do not: (1) relieve the Contractor of responsibility for providing adequate quality control measures; (2) relieve the Contractor of responsibility for loss or damage of the material before acceptance; (3) constitute or imply acceptance; or, (4) affect the continuing rights of the PHA after acceptance of the completed work under paragraph (j) below.
(d) The presence or absence of the PHA inspector does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specifications without the Contracting Officer’s written authorization. All instructions and approvals with respect to the work shall be given to the Contractor by the Contracting Officer.
(e) The Contractor shall promptly furnish, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Contracting Officer. The PHA may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes reinspection or retest necessary. The PHA shall perform all inspections and tests in a manner that will not unnecessarily delay the work. Special, full size, and performance tests shall be performed as described in the contract.

(f) The PHA may conduct routine inspections of the construction site on a daily basis.

(g) The Contractor shall, without charge, replace or correct work found by the PHA not to conform to contract requirements, unless the PHA decides that it is in its interest to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(h) If the Contractor does not promptly replace or correct rejected work, the PHA may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor, or (2) terminate for default the Contractor's right to proceed.

(i) If any work requiring inspection is covered up without approval of the PHA, it must, if requested by the Contracting Officer, be uncovered at the expense of the Contractor. If at any time before final acceptance of the entire work, the PHA considers it necessary or advisable, to examine work already completed by removing or tearing it out, the Contractor, shall on request, promptly furnish all necessary facilities, labor, and material. If such work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray all the expenses of the examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, the Contracting Officer shall make an equitable adjustment to cover the cost of the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.

(j) The Contractor shall notify the Contracting Officer, in writing, as to the date when in its opinion all or a designated portion of the work will be substantially completed and ready for inspection. If the Architect determines that the state of preparedness is as represented, the PHA will promptly arrange for the inspection. Unless otherwise specified in the contract, the PHA shall accept, as soon as practicable after completion and inspection, all work required by the contract or that portion of the work the Contracting Officer determines and designates can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the PHA's right under any warranty or guarantee.

21. Use and Possession Prior to Completion

(a) The PHA shall have the right to take possession of or use any completed or partially completed part of the work. Before taking possession of or using any work, the Contracting Officer shall furnish the Contractor a list of items of work remaining to be performed or corrected on those portions of the work that the PHA intends to take possession of or use. However, failure of the Contracting Officer to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The PHA's possession or use shall not be deemed an acceptance of any work under the contract.

(b) While the PHA has such possession or use, the Contractor shall be relieved of the responsibility for (1) the loss of or damage to the work resulting from the PHA's possession or use, notwithstanding the terms of the clause entitled Permits and Codes herein; (2) all maintenance costs on the areas occupied; and, (3) furnishing heat, light, power, and water used in the areas occupied without proper remuneration therefore. If prior possession or use by the PHA delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment shall be made in the contract price or the time of completion, and the contract shall be modified in writing accordingly.

22. Warranty of Title

The Contractor warrants good title to all materials, supplies, and equipment incorporated in the work and agrees to deliver the premises together with all improvements thereon free from any claims, liens or charges, and agrees further that neither it nor any other person, firm or corporation shall have any right to a lien upon the premises or anything appurtenant thereto.

23. Warranty of Construction

(a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (j) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or workmanship performed by the Contractor or any subcontractor or supplier at any tier. This warranty shall continue for a period of _____ (one year unless otherwise indicated) from the date of final acceptance of the work. If the PHA takes possession of any part of the work before final acceptance, this warranty shall continue for a period of (one year unless otherwise indicated) from the date that the PHA takes possession.

(b) The Contractor shall remedy, at the Contractor's expense, any failure to conform, or any defect. In addition, the Contractor shall remedy, at the Contractor's expense, any damage to PHA-owned or controlled real or personal property when the damage is the result of—
(1) The Contractor's failure to conform to contract requirements; or
(2) Any defects of equipment, material, workmanship or design furnished by the Contractor.

(c) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for (one year unless otherwise indicated) from the date of repair or replacement.

(d) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect or damage.

(e) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the PHA shall have the right to replace, repair or otherwise remedy the failure, defect, or damage at the Contractor's expense.

(f) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall:
(1) Obtain all warranties that would be given in normal commercial practice;
(2) Require all warranties to be executed in writing, for the benefit of the PHA; and,
(3) Enforce all warranties for the benefit of the PHA.

(g) In the event the Contractor's warranty under paragraph (a) of this clause has expired, the PHA may bring suit at its own expense to enforce a subcontractor's, manufacturer's or supplier's warranty.

(h) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defect of material or design furnished by the PHA nor for the repair of any damage that results from any defect in PHA furnished material or design.
(i) Notwithstanding any provisions herein to the contrary, the establishment of the time periods in paragraphs (a) and (c) above relate only to the specific obligation of the Contractor to correct the work, and have no relationship to the time within which its obligation to comply with the contract 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 its obligation other than specifically to correct the work.
(j) This warranty shall not limit the PHA's rights under the Inspection and Acceptance of Construction clause of this contract with respect to latent defects, gross mistakes or fraud.

24. Prohibition Against Liens

The Contractor is prohibited from placing a lien on the PHA's property. This prohibition shall apply to all subcontractors at any tier and all materials suppliers.

Administrative Requirements

25. Contract Period

this contract within calendar days of the effective date of the contract, or within the time schedule established in the notice to proceed issued by the Contracting Officer.

26. Order of Provisions

In the event of a conflict between these General Conditions and the Specifications, the General Conditions shall prevail. In the event of a conflict between the contract and any applicable state or local law or regulation, the state or local law or regulation shall prevail; provided that such state or local law or regulation does not conflict with, or is less restrictive than applicable federal law, regulation, or Executive Order. In the event of such a conflict, applicable federal law, regulation, and Executive Order shall prevail.

27. Payments

(a) The PHA shall pay the Contractor the price as provided in this contract.
(b) The PHA shall make progress payments approximately every 30 days as the work proceeds, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer. The PHA may, subject to written determination and approval of the Contracting Officer, make more frequent payments to contractors which are qualified small businesses.
(c) Before the first progress payment under this contract, the Contractor shall furnish, in such detail as requested by the Contracting Officer, a breakdown of the total contract price showing the amount included therein for each principal category of the work, which shall substantiate the payment amount requested in order to provide a basis for determining progress payments. The breakdown shall be approved by the Contracting Officer and must be acceptable to HUD. If the contract covers more than one project, the Contractor shall furnish a separate breakdown for each. The values and quantities employed in making up this breakdown are for determining the amount of progress payments and shall not be construed as a basis for additions to or deductions from the contract price. The Contractor shall prorate its overhead and profit over the construction period of the contract.
(d) The Contractor shall submit, on forms provided by the PHA, periodic estimates showing the value of the work performed during each period based upon the approved

submitted not later than _____ days in advance of the date set for payment and are subject to correction and revision as required. The estimates must be approved by the Contracting Officer with the concurrence of the Architect prior to payment. If the contract covers more than one project, the Contractor shall furnish a separate progress payment estimate for each.
(e) Along with each request for progress payments and the required estimates, the Contractor shall furnish the following certification, or payment shall not be made: I hereby certify, to the best of my knowledge and belief, that:
(1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;
(2) Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements; and,
(3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract.

_____
Name:

_____
Title:

_____
Date:

(f) Except as otherwise provided in State law, the PHA shall retain ten (10) percent of the amount of progress payments until completion and acceptance of all work under the contract; except, that if upon completion of 50 percent of the work, the Contracting Officer, after consulting with the Architect, determines that the Contractor's performance and progress are satisfactory, the PHA may make the remaining payments in full for the work subsequently completed. If the Contracting Officer subsequently determines that the Contractor's performance and progress are unsatisfactory, the PHA shall reinstate the ten (10) percent (or other percentage as provided in State law) retainage until such time as the Contracting Officer determines that performance and progress are satisfactory.
(g) The Contracting Officer may authorize material delivered on the site and preparatory work done to be taken into consideration when computing progress payments.

Material delivered to the Contractor at locations other than the site may also be taken into consideration if the Contractor furnishes satisfactory evidence that (1) it has acquired title to such material; (2) the material is properly stored in a bonded warehouse, storage yard, or similar suitable place as may be approved by the Contracting Officer; (3) the material is insured to cover its full value; and (4) the material will be used to perform this contract. Before any progress payment which includes delivered material is made, the Contractor shall furnish such documentation as the Contracting Officer may require to assure the protection of the PHA's interest in such materials. The Contractor shall remain responsible for such stored material notwithstanding the transfer of title to the PHA.

(h) All material and work covered by progress payments made shall, at the time of payment become the sole property of the PHA, but this shall not be construed as (1) relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or, (2) waiving the right of the PHA to require the fulfillment of all of the terms of the contract. In the event the work of the Contractor has been damaged by other contractors or persons other than employees of the PHA in the course of their employment, the Contractor shall restore such damaged work without cost to the PHA and to seek redress for its damage only from those who directly caused it.

(i) The PHA shall make the final payment due the Contractor under this contract after (1) completion and final acceptance of all work; and (2) presentation of release of all claims against the PHA arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. Each such exception shall embrace no more than one claim, the basis and scope of which shall be clearly defined. The amounts for such excepted claims shall not be included in the request for final payment. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned.

(j) Prior to making any payment, the Contracting Officer may require the Contractor to furnish receipts or other evidence of payment from all persons performing work and supplying material to the Contractor, if the Contracting Officer determines such evidence is necessary to substantiate claimed costs.

(k) The PHA shall not; (1) determine or adjust any claims for payment or disputes arising there under between the Contractor and its subcontractors or material suppliers; or, (2) withhold any moneys for the protection of the subcontractors or material suppliers. The failure or refusal of the PHA to withhold moneys from the Contractor shall in nowise impair the obligations of any surety or sureties under any bonds furnished under this contract.

28. Contract Modifications

(a) Only the Contracting Officer has authority to modify any term or condition of this contract. Any contract modification shall be authorized in writing.

(b) The Contracting Officer may modify the contract unilaterally (1) pursuant to a specific authorization stated in a contract clause (e.g., Changes); or (2) for administrative matters which do not change the rights or responsibilities of the parties (e.g., change in the PHA address). All other contract modifications shall be in the form of supplemental agreements signed by the Contractor and the Contracting Officer.

(c) When a proposed modification requires the approval of HUD prior to its issuance (e.g., a change order that exceeds the PHA's approved threshold), such modification shall not be effective until the required approval is received by the PHA.

29. Changes

(a) The Contracting Officer may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract including changes:
(1) In the specifications (including drawings and designs);
(2) In the method or manner of performance of the work;
(3) PHA-furnished facilities, equipment, materials, services, or site; or,
(4) Directing the acceleration in the performance of the work.

(b) Any other written order or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; provided, that the Contractor gives the Contracting Officer written notice stating (1) the date, circumstances and source of the order and (2) that the Contractor regards the order as a change order.

(c) Except as provided in this clause, no order, statement or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.

(d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for the performance of any part of the work under this contract, whether or not changed by any such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for a adjustment based on defective specifications, no proposal for any change under paragraph (b) above shall be allowed for any costs incurred more than 20 days (5 days for oral orders) before the Contractor gives written notice as required. In the case of defective specifications for which the PHA is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.

(e) The Contractor must assert its right to an adjustment under this clause within 30 days after (1) receipt of a written change order under paragraph (a) of this clause, or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting a written statement describing the general nature and the amount of the proposal. If the facts justify it, the Contracting Officer may extend the period for submission. The proposal may be included in the notice required under paragraph (b) above. No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.

(f) The Contractor's written proposal for equitable adjustment shall be submitted in the form of a lump sum proposal supported with an itemized breakdown of all increases and decreases in the contract in at least the following details:

(1) Direct Costs. Materials (list individual items, the quantity and unit cost of each, and the aggregate cost); Transportation and delivery costs associated with materials; Labor breakdowns by hours or unit costs (identified with specific work to be performed); Construction equipment exclusively necessary for the change; Costs of preparation and/ or revision to shop drawings resulting from the change; Worker's Compensation and Public Liability Insurance; Employment taxes under FICA and FUTA; and, Bond Costs when size of change warrants revision.

(2) Indirect Costs. Indirect costs may include overhead, general and administrative expenses, and fringe benefits not normally treated as direct costs.

(3) Profit. The amount of profit shall be negotiated and may vary according to the nature, extent, and complexity of the work required by the change. The allowability of the direct and indirect costs shall be determined in accordance with the Contract Cost Principles and Procedures for Commercial Firms in Part 31 of the Federal Acquisition Regulation (48 CFR 1-31), as implemented by HUD Handbook 2210.18, in effect on the date of this contract. The Contractor shall not be allowed a profit on the profit received by any subcontractor. Equitable adjustments for deleted work shall include a credit for profit and may include a credit for indirect costs. On proposals covering both increases and decreases in the amount of the contract, the application of indirect costs and profit shall be on the net-change in direct costs for the Contractor or subcontractor performing the work.

(g) The Contractor shall include in the proposal its request for time extension (if any), and shall include sufficient information and dates to demonstrate whether and to what extent the change will delay the completion of the contract in its entirety.

(h) The Contracting Officer shall act on proposals within 30 days after their receipt, or notify the Contractor of the date when such action will be taken.

(i) Failure to reach an agreement on any proposal shall be a dispute under the clause entitled Disputes herein. Nothing in this clause, however, shall excuse the Contractor from proceeding with the contract as changed.

(j) Except in an emergency endangering life or property, no change shall be made by the Contractor without a prior order from the Contracting Officer.

30. Suspension of Work

(a) The Contracting Officer may order the Contractor in writing to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the PHA.

(b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted (1) by an act of the Contracting Officer in the administration of this contract, or (2) by the Contracting Officer's failure to act within the time specified (or within a reasonable time if not specified) in this contract an adjustment shall be made for any increase in the cost of performance of the contract (excluding profit) necessarily caused by such unreasonable suspension, delay, or interruption and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor or for which any equitable adjustment is provided for or excluded under any other provision of this contract.

(c) A claim under this clause shall not be allowed (1) for any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order); and, (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

31. Disputes

(a) "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract. A claim arising under the contract, unlike a claim relating to the contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim. The submission may be converted to a claim by complying with the requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.

(b) Except for disputes arising under the clauses entitled Labor Standards - Davis Bacon and Related Acts, herein, all disputes arising under or relating to this contract, including any claims for damages for the alleged breach thereof which are not disposed of by agreement, shall be resolved under this clause.

(c) All claims by the Contractor shall be made in writing and submitted to the Contracting Officer for a written decision. A claim by the PHA against the Contractor shall be subject to a written decision by the Contracting Officer.

(d) The Contracting Officer shall, within 60 (unless otherwise indicated) days after receipt of the request, decide the claim or notify the Contractor of the date by which the decision will be made.

(e) The Contracting Officer's decision shall be final unless the Contractor (1) appeals in writing to a higher level in the PHA in accordance with the PHA's policy and procedures, (2) refers the appeal to an independent mediator or arbitrator, or (3) files suit in a court of competent jurisdiction. Such appeal must be made within (30 unless otherwise indicated) days after receipt of the Contracting Officer's decision.

(f) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under or relating to the contract, and comply with any decision of the Contracting Officer.

32. Default

(a) If the Contractor refuses or fails to prosecute the work, or any separable part thereof, with the diligence that will insure its completion within the time specified in this contract, or any extension thereof, or fails to complete said work within this time, the Contracting Officer may, by written notice to the Contractor, terminate the right to

proceed with the work (or separable part of the work) that has been delayed. In this event, the PHA may take over the work and complete it, by contract or otherwise, and may take possession of and use any materials, equipment, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the PHA resulting from the Contractor's refusal or failure to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the PHA in completing the work.

(b) The Contractor's right to proceed shall not be terminated or the Contractor charged with damages under this clause if—

(1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include (i) acts of God, or of the public enemy, (ii) acts of the PHA or other governmental entity in either its sovereign or contractual capacity, (iii) acts of another contractor in the performance of a contract with the PHA, (iv) fires, (v) floods, (vi) epidemics, (vii) quarantine restrictions, (viii) strikes, (ix) freight embargoes, (x) unusually severe weather, or (xi) delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and

(2) The Contractor, within days (10 days unless otherwise indicated) from the beginning of such delay (unless extended by the Contracting Officer) notifies the Contracting Officer in writing of the causes of delay. The Contracting Officer shall ascertain the facts and the extent of the delay. If, in the judgment of the Contracting Officer, the findings of fact warrant such action, time for completing the work shall be extended by written modification to the contract. The findings of the Contracting Officer shall be reduced to a written decision which shall be subject to the provisions of the Disputes clause of this contract.

(c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been for convenience of the PHA.

33. Liquidated Damages

(a) If the Contractor fails to complete the work within the time specified in the contract, or any extension, as specified in the clause entitled Default of this contract, the Contractor shall pay to the PHA as liquidated damages, the sum of $_____Contracting Officer insert amount] for each day of delay. If different completion dates are specified in the contract for separate parts or stages of the work, the amount of liquidated damages shall be assessed on those parts or stages which are delayed. To the extent that the Contractor's delay or nonperformance is excused under another clause in this contract, liquidated damages shall not be due the PHA. The Contractor remains liable for damages caused other than by delay.

(b) If the PHA terminates the Contractor's right to proceed, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the PHA in completing the work.

(c) If the PHA does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the work is completed or accepted.

34. Termination for Convenience

(a) The Contracting Officer may terminate this contract in whole, or in part, whenever the Contracting Officer determines that such termination is in the best interest of the PHA. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which the performance of the work under the contract is terminated, and the date upon which such termination becomes effective.

(b) If the performance of the work is terminated, either in whole or in part, the PHA shall be liable to the Contractor for reasonable and proper costs resulting from such termination upon the receipt by the PHA of a properly presented claim setting out in detail: (1) the total cost of the work performed to date of termination less the total amount of contract payments made to the Contractor; (2) the cost (including reasonable profit) of settling and paying claims under subcontracts and material orders for work performed and materials and supplies delivered to the site, payment for which has not been made by the PHA to the Contractor or by the Contractor to the subcontractor or supplier; (3) the cost of preserving and protecting the work already performed until the PHA or assignee takes possession thereof or assumes responsibility therefore; (4) the actual or estimated cost of legal and accounting services reasonably necessary to prepare and present the termination claim to the PHA; and (5) an amount constituting a reasonable profit on the value of the work performed by the Contractor.

(c) The Contracting Officer will act on the Contractor's claim within days (60 days unless otherwise indicated) of receipt of the Contractor's claim.

(d) Any disputes with regard to this clause are expressly made subject to the provisions of the Disputes clause of this contract.

35. Assignment of Contract

The Contractor shall not assign or transfer any interest in this contract; except that claims for monies due or to become due from the PHA under the contract may be assigned to a bank, trust company, or other financial institution. Such assignments of claims shall only be made with the written concurrence of the Contracting Officer. If the Contractor is a partnership, this contract shall inure to the benefit of the surviving or remaining member(s) of such partnership as approved by the Contracting Officer.

36. Insurance

(a) Before commencing work, the Contractor and each subcontractor shall furnish the PHA with certificates of insurance showing the following insurance is in force and will insure all operations under the Contract:

(1) Workers' Compensation, in accordance with state or Territorial Workers' Compensation laws.

(2) Commercial General Liability with a combined single limit for bodily injury and property damage of not less than $ _____ [Contracting Officer insert amount]

per occurrence to protect the Contractor and each subcontractor against claims for bodily injury or death and damage to the property of others. This shall cover the use of all equipment, hoists, and vehicles on the site(s) not covered by Automobile Liability under (3) below. If the Contractor has a "claims made" policy, then the following additional requirements apply: the policy must provide a "retroactive date" which must be on or before the execution date of the Contract; and the extended reporting period may not be less than five years following the completion date of the Contract.

(3) Automobile Liability on owned and non -owned motor vehicles used on the site(s) or in connection therewith for a combined single limit for bodily injury and property damage of not less than $ _____ [Contracting Officer insert amount] per occurrence.

(b) Before commencing work, the Contractor shall furnish the PHA with a certificate of insurance evidencing that Builder's Risk (fire and extended coverage) Insurance on all work in place and/or materials stored at the building site(s), including foundations and building equipment, is in force. The Builder's Risk Insurance shall be for the benefit of the Contractor and the PHA as their interests may appear and each shall be named in the policy or policies as an insured. The Contractor in installing equipment supplied by the PHA shall carry insurance on such equipment from the time the Contractor takes possession thereof until the Contract work is accepted by the PHA. The Builder's Risk Insurance need not be carried on excavations, piers, footings, or foundations until such time as work on the superstructure is started. It need not be carried on landscape work. Policies shall furnish coverage at all times for the full cash value of all completed construction, as well as materials in place and/or stored at the site(s), whether or not partial payment has been made by the PHA. The Contractor may terminate this insurance on buildings as of the date taken over for occupancy by the PHA. The Contractor is not required to carry Builder's Risk Insurance for modernization work which does not involve structural alterations or additions and where the PHA's existing fire and extended coverage policy can be endorsed to include such work.

(c) All insurance shall be carried with companies which are financially responsible and admitted to do business in the State in which the project is located. If any such insurance is due to expire during the construction period, the Contractor (including subcontractors, as applicable) shall not permit the coverage to lapse and shall furnish evidence of coverage to the Contracting Officer. All certificates of insurance, as evidence of coverage, shall provide that no coverage may be canceled or non-renewed by the insurance company until at least 30 days prior written notice has been given to the Contracting Officer.

37. Subcontracts

(a) Definitions. As used in this contract -

(1) "Subcontract" means any contract, purchase order, or other purchase agreement, including modifications and change orders to the foregoing, entered into by a subcontractor to furnish supplies, materials, equipment, and services for the performance of the prime contract or a subcontract.

(2) "Subcontractor" means any supplier, vendor, or firm that furnishes supplies, materials, equipment, or services to or for the Contractor or another subcontractor.

(b) The Contractor shall not enter into any subcontract with any subcontractor who has been temporarily denied participation in a HUD program or who has been suspended or debarred from participating in contracting programs by any agency of the United States Government or of the state in which the work under this contract is to be performed.

(c) The Contractor shall be as fully responsible for the acts or omissions of its subcontractors, and of persons either directly or indirectly employed by them as for the acts or omissions of persons directly employed by the Contractor.

(d) The Contractor shall insert appropriate clauses in all subcontracts to bind subcontractors to the terms and conditions of this contract insofar as they are applicable to the work of subcontractors.

(e) Nothing contained in this contract shall create any contractual relationship between any subcontractor and the PHA or between the subcontractor and HUD.

38. Subcontracting with Small and Minority Firms, Women's Business Enterprise, and Labor Surplus Area Firms

The Contractor shall take the following steps to ensure that, whenever possible, subcontracts are awarded to small business firms, minority firms, women's business enterprises, and labor surplus area firms:

(a) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(b) Ensuring that small and minority businesses and women's business enterprises are solicited whenever they are potential sources;

(c) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses and women's business enterprises;

(d) Establishing delivery schedules, where the requirements of the contract permit, which encourage participation by small and minority businesses and women's business enterprises; and

(e) Using the services and assistance of the U.S. Small Business Administration, the Minority Business Development Agency of the U.S. Department of Commerce, and State and local governmental small business agencies.

39. Equal Employment Opportunity

During the performance of this contract, the Contractor/ Seller agrees as follows:

(a) The Contractor/Seller shall not discriminate against any employee or applicant for employment because of of race color, religion, sex, sexual orientation, gender identity, disability, or national origin.

(b) The Contractor/Seller shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, disability, or national origin. Such action shall include, but not be limited to, (1) employment, (2) upgrading demotion, (4) transfer, (5) recruitment or recruitment advertising, (6) layoff or termination, (7) rates of pay or other forms of compensation, and (8) selection for training including apprenticeship

(c) The Contractor/Seller agrees to post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer setting forth the provisions of this nondiscrimination clause.

(d) The Contractor/Seller shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor/Seller, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(e) The Contractor/Seller shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(f) The Contractor/Seller shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(g) The Contractor/Seller shall furnish all information and reports required by Executive Order 11246, as amended, Section 503 of the Rehabilitation Act of 1973, as amended, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto. The Contractor/Seller shall permit access to its books, records, and accounts by the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(h) In the event of a that the Contractor/Seller is in non-compliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor/seller may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(i)The contractor/seller will include the provisions of paragraphs (a) through (h) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each sub[contractor/seller] or vendor. The [contractor/seller] will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions in cluding sanctions for noncompliance: Provided, however, that in the event the [contractor/seller] becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the [contractor/seller] may request the United States to enter into such litigation to protect the interests of the United States.

(j) Compliance with the requirements of this clause shall be to the maximum extent consistent with, but not in derogation of, compliance with section 7(b) of the Indian Self-Determination and Education Assistance Act and the Indian Preference clause of this contract.

40. Employment, Training, and Contracting Opportunities for Low-Income Persons, Section 3 of the Housing and Urban Development Act of 1968.

(a) The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

(b) The parties to this contract agree to comply with HUD's regulations in 24 CFR Part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the Part 135 regulations.

(c) The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

(d) The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 135.

(e) The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR Part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR Part 135.

(f) Noncompliance with HUD's regulations in 24 CFR Part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

(g) With respect to work performed in connection with section 3 covered Indian housing assistance, section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of section 3 and section 7(b)agree to comply with section 3 to the maximum extent feasible, but not in derogation of compliance with section 7(b).

41. Interest of Members of Congress

No member of or delegate to the Congress of the United States of America shall be admitted to any share or part of this contract or to any benefit that may arise therefrom.

42. Interest of Members, Officers, or Employees and Former Members, Officers, or Employees

No member, officer, or employee of the PHA, no member of the governing body of the locality in which the project is situated, no member of the governing body of the locality in which the PHA was activated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the project, shall, during his or her tenure, or for one year thereafter, have any interest, direct or indirect, in this contract or the proceeds thereof.

43. Limitations on Payments made to Influence Certain Federal Financial Transactions

(a) The Contractor agrees to comply with Section 1352 of Title 31, United States Code which prohibits the use of Federal appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.

(b) The Contractor further agrees to comply with the requirement of the Act to furnish a disclosure (OMB Standard Form LLL, Disclosure of Lobbying Activities) if any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement.

44. Royalties and Patents

The Contractor shall pay all royalties and license fees. It shall defend all suits or claims for infringement of any patent rights and shall save the PHA harmless from loss on account thereof; except that the PHA shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified and the Contractor has no reason to believe that the specified design, process, or product is an infringement. If, however, the Contractor has reason to believe that any design, process or product specified is an infringement of a patent, the Contractor shall promptly notify the Contracting Officer. Failure to give such notice shall make the Contractor responsible for resultant loss.

45. Examination and Retention of Contractor's Records

(a) The PHA, HUD, or Comptroller General of the United States, or any of their duly authorized representatives shall, until 3 years after final payment under this contract, have access to and the right to examine any of the Contractor's directly pertinent books, documents, papers, or other records involving transactions related to this contract for the purpose of making audit, examination, excerpts, and transcriptions.

(b) The Contractor agrees to include in first-tier subcontracts under this contract a clause substantially the same as paragraph (a) above. "Subcontract," as used in this clause, excludes purchase orders not exceeding $10,000.

(c) The periods of access and examination in paragraphs (a) and (b) above for records relating to (1) appeals under the Disputes clause of this contract, (2) litigation or settlement of claims arising from the performance of this contract, or (3) costs and expenses of this contract to which the PHA, HUD, or Comptroller General or any of their duly authorized representatives has taken exception shall continue until disposition of such appeals, litigation, claims, or exceptions.

46. Labor Standards - Davis-Bacon and Related Acts

If the total amount of this contract exceeds $2,000, the Federal labor standards set forth in the clause below shall apply to the development or construction work to be performed under the contract.

(a) Minimum Wages.

(1) All laborers and mechanics employed under this contract in the development or construction of the project(s) involved will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the regular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits in the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall

be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(2) (i) Any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. HUD shall approve an additional classification and wage rate and fringe benefits therefor only when all the following criteria have been met: (A) The work to be performed by the classification requested is not performed by a classification in the wage determination; and (B) The classification is utilized in the area by the construction industry; and (C) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(ii) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and HUD or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by HUD or its designee to the Administrator of the Wage and Hour Division, Employee Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary.

(iii) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and HUD or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), HUD or its designee shall refer the questions, including the views of all interested parties and the recommendation of HUD or its designee, to the Administrator of the Wage and Hour Division for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise HUD or its designee or will notify HUD or its designee within the 30-day period that additional time is necessary.

(iv) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (a)(2)(ii) or (iii) of this clause shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in classification.

(3) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(4) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program; provided, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(b) Withholding of funds. HUD or its designee shall, upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working in the construction or development of the project, all or part of the wages required by the contract, HUD or its designee may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. HUD or its designee may, after written notice to the Contractor, disburse such amounts withheld for and on account of the Contractor or subcontractor to the respective employees to whom they are due.

(c) Payrolls and basic records.

(1) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working in the construction or development of the project. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found, under 29 CFR 5.5(a)(1)(iv), that the wages of any laborer or mechanic include the amount of costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(2) (i) The Contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Contracting Officer for transmission to HUD or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under subparagraph (c)(1) of this clause. This information may be submitted in any form desired. Optional Form WH-347 (Federal Stock Number 029-005-00014-1) is available for this purpose and may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The Contractor is responsible for the submission of copies of payrolls by all subcontractors. (Approved by the Office of Management and Budget under OMB Control Number 1214-0149.)

(ii) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(A) That the payroll for the payroll period contains the information required to be maintained under paragraph (c) (1) of this clause and that such information is correct and complete;

(B) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3; and

(C) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(iii) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirements for submission of the "Statement of Compliance" required by subparagraph (c)(2)(ii) of this clause.

(iv) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.

(3) The Contractor or subcontractor shall make the records required under subparagraph (c)(1) available for inspection, copying, or transcription by authorized representatives of HUD or its designee, the Contracting Officer, or the Department of Labor and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, HUD or its designee may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(d) (1) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship and Training, Employer and Labor Services (OATELS), or with a State Apprenticeship Agency recognized by OATELS, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by OATELS or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in this paragraph, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event OATELS, or a State Apprenticeship Agency recognized by OATELS, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under

the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate in the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate in the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate in the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(3) Equal employment opportunity. The utilization of apprentices, trainees, and journeymen under this clause shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

(e) Compliance with Copeland Act requirements. The Contractor shall comply with the requirements of 29 CFR Part 3, which are hereby incorporated by reference in this contract.

(f) Contract termination; debarment. A breach of this contract clause may be grounds for termination of the contract and for debarment as a Contractor and a subcontractor as provided in 29 CFR 5.12.

(g) Compliance with Davis-Bacon and related Act requirements. All rulings and interpretations of the Davis-Bacon and related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

(h) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this clause shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the PHA, HUD, the U.S. Department of Labor, or the employees or their representatives.

(i) Certification of eligibility.

(1) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded contracts by the United States Government by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(2) No part of this contract shall be subcontracted to any person or firm ineligible for award of a United States Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(3) The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U.S.C. 1001.

(j) Contract Work Hours and Safety Standards Act. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics, including watchmen and guards, shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of 40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the provisions set forth in subparagraph (j)(1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic (including watchmen and guards) employed in violation of the provisions set forth in subparagraph (j)(1) of this clause, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by provisions set forth in subparagraph (j)(1) of this clause.

(3) Withholding for unpaid wages and liquidated damages. HUD or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the provisions set forth in subparagraph (j)(2) of this clause.

(k) Subcontracts. The Contractor or subcontractor shall insert in any subcontracts all the provisions contained in this clause, and such other clauses as HUD or its designee may by appropriate instructions require, and also a clause requiring the subcontractors to include these provisions in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all these provisions.

47. Non-Federal Prevailing Wage Rates

(a) Any prevailing wage rate (including basic hourly rate and any fringe benefits), determined under State or tribal law to be prevailing, with respect to any employee in any trade or position employed under the contract, is inapplicable to the contract and shall not be enforced against the Contractor or any subcontractor, with respect to employees engaged under the contract whenever such non-Federal prevailing wage rate exceeds:
(1) The applicable wage rate determined by the Secretary of Labor pursuant to the Davis-Bacon Act (40 U.S.C. 3141 et seq.) to be prevailing in the locality with respect to such trade;
(b) An applicable apprentice wage rate based thereon specified in an apprenticeship program registered with the U.S. Department of Labor (DOL) or a DOL-recognized State Apprenticeship Agency; or
(c) An applicable trainee wage rate based thereon specified in a DOL-certified trainee program.

48. Procurement of Recovered Materials.

(a) In accordance with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, the Contractor shall procure items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition. The Contractor shall procure items designated in the EPA guidelines that contain the highest percentage of recovered materials practicable unless the Contractor determines that such items: (1) are not reasonably available in a reasonable period of time; (2) fail to meet reasonable performance standards, which shall be determined on the basis of the guidelines of the National Institute of Standards and Technology, if applicable to the item; or (3) are only available at an unreasonable price.
(b) Paragraph (a) of this clause shall apply to items purchased under this contract where: (1) the Contractor purchases in excess of $10,000 of the item under this contract; or (2) during the preceding Federal fiscal year, the Contractor: (i) purchased any amount of the items for use under a contract that was funded with Federal appropriations and was with a Federal agency or a State agency or agency of a political subdivision of a State; and (ii) purchased a total of in excess of $10,000 of the item both under and outside that contract.

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SECTION 00 73 00

SUPPLEMENTARY CONDITIONS TO HUD-5370 (1/2014)

The following supplements modify the HUD-5370 (1/2014) “General Conditions of the Contract for Construction - Public Housing Programs.” Where a portion of said General Conditions is modified or deleted by these Supplementary Conditions, the unaltered portions of said General Conditions shall remain in effect.

The documents referenced below are included in the supplementary conditions:

Document 00 73 43 Wage Rates Requirements

Document 00 73 46 Wage Determination Schedule

Document 00 73 73 Statutory Requirements

ARTICLE 1. DEFINITIONS

ADD TO SUBPARAGRAPH (a) THE FOLLOWING SENTENCE:

The term “Architect” shall also mean “Architect/Engineer”, “AE,” and “HSR Associates, Inc.” when used in the Contract Documents.

ADD TO SUBPARAGRAPH (e) THE FOLLOWING SENTENCE:

Wherever the term “Drawings” is used in the General Conditions it shall mean “Project Drawings”, prepared and/or assembled by the AE specifically for this Project, by agreement with the Owner.

ADD TO SUBPARAGRAPH (h) THE FOLLOWING SENTENCE:

References in the bidding and contract documents to “LHA,” “Local Authority”, and “Owner” refer to "PHA" and "Public Housing Agency."

ADD TO SUBPARAGRAPH (i) THE FOLLOWING CLAUSES:

(1) The “Specifications” defined in Subparagraph (i) shall mean the “Project Manual” defined in Subparagraph (m) below, prepared and/or assembled by the AE specifically for this Project, by agreement with the Owner.

(2) The term “Technical Specifications” shall mean the Project Specifications consisting of Divisions 1 through 33 in the Project Manual.

ADD THE FOLLOWING SUBPARAGRAPH:

(m) The "Project Manual” is the bound volume of documentary information prepared and assembled for the Owner by the AE for the specific purpose of bidding and constructing the Work of this Project and includes the Bidding Requirements, Contract Forms, Conditions of the Contract, the Project Specifications and certain Project Drawing standards, schedules and details.

ARTICLE 2. CONTRACTOR’S RESPONSIBILITY FOR WORK

ADD THE FOLLOWING SUBPARAGRAPHS:

(i) Before ordering any materials or performing any Work, the Contractor shall verify all measurements at the Project Site related to that particular Work and shall be responsible for accuracy of same. No extra compensation will be authorized to the Contractor due to differences between actual measurements as constructed or existing and the dimensions shown on the Project Drawings. Any discrepancy in this respect shall be reported immediately to the AE. All component parts of the Work shall be carefully checked and laid out in order that the completed Work, as a whole, shall conform to the intent of the Project Drawings and Project Specifications.

(j) The Contractor may protest in writing to a specified method required or implied by the Contract Documents, the results of which shall be guaranteed under the Contract Documents if, in the Contractor's judgment, the methods will not produce the required result. If such protest is made prior to execution of the Agreement, an alternate method, acceptable to the Contractor,

will be specified by Addendum. If such protest is made after execution of the Contract, alternate methods proposed by the Contractor shall not subject the Owner to additional costs over the Contract Price. By performance of the Work in accordance with the Contract Documents, the Contractor represents approval of any required or implied methods necessary to produce the required result.

ARTICLE 9. SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION

REVISE PARAGRAPH (a) TO READ AS FOLLOWS:

(a) The Contractor shall keep at the Project Site a copy of the Project Drawings and Project Manual and shall, at all times, give the Contracting Officer and the AE access thereto. Anything mentioned in the Project Specifications and not shown on the Project Drawings, or shown on the Project Drawings and not mentioned in the Project Specifications, shall be of like effect as if shown on or mentioned in both.

(1) In the event of conflicts or discrepancies among the Contract Documents, interpretations by the AE will be based on the following priorities:

A. The executed Contract.

B. Addenda, with those of later date having precedence over those of earlier date.

C. The Supplementary Conditions.

D. The General Conditions.

E. Project Drawings and Project Specifications.

(2) In the case of discrepancy between Project Drawings and Project Specifications or within either Document not clarified by addendum, the better quality and greater quantity of Work shall be provided in accordance with the AE's interpretation.

(3) The Project Specifications may be written in an abbreviated or short-form which includes incomplete sentences. Omission of words or phrases (such as “the Contractor shall,” “in conformity with,” “shall be,” “as noted on the Drawings,” “according to the Plans,” “a,” “an,” “the,” and “all”) is intentional. Omitted words and phrases shall be supplied by inference in the same manner as they are when a “note” occurs on the Project Drawings. Words “shall,” “shall be,” “provide” are supplied by inference where a colon (:) is used.

(4) The word “provide” shall mean the furnishing of all materials, labor, equipment, transportation and services required for a complete installation.

ARTICLE 10. AS-BUILT DRAWINGS

ADD THE FOLLOWING TO SUBPARAGRAPH (a):

Wherever the term “as-built drawings” is used in the General Conditions it shall mean “record drawings.” Refer to Section 01 30 00 of the Project Manual for additional record drawings requirements for this Project.

ARTICLE 11. MATERIALS AND WORKMANSHIP

ADD THE FOLLOWING CLAUSES TO SUBPARAGRAPH (b):

(7) Approved substitutions prior to receipt of Bids under this Subparagraph shall be in accordance with the requirements for “Approved Substitutions” specified in Document 00 22 13 Supplementary Instructions to Bidders Clause 14.

(8) After the Contract has been executed, the Owner and the AE will consider a formal request for the substitution of products in place of those specified only in the event that it is necessary to make a substitution because of strikes, lockouts, bankruptcy, discontinuance of a product, satisfactory delivery cannot be made, or the product delivered fails to comply with Project requirements. Such requests shall be made in writing within ten (10) days from the date the Contractor ascertains any of the above events will affect the product and shall include the reason for the request accompanied by a complete description of the product proposed for substitution and the difference in cost, if any, between the proposed product and the specified product. Approval of such requests will be made only by Change Order.

(9) By making requests for substitutions based on Clause (8) above, the Contractor:

A. Represents that the Contractor has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified;

B. Represents that the Contractor will provide the same warranty for the substitution that the Contractor would provide for that specified;

C. Certifies that the cost data presented is complete and includes all related costs under this Contract except the AE's redesign costs, and waives all claims for additional costs related to the substitution which subsequently become apparent; and

D. Will coordinate the installation of the accepted substitute product, making such changes as may be required for the Work to be complete in all respects.

ARTICLE 12. PERMITS AND CODES

ADD TO SUBPARAGRAPH (b) THE FOLLOWING CLAUSES:

(1) The General Contractor shall be responsible to secure and pay for the building permit including the valuation attributable to plumbing work, heating, ventilating and air conditioning work, electrical work and other miscellaneous separate contracts not directly a part of the General Construction Contract, which the local building officials use as a basis in determining the amount of the fee required to issue a building permit for this Project. Other Prime Contractors will not be required to share in such fee required to secure the building permit.

(2) Subparagraph (1) above is concerned only with the “building permit.” Such requirements do not relieve other Prime Contractors from securing and paying for other permits and fees applicable to their particular division of the work.

ARTICLE 13. HEALTH, SAFETY AND ACCIDENT PREVENTION

ADD THE FOLLOWING SUBPARAGRAPH (f):

(f) Contractor shall comply with Wis. Stats. 66.047(2), which provides that any person intending to excavate, erect a building, or make changes thereon, or wreck a building, before commencing the work shall give at least 3 days notice in writing to all public utilities whose facilities will be affected thereby. The Contractor shall safeguard and protect all utilities and be held liable for any damage thereto during construction. Relocating utilities to expedite construction will be permitted provided it is done at no cost to the Owner in accordance with a written agreement between the utility and the Contractor. A signed copy of such agreement shall be filed with the AE before work is started.

ARTICLE 20. INSPECTION AND ACCEPTANCE OF CONSTRUCTION

ADD TO SUBPARAGRAPH (j) THE FOLLOWING CLAUSES:

(1) Upon receipt of written notice that the Work or a designated portion thereof is ready for final inspection and acceptance, the AE will promptly make the first inspection. If the Work is not acceptable and the Contract not fully performed, the AE will notify the Contractor, in writing, of all unfinished Work and fix the time within which the Contractor shall complete the items listed. Upon notification by the Contractor that the list of uncompleted items is complete, the AE will make a follow-up inspection trip to determine if the Work is fully performed.

(2) When the AE finds the Work acceptable under the Contract Documents and the Contract fully performed, the AE will promptly issue a final Certificate for Payment stating that to the best of the AE's knowledge, information and belief, and on the basis of the AE's observations and inspections, the Work has been completed in accordance with the terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor, and noted in said final certificate, is due and payable under the terms of Clause 27 “Payments.”

ARTICLE 27. PAYMENTS

REPLACE SUBPARAGRAPH (d) WITH THE FOLLOWING:

(d) The Contractor shall submit, on forms provided by the PHA, periodic estimates showing the value of the work performed during each period based upon the approved breakdown of the contract price. Such estimates shall be submitted no later than the 25th day of each month and

are subject to correction and revision as required. The estimates must be approved by the Contracting Officer with the concurrence of the Architect prior to payment. If the contract covers more than one project, the Contractor shall furnish a separate progress payment estimate for each.

ADD THE FOLLOWING TO SUBPARAGRAPH (f).

RETAINED PERCENTAGE: For this project, upon certification by Owner, the owner will pay to the Contractor, on account of the Contract, 90 percent of the materials suitable stored.

ARTICLE 29. CHANGES

ADD THE FOLLOWING UNDER (f) AS SUBPARAGRAPH (4):

(4) The percentage fee allowance for the combined overhead and profit included in the total cost to the Owner shall be based on the following schedule:

For the Contractor, for Work performed by the Contractor's own forces, 15 percent of the cost.

For the Contractor, for Work performed by the Contractor's Subcontractor, 10 percent of the cost.

For each Subcontractor or Sub-subcontractor involved, for Work performed by that Subcontractor's or Sub-subcontractor's own forces, 15 percent of cost.

For each Subcontractor, for Work performed by the Subcontractor's Sub-subcontractor, 10 percent of the amount due the Sub-subcontractor.

In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials and Subcontracts. Labor and materials shall be itemized in manner prescribed above. Where major cost items are subcontracts, they shall be itemized also. In no case will a change involving over $500.00 be approved without such itemization.

ARTICLE 32 TERMINATION FOR DEFAULT-DAMAGES FOR DELAY-TIME EXTENSIONS

ADD TO SUBPARAGRAPHS (b) AND (c) THE FOLLOWING SENTENCE

Liquidated damages will be assessed according to Subparagraph 33 below.

ADD THE FOLLOWING SUBPARAGRAPHS

The total amount of liquidated damages applicable to each contract will be determined by the LHA and such amount will be deducted for the balance due to Contractor prior to Final Payment.

It is the obligation of all other contractors to coordinate their work with that of the general contractor and with each other. If liquidated damages are charged to the general contractor, the LHA will determine to what extent such delay, or portion thereof, is chargeable to contractors other than the general contractor. Liquidated damages, not exceeding the amounts stated herein, shall be assessed against all contractors collectively to the extent each is responsible for such delay. The decision of the LHA will prevail.

ARTICLE 33 LIQUIDATED DAMAGES

LIQUIDATED DAMAGES WILL NOT BE ASSESSED BY THE HOUSING AUTHORITY FOR THIS PROJECT

ARTICLE 36 INSURANCE

ADD THE FOLLOWING SUBPARAGRAPHS AFTER (e):

(f) Liability insurance on an occurrence basis shall include all major divisions of coverage and be on a comprehensive basis including:

(1) Premises Operations (including X, C and U coverages as applicable).
(2). Independent Contractor's Protective.
(3) Products and Completed Operations.
(4) Personal Injury Liability.

(5) Contractual, including specified provision for Contractor's obligation under Paragraph 3, a) Contractual Liability below.
(6) Owned, non-owned and hired motor vehicles.
(7) Broad Form Property Damage including Completed Operations.
(8) Owner and AE as Additional Insureds.

(g) Comprehensive or Commercial General Liability (including Premises-Operations; Independent Contractors' Protective; Products and Completed Operations; Broad Form Property Damage):
(1) Bodily Injury and Property Damage:
$1,000,000 Combined Single Limit Each Occurrence
Minimum $2,000,000 Aggregate or Per Project Endorsement

(h) Contractual Liability:
(1) Bodily Injury and Property Damage:
$1,000,000 Combined Single Limit Each Occurrence
Minimum $2,000,000 Aggregate or Per Project Endorsement.

(i) Business Auto Liability (including owned, non-owned and hired vehicles):
(1) Bodily Injury and Property Damage:
$1,000,000 Combined Single Limit (CSL) Each Occurrence
Minimum $2,000,000 Aggregate or Per Project Endorsement

(j) Umbrella Excess Liability:
$2,000,000 over primary insurance.
Maximum self-insured retention of $25,000.

(k) Property Insurance:
The Owner will provide and maintain Property Insurance coverage upon the Entire Work at the Project Sites to the full insurable value there.

ARTICLE 38. SUBCONTRACTING WITH SMALL AND MINORITY FIRMS, WOMEN'S BUSINESS ENTERPRISE, AND LABOR SURPLUS AREA FIRMS

ADD THE FOLLOWING PARAGRAPH (f):

(f) Minority Business Enterprise Involvement

(1) The Contractor shall make every effort to award a minimum of 20% of the work to minority business enterprises. A list of some of the known available minority business enterprises is available at the LHA office. The Contractor will be required to submit a report to the LHA which will identify the minority business enterprises, to whom the work was awarded and the value of said work.

(2) Minority Business Enterprise means: "A sole proprietorship, partnership, joint venture, or corporation which is 51% owned, controlled and actively managed by a Black, Hispanic, American Indian, Eskimo, Aleut, Native Hawaiian, Asian Indian, or a person of Asian-Pacific origin. The business must also be currently performing a useful business function." See Document HUD 5370, GENERAL CONDITIONS, Article 38. Executive Order 11246.

ARTICLE 42. INTEREST OF MEMBERS, OFFICERS, OR EMPLOYEES AND FORMER MEMBERS, OFFICERS, OR EMPLOYEES

ADD THE FOLLOWING SUBPARAGRAPHS:

(a) No member, officer or employee of the Owner, during his/her tenure or for one year thereafter, shall have any interest, direct or indirect, in this Contract or the proceeds thereof.

(b) The Contractor shall include the wording of the preceding Subparagraph (a) in all subcontracts relative to this Project.

ARTICLE 46. LABOR STANDARDS – DAVIS-BACON AND RELATED ACTS

ADD THE FOLLOWING SUBPARAGRAPH (a)(5):

(5) The requirements of the Davis-Bacon Act including prevailing wage requirements apply to this project. See document 00 73 43 Wage Rates Requirements and document 00 73 46 Wage Determination Schedule.

A. Wage rate determinations apply to Work in all Sections of the Project Specifications.

B. Any wages paid for a classification of work not included in the Wage Rate Schedules included herein shall be not less than applicable wage rates determined by officials responsible for wage rate determinations. When determination has been made after employment of an individual, such minimum rate shall be retroactive to time of initial employment.

ADD THE FOLLOWING SUBPARAGRAPH (l):

(l) Debarred Contractors and Disclosure of Ownership: Bidders are advised that all firms submitting prime bids or sub-bids for this Project whose names appear on the current "Consolidated List of Debarred Contractors" prepared and issued to the Owner by the State of Wisconsin Department of Industry, Labor and Human Relations along with the Wage Determination issued by the Equal Rights Division for this Project will not be awarded prime contracts or approved as subcontractors by the Owner, for this Project.

ARTICLE 49 TAXES

CONTRACTORS ARE EXEMPT FROM SALES TAX ON MATERIALS PURCHASED FOR THIS PROJECT. A WISCONSIN SALES AND USE TAX EXEMPTION CERTIFICATE WILL BE INCLUDED WITH THE CONTRACT.

DOCUMENT 00 73 43
WAGE RATES REQUIREMENTS

Prevailing wage requirements of the Davis-Bacon Act apply to this project. The Contractor shall comply with United States Code Title 40 - Public Buildings, Property, and Works, Subtitle II - Public Buildings and Works, Part A – General, Chapter 31 – General, Subchapter IV – Wage Rate Requirements.

Bid the project based on wage determination number: WI20260003.

The text of this wage determination is appended to this document.

END OF DOCUMENT 00 73 43

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SECTION 00 73 46
WAGE DETERMINATION SCHEDULE

"General Decision Number: WI20260003 05/18/2026

State: Wisconsin

Construction Types: Building

Counties: Wisconsin Counties of
La Crosse

Modification Number	Publication Date
0	01/02/2026
1	05/18/2026

ASBE0019-001 06/01/2025

	Rates	Fringes
ASBESTOS REMOVAL WORKER/HAZARDOUS MATERIAL HANDLER (INCLUDES PREPARATION, WETTING, STRIPPING, REMOVAL, SCRAPPING, VACUUMING, BAGGING AND DISPOSING OF ALL INSULATION MATERIALS FROM MECHANICAL SYSTEMS, WHETHER THEY CONTAIN ASBESTOS OR NOT)	$ 45.88	38.15

BOIL0107-001 01/01/2025

	Rates	Fringes
BOILERMAKER (BOILERMAKER)	$ 46.52	34.63

BRWI0001-004 06/01/2025

	Rates	Fringes
BRICKLAYER & TILE SETTER	$ 40.09	28.10

CARP1056-001 06/01/2024

	Rates	Fringes
MILLWRIGHT	$ 42.00	28.85

CARP1143-005 06/01/2025

	Rates	Fringes
SOFT FLOOR LAYER	$ 41.43	29.99
CARPENTER (INCLUDING ACOUSTICAL WORK, DRYWALL HANGING, PILEDRIVERMAN; EXCLUDING BATT INSULATION)	$ 41.43	29.99

ELEC0014-004 05/25/2025

	Rates	Fringes
ELECTRICIAN	$ 44.29	25.21

ELEC0014-005 05/25/2025

	Rates	Fringes
ELECTRICIANS: TELEDATA SYSTEM INSTALLER/TECHNICIAN. LOW VOLTAGE CONSTRUCTION, INSTALLATION, MAINTENANCE AND REMOVAL OF TELEDATA FACILITIES (VOICE, DATA, AND VIDEO) INCLUDING OUTSIDE PLANT, TELEPHONE AND DATA INSIDE WIRE, INTERCONNECT, TERMINAL EQUIPMENT,		

CENTRAL OFFICES, PABX, FIBER OPTIC CABLE AND
EQUIPMENT, MICRO WAVES, V-SAT, BYPASS, CATV, WAN
(WIDE AREA NETWORKS), LAN (LOCAL AREA NETWORKS),
AND ISDN (INTEGRATED SYSTEMS DIGITAL NETWORK).....$ 31.17 20.08

ELEV0132-001 01/01/2025

	Rates	Fringes
ELEVATOR MECHANIC. FOOTNOTE: A. PAID VACATION: EMPLOYER CONTRIBUTES 8% OF BASIC HOURLY RATE AS VACATION PAY FOR EMPLOYEES WITH MORE THAN 5 YEARS OR MORE OF SERVICE, AND 6% FOR LESS THAN 5 YEARS OF SERVICE. B. PAID HOLIDAYS: NEW YEARS DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, VETERANS DAY, THANKSGIVING DAY, FRIDAY AFTER THANKSGIVING, AND CHRISTMAS DAY.....	$ 65.17	38.44

ENGI0139-002 06/02/2025

	Rates	Fringes
POWER EQUIPMENT OPERATOR: GROUP 6 SHOULDERING MACHINE OPERATOR; FARM OR INDUSTRIAL TRACTOR MOUNTED EQUIPMENT; POST HOLE DIGGER; AUGER (VERTICAL AND HORIZONTAL); SKID STEER LOADER WITH OR WITHOUT ATTACHMENTS; ROBOTIC TOOL CARRIER WITH OR WITHOUT ATTACHMENTS; POWER PACK VIBRATORY/ULTRA SOUND DRIVER AND EXTRACTOR; FIREMAN (ASPHALT PLANTS); SCREED OPERATOR; STONE CRUSHERS AND SCREENING PLANTS; AIR, ELECTRIC, HYDRAULIC JACKS (SLIP FORM); PRESTRESS MACHINES; AIR COMPRESSOR, 400 CFM OR OVER; REFRIGERATION PLANT/FREESE MACHINE; BOILER OPERATORS (TEMPORARY HEAT); FORKLIFTS; WELDING MACHINES; GENERATORS; PUMPS OVER 3""; COMPRESSORS, UNDER 400 CFM; HEATERS, MECHANICAL; COMBINATION SMALL EQUIPMENT OPERATOR; WINCHES, SMALL ELECTRIC; OILER; GREASER; ROTARY DRILL TENDER; CONVEYOR; ELEVATOR OPERATOR		

HAZARDOUS WASTE PREMIUMS:
EPA LEVEL ""A"" PROTECTION: $3.00 PER HOUR EPA LEVEL
""B"" PROTECTION: $2.00 PER HOUR EPA LEVEL ""C""
PROTECTION: $1.00 PER HOUR.....$ 41.60 27.89
POWER EQUIPMENT OPERATOR: GROUP 5 TRACTOR,
BULLDOZER, OR ENDLOADER (UNDER 40 HP); TAMPERS
-COMPACTORS, RIDING TYPE; STUMP CHIPPER, LARGE;
ROLLER, RUBBER TIRE; BACKFILLER; TRENCHER, CHAIN
TYPE (BUCKET UNDER 8 INCH); CONCRETE AUTO BREAKER,
LARGE; CONCRETE FINISHING MACHINE (ROAD TYPE);
CONCRETE BATCH HOPPER; CONCRETE CONVEYOR SYSTEMS;
CONCRETE MIXERS, 14S OR OVER; PUMPS, SCREW TYPE AND
GYPSUM); HYDROHAMMERS, SMALL; BROOMS AND SWEEEPRS;
LIFT SLAB MACHINE; ROLLER UNDER 5 TONS; INDUSTRIAL
LOCOMOTIVES; FIREMAN (PILE DRIVERS AND DERRICKS);
PUMPS (WELL POINTS); HOISTS, AUTOMATIC; A-FRAMES
AND WINCH TRUCKS; HOISTS (TUGGERS); BOATS (TUG,
SAFETY, WORK BARGES AND LAUNCHES); ASSISTANT
ENGINEER

HAZARDOUS WASTE PREMIUMS:
EPA LEVEL ""A"" PROTECTION: $3.00 PER HOUR EPA LEVEL

""B"" PROTECTION: $2.00 PER HOUR EPA LEVEL ""C""
PROTECTION: $1.00 PER HOUR.....$ 43.13 27.89
POWER EQUIPMENT OPERATOR: GROUP 4 HYDRAULIC BACKHOE
(TRACTOR OR TRUCK MOUNTED); HYDRAULIC CRANE, 10
TONS OR LESS; TRACTOR, BULLDOZER, OR END LOADER
(OVER 40 HP); MOTOR PATROL; SCRAPER OPERATOR;
BITUMINOUS PLANT AND PAVER OPERATOR; SCREED-MILLING
MACHINE; ROLLER OVER 5 TONS; CONCRETE PUMPS 46
METER & UNDER; GROUT PUMPS; ROTEC TYPE MACHINE;
HYDRO BLASTER, 10,000 PSI AND OVER; ROTARY DRILL
OPERATOR; PERCUSSION DRILLING MACHINE; AIR TRACK
DRILL WITH OR WITHOUT INTEGRAL HAMMER; BLASTER;
BORING MACHINE (VERTICAL OR HORIZONTAL); SIDE BOOM;
TRENCHER, WHEEL TYPE OR CHAIN TYPE HAVING 8 INCH OR
LARGER BUCKET; RAIL LEVELING MACHINE (RAILROAD);
TIE PLACER; TIE EXTRACTOR; TIE TAMPER; STONE
LEVELER; STRADDLE CARRIER; MATERIAL HOISTS; STACK
HOIST; MAN HOISTS; MECHANIC AND WELDER; OFF ROAD
MATERIAL HAULERS

HAZARDOUS WASTE PREMIUMS: EPA LEVEL ""A""
PROTECTION: $3.00 PER HOUR EPA LEVEL ""B""
PROTECTION: $2.00 PER HOUR EPA LEVEL ""C""
PROTECTION: $1.00 PER HOUR.....$ 45.20 27.89
POWER EQUIPMENT OPERATOR: GROUP 3 BACKHOES
(EXCAVATORS) WEIGHING UNDER 130,000 LBS; TRAVELLING
CRANE (BRIDGE TYPE); MILLING MACHINE; CONCRETE
PAVER OVER 27 E; CONCRETE SPREADER AND DISTRIBUTOR;
CONCRETE LASER SCREED; CONCRETE GRINDER AND PLANING
MACHINE; SLIPFORM CURB AND GUTTER MACHINE; BORING
MACHINE (DIRECTIONAL); DREDGE OPERATOR; SKID RIGS;
OVER 46 METER CONCRETE PUMP.

HAZARDOUS WASTE PREMIUMS: EPA LEVEL ""A""
PROTECTION: $3.00 PER HOUR EPA LEVEL ""B""
PROTECTION: $2.00 PER HOUR EPA LEVEL ""C""
PROTECTION: $1.00 PER HOUR.....$ 45.73 27.89
POWER EQUIPMENT OPERATOR: GROUP 2 BACKHOES
(EXCAVATORS) WEIGHING 130,000 LBS & OVER; CRANES,
TOWER CRANES AND DERRICKS WITH OR WITHOUT
ATTACHMENTS WITH A LIFTING CAPACITY OF 100 TONS OR
LESS; CRANES, TOWER CRANES, AND DERRICKS WITH BOOM,
LEADS, AND/OR JIB LENGTHS 175 FT OR LESS; CAISSON
RIGS; PILE DRIVER

HAZARDOUS WASTE PREMIUMS: EPA
LEVEL ""A"" PROTECTION: $3.00 PER HOUR EPA LEVEL ""B""
PROTECTION: $2.00 PER HOUR EPA LEVEL ""C""

PROTECTION: $1.00 PER HOUR.....$ 49.28 27.89
POWER EQUIPMENT OPERATOR: GROUP 1 CRANES, TOWER
CRANES AND DERRICKS WITH OR WITHOUT ATTACHMENTS
WITH A LIFTING CAPACITY OF OVER 100 TONS; CRANES,
TOWER CRANES, AND DERRICKS WITH BOOM, LEADS AND/OR
JIB LENGTHS 176 FT OR LONGER.

HAZARDOUS WASTE PREMIUMS: EPA LEVEL ""A""
PROTECTION: $3.00 PER HOUR EPA LEVEL ""B""
PROTECTION: $2.00 PER HOUR EPA LEVEL ""C""
PROTECTION: $1.00 PER HOUR.....$ 50.53 27.89

IRON0383-002 06/01/2025

	Rates	Fringes
IRONWORKER	$ 44.00	32.66

LABO0140-001 06/01/2025

	Rates	Fringes
LABORER: ASBESTOS/HAZARDOUS MATERIAL REMOVER. NOTE: MASON TENDER $1.00 OVER GENERAL LABORER SCALE; PIPELAYER $1.00 OVER GENERAL LABORER SCALE	$ 36.65	19.97
LABORER, GENERAL. NOTE: MASON TENDER $1.00 OVER GENERAL LABORER SCALE; PIPELAYER $1.00 OVER GENERAL LABORER SCALE	$ 37.70	19.97

PAIN0259-005 05/01/2017

	Rates	Fringes
PAINTER	$ 22.99	13.29

PLAS0599-006 06/01/2025

	Rates	Fringes
PLASTERER	$ 39.75	25.10
CEMENT MASON/CONCRETE FINISHER	$ 37.25	27.84

PLUM0434-001 06/01/2025

	Rates	Fringes
PLUMBER/PIPEFITTER (INCLUDING HVAC WORK)	$ 50.94	25.98

SFWI0669-002 04/01/2025

	Rates	Fringes
SPRINKLER FITTER	$ 51.68	29.73

SHEE0018-008 06/01/2025

	Rates	Fringes
SHEET METAL WORKER (INCLUDING HVAC DUCT WORK AND TECHNICIANS)	$ 45.63	29.02

SUWI2002-004 01/23/2002

	Rates	Fringes
TILE & MARBLE FINISHER	$ 13.89	8.33
ROOFER	$ 18.01	3.28
LABORERS: LANDSCAPE	$ 8.73	4.90
LABORERS: (CONCRETE WORKERS)	$ 16.34	3.59
ASBESTOS WORKER/HEAT AND FROST INSULATOR	$ 25.36	8.37

TEAM0662-003 06/01/2025

	Rates	Fringes
TRUCK DRIVER (3 OR MORE AXLES)	$ 39.72	28.70

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least $13.65 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract from May 11, 2026, through December 31, 2026. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than "SU", "UAVG", "SA", or "SC" denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the

example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The "SU" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

"SU" wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The "SA" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the "SA" identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on

a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION

"

END OF SECTION

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DOCUMENT 00 73 73

STATUTORY REQUIREMENTS

THE FOLLOWING REQUIREMENTS ARE INCLUDED BY REFERENCE IN DOCUMENT 00 73 00 SUPPLEMENTARY CONDITIONS.

1.01 Federal Equal Employment Opportunity – See attached.

1.02 Section 3 Requirements.

A. Requirements:

1. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (Section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

2. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 75, which implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 75 regulations.

3. The contractor agrees to post copies of a notice advising workers of the Contractor's commitments under Section 3 in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

4. The contractor agrees to provide written notice of employment and contracting opportunities to all known Section 3 Workers and Section 3 Businesses.

5. The contractor agrees to employ, to the greatest extent feasible, Section 3 workers or provide written justification to the recipient that is consistent with 24 CFR Part 75, describing why it was unable to meet minimum numerical Section 3 Worker hours goals, despite its efforts to comply with the provisions of this clause.

6. The contractor agrees to maintain records documenting Section 3 Workers that were hired to work on previous Section 3 covered projects or activities that were retained by the contractor for subsequent Section 3 covered projects or activities.

7. The contractor agrees to post contract and job opportunities to the Opportunity Portal and will check the Business Registry for businesses located in the project area.

8. The contractor agrees to include compliance with Section 3 requirements in every subcontract for Section 3 projects as defined in 24 CFR part 75, and agrees to take appropriate action, as provided in an applicable provision of the subcontract upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 75. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 75.

9. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 75 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 75.

10. The contractor will certify that they have followed prioritization of effort in 24 CFR part 75.19 for all employment and training opportunities. The contractor will further certify that it meets or exceeds the applicable Section 3 benchmarks, defined in 24 CFR Part 75.23, and if not, shall describe in detail the qualitative efforts it has taken to pursue low- and very low-income persons for economic opportunities.

11. Noncompliance with HUD's regulations in 24 CFR part 75 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

B. Section 3 Business Concerns are encouraged to respond to this proposal. A Section 3 Business Concern is one that satisfies one of the following requirements:

1. It is at least 51 percent owned and controlled by low- or very low-income persons;

2. Over 75 percent of the labor hours performed for the business over the prior three-month period are performed by Section 3 Workers; or

3. It is a business at least 51 percent owned and controlled by current public housing residents or residents who currently live in Section 8-assisted housing.

4. A Section 3 Worker is defined as any worker who currently fits or when hired within the past five years fit at least one of the following categories, as documented:

a. The worker's income for the previous or annualized calendar year is below the applicable income limit established by HUD;

b. The worker is employed by a Section 3 business concern; or

c. The worker is a YouthBuild participant.

5. Businesses that believe they meet the Section 3 criteria are encouraged to register as a Section 3 Business through HUD's website: https://portalapps.hud.gov/Sec3BusReg/BRegistry/RegisterBusiness.

D. Numeric Targets for Public Housing Financial Assistance

1. 25 percent or more of the total number of labor hours worked by all workers employed with public housing financial assistance in the PHA's or other recipient's fiscal year are Section 3 workers; and

2. 5 percent or more of the total number of labor hours worked by all workers employed with public housing financial assistance in the PHA's or other recipient's fiscal year are Targeted Section 3 workers, as defined in § 75.11.

E. Income Limits

1. Income limits for Section 3 workers are established by HUD's Income Limits Documentation System. These limits are available at www.huduser.gov/portal/datasets/il.html. Reference "Low Income" thresholds for qualifying employees as Section 3 workers.

F. Related Documents:

1. Bidding:

a. Include Document 00 43 41 Certification of Intent to Comply with Section 3 Requirements with bid.

2. Qualifying Workers:

a. Document 00 62 41.01 Section 3 Public Housing/Section 8 Certification Form

b. Document 00 62 41.03 Section 3 Employer Certification Form

c. Document 00 62 41.05 Section 3 Worker Self-Certification Form

3. Labor Hour Reporting:

a. Document 00 62 43.01 Section 3 Labor Reporting per Contractor / Subcontractor.

b. Document 00 62 43.03 Section 3 Periodic Project Labor Reporting.

3. Qualitative Effort Reporting:

a. Document 00 62 45 Section 3 Qualitative Efforts Form.

END OF DOCUMENT 00 73 73

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

a) The equal opportunity clause published at 41 CFR 60-1.4(a) of this chapter is required to be included in, and is part of, all nonexempt Federal contracts and subcontracts, including construction contracts and subcontracts. The equal opportunity clause published at 41 CFR 60-1.4(b) is required to be included in, and is a part of, all nonexempt federally assisted construction contracts and subcontracts. In addition to the clauses described above, all Federal contracting officers, all applicants and all nonconstruction contractors, as applicable, shall include the specifications set forth in this section in all Federal and federally assisted construction contracts in excess of $10,000 to be performed in geographical areas designated by the Director pursuant to Sec. 60-4.6 of this part and in construction subcontracts in excess of $10,000 necessary in whole or in part to the performance of nonconstruction Federal contracts and subcontracts covered under the Executive order.

Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246)

1. As used in these specifications:

a. ``Covered area'' means the geographical area described in the solicitation from which this contract resulted;

b. ``Director'' means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;

c. ``Employer identification number'' means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

d. ``Minority'' includes:

(i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

(ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of

race);

(iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

(iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted constuction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in

the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or

community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newpaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with onsite supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and

discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative

action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at

least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

(b) The notice set forth in 41 CFR 60-4.2 and the specifications set forth in 41 CFR 60-4.3 replace the New Form for Federal Equal Employment
Opportunity Bid Conditions for Federal and Federally Assisted Construction published at 41 FR 32482 and commonly known as the Model Federal EEO Bid Conditions, and the New Form shall not be used after the regulations in 41 CFR Part 60-4 become effective.
[43 FR 49254, Oct. 20, 1978; 43 FR 51401, Nov. 3, 1978, as amended at 45 FR 65978, Oct. 3, 1980]

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SECTION 01 10 00

SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Refer to Cover Sheet on Drawings for project title and location.

B. Refer to 00 11 13 - Advertisement for Bids for brief description of Project.

1.02 RELATED REQUIREMENTS

A. Section 01 50 00 - Temporary Facilities and Controls: Requirements for temporary utilities.

B. Section 01 70 00 - Execution and Closeout Requirements: Contract limits and protection of existing conditions.

1.03 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Price as described in Document 00 52 00 - Agreement Form.

1.04 PHASED CONSTRUCTION

A. The Work shall be conducted in a single phase.

1.05 WORK BY OTHERS

A. Items indicated "N.I.C." on the Project Drawings will be furnished and installed by others not a party to the Prime Contracts.

1.06 OWNER OCCUPANCY

A. Owner intends to continue to occupy adjacent portions of the existing building during the entire construction period.

B. Owner intends to occupy the Project area upon Substantial Completion.

C. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

D. Schedule the Work to accommodate Owner occupancy.

1.07 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Drawings.

B. Arrange use of site and premises to allow:
   1. Owner occupancy.
   2. Work by Others.
   3. Work by Owner.

C. Provide access to and from site as required by law and by Owner:
   1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
   2. Do not obstruct roadways, sidewalks, or other public ways without permit.

D. Time Restrictions:
   1. Work on the Project shall be done during normal working hours. If at any time during construction it becomes necessary to accelerate the Work in order to meet completion dates for portions or all of the Work, all trades shall work overtime at no additional cost to Owner.

E. Utility Outages and Shutdown:
   1. Notify Owner within 48 hours of necessary interruptions of services including, but not limited to: HVAC systems, water service (hot & cold), electrical service, communications systems.
   2. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 7 days notice to Owner and authorities having jurisdiction.

3. Prevent accidental disruption of utility services to other facilities.

1.08 CONSTRUCTION SCHEDULE

A. Date of Commencement of the Work: November 16, 2026.

B. Date of Substantial Completion: May 7, 2027.

C. Final Completion: The completion of all Work according to the contract Documents, approved by the AE and accepted by the Owner shall be within 30 days after the Date of Substantial Completion.

D. Exceptions: The only exceptions to the above completion dates are delay or termination because of a national emergency and/or extension of time for completion claimed and allowed according to the General Conditions and/or Supplementary Conditions.

1.09 WORK SEQUENCE

A. Coordinate construction schedule and operations with Architect.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for progress payments.

B. Documentation of changes in Contract Sum and Contract Time.

C. Change order procedures.

D. Correlation of Contractor submittals based on changes.

E. Procedures for preparation and submittal of application for final payment.

1.02 RELATED REQUIREMENTS

A. Document 00 52 13 - Agreement Forms AIA-A101: Contract Sum, payment period.

B. Section 00 72 00 General Conditions and 00 73 00 Supplementary Conditions: Additional requirements for progress payments, final payment, changes in the Work.

C. Section 00 73 00 - Supplementary Conditions: Percentage allowances for Contractor's overhead and profit.

1.03 SCHEDULE OF VALUES

A. The Schedule of Values shall allocate the entire Contract Sum among the various portions of the Work and be prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This Schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Applications for Payment.

B. Use Schedule of Values Form: Schedule of Amounts for Contract Payments HUD-51000.

C. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.

D. Forms filled out by hand will not be accepted.

E. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.

F. Revise schedule to list approved Change Orders, with each Application For Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

A. Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates of Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

B. Payment Period: One calendar month time frame.

C. Use Form AIA G702 and Form AIA G703, edition stipulated in the Agreement.

D. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.

E. Forms filled out by hand will not be accepted.

F. Provide an application for payment and determine progress payment amount per 27 Article 27 of General Conditions for Construction - Public Housing Programs and applicable Supplementary Conditions.

G. For each item, provide a column for listing each of the following:

Item Number.
Description of work.
. Scheduled Value.
Work Completed From Previous Application (D + E).

Work Completed This Period.
Materials Presently Stored (Not in D or E).
Total Completed and Stored to Date (D + E + F) & Percentage Complete (G/C).
Balance to Finish (C-G).
Retainage.

H. Execute certification by signature of authorized officer.

I. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.

J. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.

K. Submit one electronic copy, in .pdf format, of each Application for Payment.

L. Include the following with the application:
   1. Transmittal letter as specified for submittals in Section 01 30 00.
   2. Construction progress schedule, revised and current as specified in Section 01 30 00.
   3. Current construction photographs specified in Section 01 30 00.

M. When Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.05 PRODUCT HANDLING

A. Maintain a "Register of Bulletins and Change Orders" at the job site, accurately reflecting current status of all pertinent data.

B. Make the Register available for review upon request.

1.06 PROCESSING CHANGES INITIATED BY THE OWNER AND/OR AE

A. For minor changes not involving an adjustment to the Contract Price or Contract Time, Architect will issue instructions directly to Contractor.

B. Should the Owner contemplate making a change in the Work or a change in the Contract Time of Completion, the Architect/Engineer, upon Owner direction, will issue a "Bulletin" to the Contractor.
   1. Bulletins will be dated and will be numbered in sequence.
   2. The Bulletin will describe the contemplated change.
      a. Promptly advise Architect/Engineer as to credit or cost and time required proposed for the described change. This is not an authorization to proceed with the change.

C. If the Contractor has been directed by Architect/Engineer to make the described change in the Work at no change in the Contract Sum and no change in the Contract Time of Completion, but the Contractor wishes to make a claim for one or both of such changes, the Contractor shall proceed with the change and shall notify the Architect/Engineer as provided for under Article 7 of the General Conditions.

D. If the Contractor has been directed by Architect/Engineer to make the described change subject to later determination of cost or credit in accordance with Article 7 of the General Conditions, the Contractor shall:
   1. Take such measures as needed to make the change.
   2. Consult with Architect/Engineer and reach agreement on the most appropriate method for determining credit or cost for the change.

1.07 PROCESSING CHANGES INITIATED BY CONTRACTOR

A. Should the Contractor discover a discrepancy among the Contract Documents, a concealed condition or other cause for suggesting a change in the Work, a change in the Contract Sum, or a change in the Contract Time of Completion, the Contractor shall notify Architect/Engineer as required by pertinent provisions of the Contract Documents.

B. Upon agreement by Architect/Engineer that there is reasonable cause to consider the Contractor's proposed change, Architect/Engineer will issue a Bulletin in accordance with the provisions described in the preceding article.

1.08 PROCESSING OF BULLETINS

A. Make written reply to Architect/Engineer in response to each Bulletin by date stated on the Bulletin:
   1. State proposed change in the Contract Sum, if any.
   2. State proposed change in the Contract Time of Completion, if any.
   3. Clearly describe other changes in the Work required by the proposed change, or desirable therewith, if any.
   4. Include full backup data such as subcontractor's letter of proposal or similar information.

B. When cost or credit for the proposed change has been agreed upon by the Owner and the Contractor, or the Owner has directed that cost or credit be determined in accordance with provisions of Article 29 of General Conditions for Construction Contracts - Public Housing Programs and applicable Supplementary Conditions, A/E will notify contractor in writing. A formal Change Order will be initiated and executed at the time of completion of the Contract, or at a time when the payment for work completed is due. All approved Bulletins previously not incorporated into the Contract by a Change Order, shall be combined into a Change Order to adjust the final Contract Sum to compensate for all Changes in the Work to date.

1.09 PROCESSING CHANGE ORDERS

A. Change Orders will be dated and will be numbered in sequence.

B. The Change Order will describe the change or changes, will refer to the Bulletin or Bulletins involved, and will be endorsed by Architect/Engineer and signed by the Contractor and the Owner.

C. Architect/Engineer will issue three copies of each Change Order.
   1. The Contractor promptly shall sign all three copies and return all copies to Architect/Engineer.
   2. Architect/Engineer shall forward the Change Order to the Owner for his signature. Upon approval, he shall distribute two fully executed copies of the Change Order to Architect/Engineer. A/E to distribute one to the Contractor.

D. Substantiation of Costs: Provide full information required for evaluation.
   1. On request, provide the following data:
      a. Quantities of products, labor, and equipment.
      b. Taxes, insurance, and bonds.
      c. Overhead and profit.
      d. Justification for any change in Contract Time.
      e. Credit for deletions from Contract, similarly documented.
   2. Support each claim for additional costs with additional information:
      a. Origin and date of claim.
      b. Dates and times work was performed, and by whom.
      c. Time records and wage rates paid.
      d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
   3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.

E. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

F. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.

G. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.

H. Promptly enter changes in Project Record Documents.

1.10 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

B. Application for Final Payment will not be considered until the following have been accomplished:
   1. All closeout procedures specified in Section 01 70 00.
   2. All closeout submittals specified in Section 01 78 00.
   3. Acceptance of the work in full per Article 20 of General Conditions for Construction Contracts - Public Housing Programs and applicable Supplementary Conditions.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedural requirements for proposed substitutions.

1.02 RELATED REQUIREMENTS

A. Document 00 21 13 - Instructions to Bidders: Process for requesting explanations and interpretations including substitutions. See Clause 2.

B. Document 00 22 13 - Supplementary Instructions to Bidders: Process for securing approval of proposed substitutions. See Clause 14.

C. Document 00 43 25 - Substitution Request Form - During Procurement: Form for substitution requests made prior to award of contract (During procurement).

D. Document 00 63 25 - Substitution Request Form - During Construction: Required form for substitution requests made after award of contract (During construction).

E. Section 00 72 00 - General Conditions of the Contract: HUD 5370 - Review Clause 11 "Material and Workmanship".

F. Section 00 73 00 - Supplementary Conditions (for HUD 5370): Contract wording regarding substitutions - see Article 11.

1.03 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
   1. Substitutions during Procurement: Proposed changes prior to contract award.
   2. Substitutions during Construction:
      a. Substitutions for Cause: Proposed changes following contract award due to changed Project circumstances beyond Contractor's control.
         1) Unavailability.
         2) Regulatory changes.
      b. Substitutions for Convenience: Proposed changes following contract award due to possibility of offering substantial advantage to the Project. Substitution requests offering advantages solely to the Contractor will not be considered without a fair credit being offered to the owner.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
   4. Waives claims for additional costs or time extension that may subsequently become apparent.
   5. Agrees to reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.

B. A Substitution Request for a specified installer constitutes a representation that the submitter:
   1. Has acted in good faith to obtain services of specified installer, but was unable to come to commercial, or other terms.

C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
   1. Explicitly note any non-compliant characteristics.

D. Limit each request to a single proposed substitution item.

3.02 SUBSTITUTION PROCEDURES DURING PROCUREMENT

A. Submittal Time Restrictions:
   1. Instructions to Bidders specifies time restrictions and the documents required for submitting substitution requests during the bidding period.
   2. Document 00 21 13 - Instructions to Bidders specifies time restrictions and the documents required for submitting substitution requests during the bidding period.

B. Submittal Form (before award of contract):
   1. Submit substitution request. Use form in Document 00 43 25 or otherwise provide the required documentation.

3.03 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

A. Submittal Form (after award of contract):
   1. Submit substitution requests by completing the form in Document 00 63 25; see this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.

B. Architect will consider requests for substitutions only within 15 days after date of Agreement.

C. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.

D. Submit request for Substitution for Convenience within 14 days of discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.
   1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
   2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
   3. Bear the costs engendered by proposed substitution of:
      a. Owner's compensation to the Architect for any required redesign, time spent processing and evaluating the request.

E. Substitutions will not be considered under one or more of the following circumstances:
   1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
   2. Without a separate written request.
   3. When acceptance will require revisions to Contract Documents.

3.04 RESOLUTION

A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

B. Architect will notify Contractor in writing of decision to accept or reject request.
   1. Architect's decision following review of proposed substitution will be noted on the submitted form.

3.05 ACCEPTANCE

A. Accepted substitutions will be documented and incorporated into work of the project only by Addendum, Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.06 CLOSEOUT ACTIVITIES

A. See 01 78 00 - Closeout Submittals for additional information regarding documenting warranties for accepted substitutions.

END OF SECTION

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SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General administrative requirements.

B. Electronic document submittal service.

C. Preconstruction meeting.

D. Progress meetings.

E. Construction progress schedule.

F. Progress photographs.

G. Coordination drawings.

H. Submittals for review, information, and project closeout.

I. Number of copies of submittals.

J. Requests for Interpretation (RFI) procedures.

K. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 shall govern the work of this section.

B. Section 01 25 00 - Substitution Procedures.

C. Section 01 40 00 - Quality Requirements: Testing reports.

D. Section 01 60 00 - Product Requirements: General product requirements.

E. Section 01 70 00 - Execution and Closeout Requirements: Additional coordination requirements.

F. Section 01 78 00 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

1.03 GENERAL ADMINISTRATIVE REQUIREMENTS

A. Comply with requirements of Section 01 70 00 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.

B. Make the following types of submittals to Architect:
   1. Requests for Interpretation (RFI).
   2. Requests for substitution.
   3. Shop drawings, product data, and samples.
   4. Test and inspection reports.
   5. Design data.
   6. Manufacturer's instructions and field reports.
   7. Applications for payment and change order requests.
   8. Progress schedules.
   9. Coordination drawings.
   10. Correction Punch List and Final Correction Punch List for Substantial Completion.
   11. Closeout submittals.

1.04 PROJECT COORDINATOR

A. Project Coordinator: Contractor's Superintendent.

B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for equipment access, traffic, and parking facilities.

C. During construction, coordinate use of site and facilities through the Project Coordinator.

D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.

E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities.

F. Coordinate field engineering and layout work under instructions of the Project Coordinator.

G. Make the following types of submittals to Architect through the Project Coordinator:
   1. Requests for Interpretation.
   2. Requests for substitution.
   3. Shop drawings, product data, and samples.
   4. Test and inspection reports.
   5. Design data.
   6. Manufacturer's instructions and field reports.
   7. Applications for payment and change order requests.
   8. Progress schedules.
   9. Coordination drawings.
   10. Correction Punch List and Final Correction Punch List for Substantial Completion.
   11. Closeout submittals.

PART 2 PRODUCTS NOT USED

PART 3 EXECUTION

3.01 ELECTRONIC DOCUMENT SUBMITTAL SERVICE

A. All documents transmitted for purposes of administration of the contract are to be in electronic (PDF, MS Word, or MS Excel) format, as appropriate to the document, and transmitted via an Internet-based submittal service that receives, logs and stores documents, provides electronic stamping and signatures, and notifies addressees via email.
   1. Besides submittals for review, information, and closeout, this procedure applies to Requests for Interpretation (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, Contractor's correction punchlist, and any other document any participant wishes to make part of the project record.
   2. Contractor and Architect are required to use this service.
   3. It is Contractor's responsibility to submit documents in allowable format.
   4. Subcontractors, suppliers, and Architect's consultants and Owner are to be permitted to use the service at no extra charge.
   5. Users of the service need an email address, internet access, and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, www.adobe.com, or Bluebeam PDF Revu, www.bluebeam.com), unless such software capability is provided by the service provider.
   6. Paper document transmittals will not be reviewed without prior authorization; emailed electronic documents will not be reviewed.
   7. All other specified submittal and document transmission procedures apply, except that electronic document requirements do not apply to samples or color selection charts.
   8. Physical samples or color charts required for color selection shall be scanned into PDF format and submitted for approval via the Electronic Document Submittal Service in addition to physical delivery of the samples.
   9. If the service allows for customization of the submittal review and acknowledgement categories then the Contractor shall adjust the categories to match the following categories. If the service is not customizable, then the reviewer is free to pick the category

of the service that best matches the desired workflow for the submittal without changing the substance of the reviewer's stamped response.

a. The Architect's Review Stamp includes the following categories:
    1) Review Completed.
    2) Exceptions as Noted.
    3) Rejected.
    4) Revise and Resubmit.
    5) Confirmation Required.
    6) Additional Information Requested.
    7) Not Required for Review.

B. Submittal Service: The selected service is:
    1. Sharefile or contractor's preferred submittal system subject to AE's approval.

C. Project Closeout: Architect will determine when to terminate the service for the project and is responsible for obtaining archive copies of files for Owner.

3.02 PRECONSTRUCTION MEETING

A. Architect will schedule a meeting within 10 working days after Notice of Award.

B. Attendance Required:
    1. Owner.
    2. Architect.
    3. Contractor.
    4. Major subcontractors.
    5. Architect/Engineer will advise other interested parties, and request their attendance.

C. Agenda:
    1. Organizational arrangement of Contractor's forces and personnel, and those of subcontractors, materials suppliers, and Architect/Engineer.
    2. Channels and procedures for communication.
    3. Construction schedule, including sequence of critical work.
    4. Coordination of separate contract work, if any.
    5. Distribution of Contract Documents.
    6. Designation of personnel representing the parties to Contract and Architect.
    7. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
    8. Rules and regulations governing performance of the Work.
    9. Procedures for safety and first aid, security, quality control, housekeeping, and related matters.

D. Architect will conduct meeting, record and distribute minutes.

3.03 PROGRESS MEETINGS

A. Meetings to be held throughout progress of the Work at maximum monthly intervals.

B. Architect will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings, record and distribute minutes.

C. Attendance Required:
    1. Contractor.
    2. Owner.
    3. Architect.
    4. Contractor's superintendent.
    5. Major subcontractors.
    6. Assign the same person or persons to represent the Contractor at project meetings throughout progress of the Work.
    7. Subcontractors, materials suppliers, and others may be invited to attend those project meetings in which their aspect of the Work is involved.

D. Minimum Agenda:
   1. Review minutes of previous meetings.
   2. Review of work progress.
   3. Field observations, problems, and decisions.
   4. Identification of problems that impede, or will impede, planned progress.
   5. Review of submittals schedule and status of submittals.
   6. Review of off-site fabrication and delivery schedules.
   7. Maintenance of progress schedule.
   8. Corrective measures to regain projected schedules.
   9. Planned progress during succeeding work period.
   10. Coordination of projected progress.
   11. Maintenance of quality and work standards.
   12. Effect of proposed changes on progress schedule and coordination.
   13. Other business relating to work.

E. Revisions to minutes:
   1. Unless published minutes are challenged in writing prior to the next regularly scheduled progress meeting, they will be accepted as properly stating the activities and decisions of the meeting.
   2. Persons challenging published minutes shall reproduce and distribute copies of the challenge to all indicated recipients of the particular set of minutes.
   3. Challenge to minutes shall be settled as priority portion of "old business" at the next regularly schedule meeting.

3.04 CONSTRUCTION PROGRESS SCHEDULE

A. Within 7 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of work, with a general outline for remainder of work.

B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

C. Within 7 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
   1. Include written certification that major contractors have reviewed and accepted proposed schedule.

D. Within 7 days after joint review, submit complete schedule.

E. Submit updated schedule with each Application for Payment.

F. Submit updated schedule periodically as required to reflect progress made and remaining work to achieve contractual completion date.

3.05 PHOTOGRAPHS

A. Take photographs as evidence of existing project conditions as follows:
   1. Interior views: Verify conditions of adjacent surfaces and finish conditions for future verification.
   2. Exterior views: Verify conditions of adjacent items (i.e. sidewalks paving sod walls etc.) for future verification.

B. Digital Photographs: 24 bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software.
   1. Delivery Medium: Via email.
   2. File Naming: Include project identification, date and time of view, and view identification.

3.06 COORDINATION DRAWINGS

A. Provide information required by Project Coordinator for preparation of coordination drawings.

B. Review drawings prior to submission to Architect.

3.07 REQUESTS FOR INTERPRETATION (RFI)

A. Definition: A request seeking one of the following:
   1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
   2. A resolution to an issue which has arisen due to field conditions and affects design intent.

B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.

C. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
   1. Prepare a separate RFI for each specific item.
      a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
      b. Do not forward requests which solely require internal coordination between subcontractors.
   2. Prepare in a format and with content acceptable to Architect.

D. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents (Drawings, Addenda and Specifications) to confirm that information sufficient for their interpretation is definitely not included.
   1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
   2. Unacceptable Uses for RFIs: Do not use RFIs to request the following::
      a. Approval of submittals (use procedures specified elsewhere in this section).
      b. Approval of substitutions (see Section - 01 25 00 Substitution Procedures).
      c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
      d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
   3. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
   4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.

E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
   1. Official Project name and number, and any additional required identifiers established in Contract Documents.
   2. Owner's, Architect's, and Contractor's names.
   3. Discrete and consecutive RFI number, and descriptive subject/title.
   4. Issue date, and requested reply date.
   5. Contractor shall confirm that their research of the issue has included review of both the Project Drawings and Specification Manual.
   6. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
   7. Annotations: Field dimensions and/or description of conditions which have engendered the request.
   8. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing,

clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.

F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

G. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
   1. Indicate current status of every RFI. Update log promptly and on a regular basis.
   2. Note dates of when each request is made, and when a response is received.
   3. Highlight items requiring priority or expedited response.
   4. Highlight items for which a timely response has not been received to date.
   5. Identify and include improper or frivolous RFIs.

H. Review Time: Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 1:00 p.m. will be considered as having been received on the following regular working day.
   1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.

I. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.
   1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
   2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
   3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
   4. Notify Architect within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.08 SUBMITTAL SCHEDULE (LOG)

A. Submit to Architect for review a schedule for submittals in tabular format.
   1. Submit at the same time as the preliminary schedule.
   2. Coordinate with Contractor's construction schedule and schedule of values.
   3. Format schedule to allow tracking of status of submittals throughout duration of construction.
   4. Arrange information to include scheduled date for initial submittal, specification number and title, description of item of work covered, role and name of subcontractor, and Categorization: Review, Information, Closeout, Maintenance Materials.
   5. Account for time required for preparation, review, manufacturing, fabrication and delivery when establishing submittal delivery and review deadline dates.
      a. For assemblies, equipment, systems comprised of multiple components and/or requiring detailed coordination with other work, allow for additional time to make corrections or revisions to initial submittals, and time for their review.

3.09 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Delegated design - Instruments of Service.
   3. Shop drawings.
   4. Samples for selection.
   5. Samples for verification.

B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.

C. Samples will be reviewed for aesthetic, color, or finish selection.

D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 78 00 - Closeout Submittals.

3.10 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Certificates.
   2. Test and evaluation reports.
   3. Inspection reports.
   4. Manufacturer's instructions.
   5. Manufacturer reports.
   6. Qualification documentation.
      a. Manufacturer.
      b. Supplier.
      c. Fabricators.
      d. Installers, Applicators, Erectors.
   7. Source quality control documentation.
   8. Field quality control documentation.
   9. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner.

3.11 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01 78 00 - Closeout Submittals:
   1. Maintenance Contracts.
   2. Project record documents.
   3. Operation and maintenance data.
   4. Warranties.
   5. Bonds.
   6. Sustainable Design Closeout Documentation.
   7. Software.
   8. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.12 MAINTENENACE MATERIALS SUBMITTALS

A. When the following are specified in individual sections, provide the specified items to the Owner and submit documentation of the owner's acceptance of the items, the date of transfer to the Owner and location at time of transfer.
   1. Spare Parts.
   2. Extra Stock.
   3. Tools.

B. Unless otherwise required by the Owner or Architect maintenance materials submittals can be documented in single combined transmittal at project closeout.

3.13 NUMBER OF COPIES OF SUBMITTALS

A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.

B. Hard Copy Documents for Review: (If PDF format is not possible).
   1. Small Size Sheets, Not Larger Than 8-1/2 by 11 inches: Submit the number of copies that Contractor requires, plus one copy that will be retained by Architect.
   2. Larger Sheets, Not Larger Than 36 by 48 inches: Submit the number of opaque reproductions that Contractor requires, plus one copy that will be retained by Architect.
   3. Hard Copy Documents for product data Information: Submit number of copies required to be returned plus one copy which will be retained by the A/E.

C. Extra Copies at Project Closeout: See Section 01 78 00.

3.14 SAMPLES

A. Samples: Submit the number specified in individual specification sections, but no fewer than two; at least one of which will be retained by Architect.
   1. Retained samples will not be returned to Contractor unless specifically so stated.

3.15 SUBMITTAL PROCEDURES

A. General Requirements:
   1. Submittal Transmittal Requirements.
      a. Use a single transmittal for related submittal items. Do not combine submittal items from more than one of the following categories into a single transmittal: review, information, closeout, and maintenance materials.
         1) This project manual may contain specification sections that require transmittals that include submittal items from multiple sections as a single combined transmittal. Follow the instructions within the specification sections.
         2) For specification sections that explicitly identify related submittal items provide transmittals that combine the items indicated.
            (a) If related items are explicitly identified they will be categorized into any of the following groups:
               (1) Review Submittals - Preparatory.
               (2) Review Submittals - Samples.
               (3) Information Submittals - Preparatory.
               (4) Information Submittals - During Execution.
               (5) Closeout Submittals.
               (6) Maintenance Materials.
         3) For specification sections that do not explicitly identify related submittal items, provide a separate transmittal for each item or coordinate with the Architect for approval of grouping submittal items into combined transmittals.
      b. Transmit using approved form / coversheet.
         1) Use Contractor's form, subject to prior approval by Architect.
         2) Use form generated by Electronic Document Submittal Service software.
         3) Provide space for Contractor and Architect review stamps.
      c. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
      d. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
      e. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
   2. Submittals from sources other than the Contractor, or without Contractor's stamp will not be acknowledged, reviewed, or returned.

3. Deliver each submittal on date noted in submittal schedule, unless an earlier date has been agreed to by all affected parties, and is of the benefit to the project.
    a. Deliver hardcopy and sample submittals to Architect at business address. Submit in hardcopy form only for physical sample submittals or other submittals with prior approval by the Architect.
    b. Upload submittals in electronic form to Electronic Document Submittal Service website.
4. Schedule submittals to expedite the Project, and coordinate submission of related items.
    a. For each submittal for review, allow 10 days excluding delivery time to and from the Contractor.
    b. For sequential reviews involving Architect's consultants, Owner, or another affected party, allow an additional 5days.
5. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
6. When revised for resubmission, identify all changes made since previous submission.
7. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
8. Where contents of submitted product data include data not pertinent to the submittal, clearly indicate which portion of the contents is being submitted for review.
    a. Circle, box or callout the applicable items in the submittal.
    b. Strikethrough or cross-out non-applicable items in the submittal.
9. Within 30 days after notification of selection for award of contract, provide a listing of suppliers and manufacturers, include their address, phone number, and the portions of work which they will perform.
10. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.
11. Submittals not requested will be recognized and will be returned "Not Required for Review."

B. Product Data Procedures:
    1. Submit only information required by individual specification sections.
    2. Collect required information into a single submittal.
    3. Submit concurrently with related shop drawing submittal.
    4. Do not submit (Material) Safety Data Sheets for materials or products.

C. Shop Drawing Procedures:
    1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work. Prepare drawings to a scale sufficiently large to show all pertinent aspects of the item and method of connection.
    2. Do not reproduce Contract Documents to create shop drawings.
    3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.

D. Samples Procedures:
    1. Transmit related items together as single package.
    2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.
    3. Include with transmittal high-resolution image files of samples to facilitate electronic review and approval. Provide separate submittal page for each item image.
    4. In situations specifically so approved by the Architect, the Architect's sample may be used in the construction as one of the installed items.
    5. Unless the precise color and pattern is specifically described in the Contract Documents, and whenever a choice of color or pattern is available in a specified product, submit accurate color and pattern charts to the Architect for review and selection.

E. Reviewing and conditional approval are only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents.

F. Conditions of approval: The Contractor is responsible for dimensions to be confirmed and correlated at the site; for information that pertains solely to the fabrication process or to the means, methods, techniques, sequences and procedures of construction and for coordination of the Work of all trades. Corrections or comments made on this shop drawing submittal do not relieve the Contractor from compliance with requirements of Contract Documents.

G. Delays caused by tardiness in receipt of submittals will not be an acceptable basis for extension of the Contract Completion date.

3.16 SUBMITTAL REVIEW

A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.

B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.

C. Submittals for Project Closeout: Architect will review with closeout documentation.

D. Submittals for Maintenance Materials: Architect will review with closeout documentation.

E. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
   1. Notations may be made directly on submitted items and/or listed on appended Submittal Review cover sheet.

F. Architect's and consultants' actions on items submitted for review:
   1. Authorizing purchasing, fabrication, delivery, and installation:
      a. "Review Completed", or language with same legal meaning.
      b. "Exceptions as Noted", or language with same legal meaning.
         1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
      c. "Additional Information Requested", or language with the same legal meaning.
         1) Resubmit with additional information, with review notations acknowledged and incorporated.
         2) Non-responsive resubmittals may be rejected.
      d. "Review Completed and Confirmation Required", or language with same legal meaning.
         1) Resubmit corrected item, with review notations acknowledged and incorporated. Resubmit separately, or as part of project record documents.
         2) Non-responsive resubmittals may be rejected.
   2. Not Authorizing fabrication, delivery, and installation:
      a. "Revise and Resubmit".
         1) Resubmit revised item, with review notations acknowledged and incorporated.
         2) Non-responsive resubmittals may be rejected.
      b. "Rejected".
         1) Submit item complying with requirements of Contract Documents.

G. Architect's and consultants' actions on items submitted for information:
   1. Acknowledgment of the submittal without noting any further action required by the Contractor regarding the submittal:
      a. "Review Completed", or language with the same legal meaning.
   2. Returning the submittal to the contractor for correction:
      a. "Rejected", or language with the same legal meaning. This categorization of the submittal may be accompanied by further instruction or other categorization in the stamp to advise the contractor what needs to be corrected.

H. Architect's and consultants' actions on items submitted that were not requested.
   1. "Not Required for Review" - to notify the contractor the submittal is not required.

END OF SECTION

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SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittals.

B. References and standards.

C. Inspection agencies and services.

D. Control of installation.

E. Tolerances.

F. Manufacturers' field services.

G. Defect Assessment.

1.02 RELATED REQUIREMENTS

A. Section 01 30 00 - Administrative Requirements: Submittal procedures.

B. Section 01 60 00 - Product Requirements: Requirements for material and product quality.

1.03 REFERENCE STANDARDS

A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants; 2008 (Reapproved 2023).

B. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation; 2026.

C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry; 2023.

D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction; 2023.

E. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection; 2025b.

F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing; 2026.

G. ASTM E699 - Standard Specification for Agencies Involved in Testing, Quality Assurance, and Evaluating of Manufactured Building Components; 2016.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for procedures.

B. Information Submittals - Preparatory:

1. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.
    a. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
    b. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.
2. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

C. Information Submittals - During Execution:
   1. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.
      a. Include:
         1) Date issued.
         2) Project title and number.
         3) Name of inspector.
         4) Date and time of sampling or inspection.
         5) Identification of product and specifications section.
         6) Location in the Project.
         7) Type of test/inspection.
         8) Date of test/inspection.
         9) Results of test/inspection.
         10) Compliance with Contract Documents.
         11) When requested by Architect, provide interpretation of results.
      b. Test report submittals are for Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.
   2. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner.
      a. Submit report in duplicate within 30 days of observation to Architect for information.
      b. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

1.05 REFERENCES AND STANDARDS

A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.

C. Obtain copies of standards where required by product specification sections.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.

F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from Contract Documents by mention or inference otherwise in any reference document.

1.06 CONFLICTING REQUIREMENTS

A. If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but indicated as equal to the Architect for a decision.

1.07 TESTING AND INSPECTION AGENCIES AND SERVICES

A. Unless noted otherwise Contractor shall employ and pay for services of an independent testing agency to perform specified testing and inspection.

B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

C. Contractor Employed Agency:
   1. Testing agency: Comply with requirements of ASTM E329, ASTM E543, ASTM E699, ASTM C1021, ASTM C1077, ASTM C1093, and ASTM D3740.
   2. Inspection agency: Comply with requirements of ASTM D3740 and ASTM E329.
   3. Laboratory: Authorized to operate in the state in which the project is located.
   4. Testing Equipment: Calibrated at reasonable intervals either by NIST or using an NIST established Measurement Assurance Program, under a laboratory measurement quality assurance program.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.

D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Have work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.

B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

3.03 TESTING AND INSPECTION

A. See individual specification sections for testing required.

B. Testing Agency Duties:
   1. Test samples of mixes submitted by Contractor.
   2. Provide qualified personnel and required equipment at site. Cooperate with Architect and Contractor in performance of services.
   3. Perform specified sampling and testing of products in accordance with specified standards.
   4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
   5. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.
   6. Perform additional tests and inspections required by Architect.
   7. Submit reports of all tests/inspections specified. Test results and reports shall be furnished simultaneously to the Architect/Engineer (1 copy) and the General Contractor (1 copy) within one week of testing.

C. Limits on Testing/Inspection Agency Authority:
   1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.

2. Agency may not approve or accept any portion of the Work.
3. Agency may not assume any duties of Contractor.
4. Agency has no authority to stop the Work.

D. Contractor Responsibilities:
1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
2. Cooperate with laboratory personnel, and provide access to the Work.
3. Provide incidental labor and facilities:
a. To provide access to Work to be tested/inspected.
b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
c. To facilitate tests/inspections.
d. To provide storage and curing of test samples.
4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

E. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.

F. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.04 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance equipment as applicable, and to initiate instructions when necessary.

B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.05 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not complying with specified requirements.

B. If, in the opinion of Architect, it is not practical to remove and replace the work, Architect will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary utilities.

B. Temporary telecommunications services.

C. Temporary sanitary facilities.

D. Temporary Controls: Barriers, enclosures, and fencing.

E. Security requirements.

F. Vehicular access and parking.

1.02 RELATED REQUIREMENTS

A. Section 01 10 00 - Summary of the Work: Limitations on utility interruptions.

B. Section 01 70 00 - Execution and Closeout Requirements: Instructions for protection of floors and finished work.

C. Section 01 70 00 - Execution and Closeout Requirements: Contract limits and protection of existing site conditions.

1.03 EXISTING SERVICES AND UTILITIES

A. Maintain existing services and utilities in use at all times during construction. Provide and pay for temporary connections or devices when necessary to avoid interruptions of such services and utilities, and remove same when no longer needed.

B. Schedule unavoidable, construction related interruptions with the AE and the Owner well in advance of the need for such interruptions.

C. When new services and utilities are ready to change over from Contractor's to Owner's responsibility, notify the AE in writing 10 days in advance of the proposed date of change over. If AE and Owner concur, make change over as proposed. If not, AE will so notify the Contractor in writing stating the reasons why, and stating a new date when the change over can be made.

1.04 TEMPORARY UTILITIES

A. Water:
   1. Use Owners existing water service. Provide any modifications at contractor's expense. Owner to pay for water used.
   2. Each contractor shall provide their own hoses.
   3. Drinking Water: The Contractor shall provide drinking water for all persons on the Project during construction.
   4. Use trigger-operated nozzles for water hoses, to avoid waste of water.

B. Electricity:
   1. Use the Owners existing electrical service.
   2. The Owner will furnish all electricity expended to complete construction at no cost to Contractor. Where required power requirements are not met with Owner's available service, Contractor shall provide necessary portable power to meet Project needs.
   3. When installation of the permanent electrical service and distribution system is sufficiently complete to be operated safely, the system may be used to provide construction light and power and testing and operation of permanent equipment.

1.05 TEMPORARY HEAT AND VENTILATION

A. Provide temporary heat and ventilation as required to maintain adequate environmental conditions to facilitate progress of the Work, to meet specified minimum conditions for the installation of materials, and to protect materials and finishes from damage due to temperature and humidity.

B. Provide adequate forced ventilation of enclosed areas for curing of installed materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors or gases.

C. Coordinate operation of existing HVAC systems during construction to prevent contaminating system with dust and debris. Cover return air grilles and supply air outlets as required to protect system. Coordinate with owner required shutdown to protect system. Replace filters at substantial completion.

D. Portable heaters shall be standard approved units complete with controls.

E. Pay all costs of installation, maintenance, operation and removal, and for fuel consumed.

1.06 TELEPHONE AND INTERNET SERVICE

A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.

B. Telecommunications services shall include:
   1. Windows-based personal computer dedicated to project telecommunications, with necessary software and laser printer.
   2. Telephone Land Lines or Cell Phone: One line, minimum; one handset per line.
   3. Internet Connections: Minimum of one; DSL modem or faster.
   4. Email: Account/address reserved for project use.
   5. Contractor option to have internet and email service at their main office.

1.07 TEMPORARY SANITARY FACILITIES

A. When temporary toilet facilities are no longer required, completely remove them from the Project Site and restore the premises to new condition. Disinfect, treat and clean area.

B. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

C. Contractor may use Owner's facilities. Keep facilities clean.

1.08 INTERIOR ENCLOSURES

A. Provide temporary partitions and ceilings as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.

B. Construction: Framing and 10 mil reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces.

C. All surfaces in existing building not indicated to be altered, but which are damaged during the course of the Work by any trade, shall be repaired by the Prime Contractor to match adjoining similar surfaces.

D. All areas of existing building used for access to work areas, which are not within enclosed areas to altered, shall be completely cleaned of all debris and made "broom clean" by the Prime Contractor at the end of each day's work.

E. Dust which permeates areas of existing building outside of the enclosed work areas shall be the responsibility of the Prime Contractor. All such areas shall be completely cleaned by the Prime Contractor to the satisfaction of the Owner at no additional cost.

1.09 SECURITY

A. Take precautions against fire and comply fully with requirements of insurance authorities and regulations of the local fire department.

B. Remove combustible refuse and dispose in an approved manner off the Project Site. Burning refuse on the Project Site shall not be permitted. Do not store combustible materials or supplies in areas where concrete forms are still in place. Limit materials storage to completely fireproof areas. When storing outside keep at least 10 feet away from any building.

C. During entire construction period, provide fire extinguishers of the types, sizes, quantity and locations effective for use by all trades to extinguish fires in the construction area(s), as defined in NFPA publication No. 10 but no less than the following:
   1. Type A at locations of low potential for fires caused by either electrical hazards or grease-oil-flammable liquids.
   2. Type ABC dry chemical at other locations, including but not limited to each workshop and each material storage shed.

D. Post warning and quick-use instructions at each extinguisher location and instruct all personnel upon first arrival at the Project Site in the pooper use of fire extinguishers and fire related procedures. Post the local fire department call number on each telephone instrument at the Project Site. Post "No Smoking" signs in areas of unusual hazard.

E. Do not relax fire protection precautions during Work interruptions such as strikes or other reasons.

F. Provide and maintain barricades with appropriate lighting to identify excavations or stored materials placed on any public street, highway or other public ground. Conform to requirements of the local governing authority.

G. For the building proper, provide suitable protection at openings through roof and floors, and at openings through walls where a hazard exists, such as man-sized openings within three feet of the floor, and provide visual barriers at installed glass but do not use tape or markings applied directly to the glass surface.

H. Be responsible to maintain complete security of the building at all times during the entire period of the Work of the Project.

1.10 MOISTURE CONTROL

A. Each Contractor: Carry on construction work in manner that will direct surface water away from new construction and off the project Site, away from adjoining property.

B. General Contractor shall be responsible for pumping of building excavations as a part of the work of the General construction Contract without extra compensation. Pumping of other than building excavations shall be the responsibility of the contractor doing the work.

C. During process of completing building weatherproof enclosure contractors shall protect materials and areas of work susceptible to moisture damage. Installation of wet or moisture damaged materials is prohibited.

1.11 VEHICULAR ACCESS AND PARKING

A. Provide and maintain all required access to the Work from paved areas and other routes, in strict accordance with Owners requirements. Do not obstruct existing service drives and parking lots with equipment, materials and/or vehicles. Keep accessible for Owner's use at all times.

B. Contractors and their employees will be allowed to park vehicles in area designated by Owner.

C. Coordinate access and haul routes with governing authorities and Owner.

D. Provide and maintain access to fire hydrants, free of obstructions.

E. Provide means of removing mud from vehicle wheels before entering streets.

1.12 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

B. Provide containers with lids. Remove trash from site periodically.

C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.13 MATERIALS HANDLING AT PROJECT SITE

A. Each Contractor: Provide suitable storage facilities for own materials at the Project Site within the limits of construction, provide and maintain staging, scaffolding and the like, tools and equipment for the erection and completion of own work and remove all upon completion.

B. Each Contractor: Protect and preserve own materials, products and equipment stored at Project Site. Materials such as wood, steel, cement, and plasters shall not be piled directly on the ground. Protective coverings shall be watertight and substantial to prevent blowing away. Confine storage of materials, sheds and other apparatus to areas designated for such purposes.

C. During the course of construction, do not place construction materials on any structural plane or member such as a floor area, beam or column, in any manner, group or arrangement which exceeds the design live load of such structural plane or member.

1.14 FIRST AID

A. Each Contractor: Provide and maintain first aid supplies and equipment in quantity and content commensurate with size of Project and type of construction work, for the use of each Contractor's personnel. Advise all personnel of the location of first aid supplies.

1.15 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Maintain all temporary facilities and controls as long as needed for the safe and proper completion of the Work. Remove all such temporary facilities and controls as rapidly as progress of the Work will permit, or as directed by the Architect/Engineer.

B. Clean and repair damage caused by installation or use of temporary work.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General product requirements.

B. Transportation, handling, storage and protection.

C. Product option requirements.

D. Substitution limitations.

E. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 govern work under this Section.

B. Section 01 25 00 - Substitution Procedures: Substitutions made during procurement and/or construction phases.

C. Section 01 40 00 - Quality Requirements: Product quality monitoring.

1.03 REFERENCE STANDARDS

A. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by Contract Documents.

B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.

C. Existing materials and equipment indicated to be removed, but not to be re-used, salvaged, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

2.02 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by Contract Documents.

B. Use of products having any of the following characteristics is not permitted:
   1. Made using or containing CFC's or HCFC's.
   2. Made of wood from newly cut old growth timber.

2.03 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

A. See Section 01 25 00 - Substitution Procedures.

3.02 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 01 74 19.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

G. Comply with manufacturer's warranty conditions, if any.

H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

I. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

J. Prevent contact with material that may cause corrosion, discoloration, or staining.

K. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

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

END OF SECTION

SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition.

C. Pre-installation meetings.

D. Cutting and patching.

E. Cleaning and protection.

F. Starting of systems and equipment.

G. Demonstration and instruction of Owner personnel.

H. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

I. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 govern work under this Section.

B. Section 01 10 00 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.

C. Section 01 30 00 - Administrative Requirements: Submittals procedures, Electronic document submittal service.

D. Section 01 40 00 - Quality Requirements: Testing and inspection procedures.

E. Section 01 78 00 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.

1.03 SUBMITTALS

A. See contract Conditions and General Requirements for procedures.

B. Provide submittal transmittals that include all submittal items identified in each submittal group below.

C. Cutting and Patching Beyond Work Identified on Plans: Submit written request in advance of cutting or alteration which affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Visual qualities of sight exposed elements.
   5. Work of Owner or separate Contractor.
   6. Include in request:
      a. Identification of Project.
      b. Location and description of affected work.
      c. Necessity for cutting or alteration.
      d. Description of proposed work and products to be used.
      e. Alternatives to cutting and patching.
      f. Effect on work of Owner or separate Contractor.
      g. Written permission of affected separate Contractor.
      h. Date and time work will be executed.

D. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.04 REQUIREMENTS OF REGULATORY AGENCIES

A. Comply with National Electric Code for temporary power.

B. Comply with Federal, State and local codes and regulations, and with utility company requirements.

1.05 PROJECT CONDITIONS

A. Grade site to drain. Maintain excavations free of water.

B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

C. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

D. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.

E. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.

F. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

G. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

H. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.06 CONTRACT LIMITS AND PROTECTION OF EXISTING CONDITIONS

A. All work shall be confined within the Contract limits indicated on the Project Drawings. Do not infringe upon other areas without the permission of the AE. If not indicated otherwise, consider the property lines to be the Contract limits.

B. Existing property, buildings, walks, curbs, trees, shrubs, lawns, boulevards, and the Work of other Contractors, which are damaged or disturbed outside the Contract limits shall be restored to original condition or better. Contractor shall be responsible for the damage or disturbance and shall restore disturbed lawn areas with sod and replace damaged trees and shrubs.

C. Existing Pavement and Flatwork Protection:
   1. Where excessive loading of trucks and travel of tracked equipment occurs over existing asphalt paving and concrete flatwork, provide constructions mats to prevent cracking, deformation or similar damage. Damaged pavements, slabs or curb and gutter shall be replaced with new. Prior to construction start, review existing conditions with Owner and A/E and document with photos.

D. Existing shrubs and trees indicated on the Project Drawings to remain shall be protected from physical damage. Observe the following precautions within a distance of 15 feet of the trunk of such trees:
   1. Install temporary fencing as required to control traffic under trees.
   2. Dump no trash, especially concrete, plaster, mortar, or wash water.
   3. No storing of cement, plaster, concrete block, brick and similar products.
   4. Provide and maintain good drainage; no ponding water permitted.
   5. Clean up the area immediately as nearby construction work is completed.

1.07 COORDINATION

A. See Section 01 10 00 for occupancy-related requirements.

B. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

C. Notify affected utility companies and comply with their requirements.

D. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.

E. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

F. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

G. Coordinate completion and clean-up of work of separate sections.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 25 00 - Substitution Procedures.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or miss-fabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.04 ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as indicated.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of alterations work constitutes acceptance of existing conditions.

B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
   1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 50 00 - Temporary Facilities and Controls.

C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
   1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
   2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.

D. Remove existing work as indicated and as required to accomplish new work.
   1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
   2. Remove items indicated on drawings.
   3. Relocate items indicated on drawings.
   4. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
   5. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
   1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
   2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
   3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
      a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
      b. See Section 01 10 00 for other limitations on outages and required notifications.
      c. Provide temporary connections as required to maintain existing systems in service.
   4. Verify that abandoned services serve only abandoned facilities.
   5. Remove abandoned pipe, ducts, conduits, and equipment , including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

F. Protect existing work to remain.
   1. Prevent movement of structure; provide shoring and bracing if necessary.
   2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.

G. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
   1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
   2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
   3. Where a change of plane of 1/4 inch or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.

H. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

I. Refinish existing surfaces as indicated:
   1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
   2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

J. Clean existing systems and equipment.

K. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

L. Do not begin new construction in alterations areas before demolition is complete.

M. Comply with all other applicable requirements of this section.

3.05 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. See Alterations article above for additional requirements.

C. Perform whatever cutting and patching is necessary to:
   1. Complete the work.
   2. Fit products together to integrate with other work.
   3. Provide openings for penetration of mechanical, electrical, and other services.
   4. Match work that has been cut to adjacent work.
   5. Repair areas adjacent to cuts to required condition.
   6. Repair new work damaged by subsequent work.
   7. Remove samples of installed work for testing when requested.
   8. Remove and replace defective and non-complying work.

D. Unless noted otherwise, each major subcontractor shall be responsible for all cutting and patching of the existing structure and appurtenances to complete that subcontractor's Work for this Project.

E. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

F. Verify warranty requirements at areas of alteration and to make certain that required certified installers are employed for repairs to maintain said warranty.

G. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

H. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

I. Restore work with new products in accordance with requirements of Contract Documents.

J. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

K. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 00, to full thickness of the penetrated element.

L. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
   2. Match color, texture, and appearance.
   3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.
   4. At patches/repairs in rated walls verify required UL fire rating design to confirm integrity of fire rating at completion of repair.

3.06 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition. Accomplish rubbish removal weekly and additionally as directed by the AE. Keep interior of building free of unattended combustible rubbish at all times.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

E. Remove all tools, equipment, scaffolding and temporary facilities immediately when no longer required for execution of the Work.

F. As used herein, the term "premises" shall include all areas within and outside the construction limits which have been soiled, littered or disturbed in any manner by the Work of the Project.

3.07 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Protect installed work from damage by construction operations. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
   1. The General Contractor shall assume responsibility for the floors being in like new condition upon completion of the Project.
   2. Exercise care to prevent damage to exposed, finished concrete floor surfaces during the course of construction of the Project. Remove all spills or smears immediately and sweep floors frequently.
   3. Instruct all workmen and deliverymen to exercise caution against accidental damage to the floors by actions such as dropping heavy objects like tools and products, or scratching by sliding objects, or scoring by vibration from metal legs of stand mounted power tools, or permanent discoloration from oil dripping from pipe thread cutting machine, or the like.

4. Avoid using areas with exposed concrete floors as workshops or in any other way which would damage the finished floors. When rooms or areas must be so used, cover floor with 5/8 inch thick plywood panels fastened together and underlain with 10 mil minimum plastic taped in place.
5. Allowable Carpet Protection:
    a. Pedestrian Traffic: Polyethylene protective film, industrial duty, temporary protection, plastic carpet film with a pressure sensitive water-based self-adhesive system allowing clean release for easy removal without adhesive transfer. Any other protection system shall be approved by A/E.
    b. Equipment Traffic (wheelbarrows, carts etc.): Plywood or similar board protection over 10 mil minimum reinforced plastic taped in place over floor finish.
6. Allowable Resilient and Hard Surface Floor Protection:
    a. Plywood sheets over 10 mil minimum reinforced plastic, resin paper or tarp taped in place.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Prohibit traffic from landscaped areas.

H. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.08 SYSTEM STARTUP

A. Coordinate schedule for start-up of various equipment and systems.

B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.

C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

D. Verify that wiring and support components for equipment are complete and tested.

E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.

F. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.09 DEMONSTRATION AND INSTRUCTION

A. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

C. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of owner personnel.

3.10 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.11 FINAL CLEANING

A. Execute final cleaning after Substantial Completion but before making final application for payment. Clean all surfaces to condition acceptable for immediate occupancy by the Owner.

B. Use cleaning materials that are nonhazardous.

C. Remove all marks, stains, fingerprints, paint droppings and other foreign matter from all finished surfaces.

D. Clean and polish all hardware.

E. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

F. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

G. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

H. Replace filters of operating equipment.

I. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, and drainage systems.

J. Clean site; sweep paved areas, rake clean landscaped surfaces.

K. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.12 SUBSTANTIAL COMPLETION

A. Comply with General Conditions of the Contract for Construction and Supplementary Conditions for reaching Substantial Completion.

3.13 FINAL INSPECTION

A. Comply with General Conditions of the Contract for Construction and Supplementary Conditions for completing Final Inspection.

3.14 MAINTENANCE

A. Provide service and maintenance of components indicated in specification sections.

B. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

C. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.

D. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

SECTION 01 78 00
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project record documents.

B. Operation and maintenance data.

C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

A. Section 00 72 00 - General Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.

B. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

C. Section 01 70 00 - Execution and Closeout Requirements: Contract closeout procedures.

D. Individual Product Sections: Specific requirements for operation and maintenance data.

E. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

A. Prior to requesting Architect/Engineer's final inspection for certification of final acceptance and final payment, as required by General Conditions, complete the following and list known exceptions (if any) in request:

1. Submit final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
2. Submit updated final statement, accounting for additional (final) changes to Contract Sum.
3. Submit certified copy of Architect/Engineer's final punch list of itemized work to be completed or corrected (including equipment requiring final connection), stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by Architect/Engineer.
4. Submit record documents, as-built drawings, maintenance manuals, damage or settlement survey, property survey, and similar final record information as described in Part 3 below.
5. Complete final clean up requirements, including touch-up painting of marred surfaces.
6. Submit final meter readings for utilities, measured record of stored fuel, and similar data as of time of Substantial Completion or when Owner took possession of and responsibility for corresponding elements of the work.
7. Submit consent of surety.
8. Revise and submit evidence of final, continuing insurance coverage complying with insurance requirements.
9. Submit test, inspection and acceptance certificates as required in each product section of the Specifications.
10. Submit Contractor's Affidavit and Lien Waivers.
11. Submit lien waivers from all Subcontractors, sub-subcontractors and major material suppliers who have furnished material or labor for the Work under contract with the Contractor or Subcontractor. The lien waivers shall be in the full amount of the Contract involved.
12. Operation and Maintenance Data:
    a. As requested by the Owner and prior to final acceptance, organize maintenance-and-operating manual information into two (2) complete sets, each in manageable size, and bind into individual 3-ring binders properly identified with table of contents and tabbed accordingly. Or organized in similar fashion in PDF format. Include

emergency instructions, spare parts listing, copies of warranties, wiring diagrams, recommended "turn-around" cycles, inspection procedures, shop drawings, product data, and similar applicable information.

b. If project includes multiple sites, provide number of sets of manuals for each site as indicated above.
c. Provide additional manuals as required by product specification sections.
d. As-built temperature control drawings.
e. Mechanical testing report from Division 23 (if required in Division 23).

13. Warranties and Bonds:
    a. Guarantees and warranties as required in each product section of the Specifications.
    b. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
    c. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
    d. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Specifications.
   3. Addenda.
   4. Change Orders and other modifications to the Contract.
   5. Reviewed shop drawings, product data, and samples.
   6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates utilized.
   3. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
   1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   2. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   3. Field changes of dimension and detail.
   4. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:
   1. Product data, with catalog number, size, composition, and color and texture designations.
   2. Information for re-ordering custom manufactured products.

B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.03 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:
   1. Description of unit or system, and component parts.
   2. Identify function, normal operating characteristics, and limiting conditions.
   3. Include performance curves, with engineering data and tests.
   4. Complete nomenclature and model number of replaceable parts.

B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

E. Include originals of each in operation and maintenance manuals, indexed separately on Table of Contents.

END OF SECTION

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SECTION 04 20 00

UNIT MASONRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concrete block.

B. Mortar and grout.

C. Reinforcement and anchorage.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 govern work under this Section.

1.03 REFERENCE STANDARDS

A. ASTM A641/A641M - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire; 2019 (Reapproved 2025).

B. ASTM A951/A951M - Standard Specification for Steel Wire for Masonry Joint Reinforcement; 2022.

C. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2024.

D. ASTM C5 - Standard Specification for Quicklime for Structural Purposes; 2024.

E. ASTM C129 - Standard Specification for Dry-Cast Nonloadbearing Concrete Masonry Units; 2025.

F. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar; 2025.

G. ASTM C150/C150M - Standard Specification for Portland Cement; 2024.

H. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes; 2024.

I. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2025a.

J. ASTM C404 - Standard Specification for Aggregates for Masonry Grout; 2024.

K. ASTM C476 - Standard Specification for Grout for Masonry; 2023.

L. ASTM C1714/C1714M - Standard Specification for Preblended Dry Mortar Mix for Unit Masonry; 2019a.

M. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2022, with Errata (2024).

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for procedures.

B. Provide submittal transmittals that include all submittal items identified in each submittal group below.

C. Review Submittals - Preparatory:

1. Product Data: Provide data for masonry units, fabricated wire reinforcement, mortar, and masonry accessories.
2. Control Joint Drawings: Masonry Contractor and Project Coordinator shall review architectural and structural drawings showing proposed masonry control joints and brick expansion joints. Recommendations for any changes shall be submitted to A/E for review prior to start of Work.

D. Information Submittals - Preparatory:

1. Manufacturer's Certificate: Certify that masonry units meet or exceed specified requirements.

2. Manufacturer's Certificate: Certify that water repellent admixture manufacturer has certified masonry unit manufacturer as an approved user of water repellent admixture in the manufacture of concrete block.
3. Test Reports: Concrete masonry manufacturer's test reports for units with integral water repellent admixture.

1.05 QUALITY ASSURANCE

A. Comply with provisions of TMS 402/602, except where exceeded by requirements of Contract Documents.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

PART 2 PRODUCTS

2.01 CONCRETE MASONRY UNITS

A. Concrete Block: Comply with referenced standards and as follows:
1. Size: Standard units with nominal face dimensions of 16 by 8 inches and nominal depths as indicated on drawings for specific locations.
2. Nonloadbearing Units: ASTM C129.
a. Both hollow and solid block, as indicated.
b. Normal weight.

2.02 MORTAR AND GROUT MATERIALS

A. At Contractor's option, mortar and grout may be field-mixed from packaged dry materials, made from factory premixed dry materials with addition of water only, or ready-mixed.
1. Spec Mix, Inc. (licensed manufacturers only) using the same materials and proportions of material specified above.
2. Licensed Manufacturers:
a. Minnesota: Twin City Concrete Products [800-642-3887], Amcon Block [320-251-6030], Mankato Brick [507-345-7200], Rochester Brick [507-252-1129], Standard Brick [218-628-2231].
b. Wisconsin: Twin City Concrete Products [800-642-3887], Quickrete Wisconsin [800-657-0789], Tews Company [800-686-8401].
3. Material shall be delivered to jobsite in manufacturer's prepackaged bags indicating manufacturer's name, materials and proportions of materials.
4. Use manufacturer's proprietary dispensing silo.

B. Packaged Dry Material for Grout for Masonry: Premixed cementitious materials and dried aggregates; capable of producing grout of the specified strength in accordance with ASTM C476 with the addition of water only.

C. Hydrated Lime: ASTM C207, Type S.

D. Quicklime: ASTM C5.

E. Mortar Aggregate: ASTM C144.

F. Grout Aggregate: ASTM C404.

G. Masonry Sand: Shall be clean, sharp, free from loam, silt, vegetable matter, salts, and other injurious substances, and shall conform to ASTM C144. Sand is further subject to approval of the A/E, based on mortar color desired and obtainable by use of local sands readily available, and shall be from one source.

H. Water: Clean and potable.

I. Portland Cement: ASTM C150/C150M, Type I.

2.03 REINFORCEMENT AND ANCHORAGE

A. Manufacturers:
   1. Heckmann Building Products: www.heckmannbuildingprods.com.
   2. Hohmann & Barnard, Inc: www.h-b.com.
   3. Masonry Reinforcing Corporation of America: www.wirebond.com.
   4. Substitutions: See Section 01 25 00 - Substitution Procedures for requirements.

B. Single Wythe Joint Reinforcement: ASTM A951/A951M.
   1. Type: Truss or ladder.
   2. Material: ASTM A1064/A1064M steel wire, mill galvanized to ASTM A641/A641M Class 3.
   3. Size: 0.1483 inch side rods with 0.1483 inch cross rods; width as required to provide not less than 5/8 inch of mortar coverage on each exposure.

C. Fasteners: Compatible with anchors, intended by the manufacturer for the substrate, provided by anchor manufacturer. Materials and corrosion resistance equal to materials of the anchors. Hardened, corrosion resistant non-stainless steel fasteners are acceptable for stainless anchors fastened into concrete or masonry.

2.04 MORTAR AND GROUT MIXING

A. Mortar for Unit Masonry: ASTM C270, using the Proportion Specification.
   1. Masonry: Type S.

B. Conventional Job Mixed Mortar in accordance with ASTM C270: Measure materials for mortars by volume, in a manner whereby proportions can be controlled within two percent. Mix materials dry and then water to bring to proper consistency for use. Mix materials in the approved type machine mixer of adequate capacity for 3 to 5 minutes after all materials have been introduced, until materials are evenly distributed throughout the batch and the mixture is uniform in color with a workable consistency.

C. Bulk Container Mortar: Shall comply with ASTM C1714/C1714M. Use materials specified hereinbefore and proportion mixes as specified hereinafter. Add water and mix according to system manufacturer’s recommendations.

D. Maintain sand uniformly damp immediately before the mixing process.

E. Admixtures: Add to mixture at manufacturer's recommended rate and in accordance with manufacturer's instructions; mix uniformly.

F. If water is lost by evaporation, re-temper only within two hours of mixing.

G. Use mortar within two hours after mixing at temperatures of 90 degrees F, or two-and-one-half hours at temperatures under 40 degrees F.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive masonry.

3.02 COLD AND HOT WEATHER REQUIREMENTS

A. Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.

3.03 COURSING

A. Establish lines, levels, and coursing indicated. Protect from displacement.

B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.

C. Concrete Masonry Units:
   1. Bond: Match existing adjacent.
   2. Coursing: One unit and one mortar joint to equal 8 inches.
   3. Mortar Joints: Concave.

3.04 PLACING AND BONDING

A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.

B. Lay hollow masonry units with face shell bedding on head and bed joints.

C. Buttering corners of joints or excessive furrowing of mortar joints is not permitted.

D. Remove excess mortar and mortar smears as work progresses.

E. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.

F. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.

3.05 REINFORCEMENT AND ANCHORAGE - GENERAL AND SINGLE WYTHE MASONRY

A. Unless otherwise indicated on drawings or specified under specific wall type, install horizontal joint reinforcement 16 inches on center.

B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.

C. Place continuous joint reinforcement in first and second joint below top of walls.

D. Lap joint reinforcement ends minimum 6 inches.

E. Fasten anchors to structural framing and embed in masonry joints as masonry is laid. Unless otherwise indicated on drawings or closer spacing is indicated under specific wall type, space anchors at maximum of 36 inches horizontally and 24 inches vertically.

3.06 TOLERANCES

A. Install masonry within the site tolerances found in TMS 402/602.

3.07 CUTTING AND FITTING

A. Cut and fit for chases, pipes, conduit, sleeves, and grounds. Coordinate with other sections of work to provide correct size, shape, and location.

B. Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.08 CLEANING

A. Remove excess mortar and mortar droppings.

B. Replace defective mortar. Match adjacent work.

C. Clean soiled surfaces with cleaning solution as recommended by brick supplier. If no recommendation contact A/E for direction.

D. Use non-metallic tools in cleaning operations.

3.09 PROTECTION

A. Without damaging completed work, provide protective boards at exposed external corners that are subject to damage by construction activities.

END OF SECTION

SECTION 06 83 16
FIBERGLASS REINFORCED PANELING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fiberglass reinforced plastic panels.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 govern work under this Section.

B. Section 10 28 00 - Toilet, Bath and Laundry Accessories.

1.03 REFERENCE STANDARDS

A. ASTM D256 - Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics; 2024.

B. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2021.

C. ASTM D5319 - Standard Specification for Glass-Fiber Reinforced Polyester Wall and Ceiling Panels; 2022.

D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2026.

E. ISO 2812-1 - Paints and Varnishes -- Determination of Resistance to Liquids -- Part 1: Immersion in Liquids Other than Water; 2017.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for procedures.

B. Provide submittal transmittals that include all submittal items identified in each submittal group below.

C. Review Submittals - Preparatory:
   1. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.
   2. Shop Drawings: Indicate dimensions, adjacent construction, materials, thicknesses, field jointing, tolerances, colors, finishes, integration of adjacent components, and anchorages.
      a. Dimensions shall be field verified at each installation location to ensure factory cut panels fit recommended tolerances at corner joints.
      b. Mark panels to corresponding room installation locations.

D. Review Submittals - Samples:
   1. Samples: Selection and verification samples for finishes, colors and textures. Submit two samples of each type of panel, trim and fastener.

E. Closeout Submittals:
   1. Extended Period: Submit certificate by Contractor acknowledging the section specific period to correct work described in this Section.
   2. Warranty Documentation: Submit documentation of manufacturer's warranty that acknowledges the requirements defined in this section.
      a. Provide procurement information including date(s) of procurement, identification of suppliers and contractors involved in the procurement.
      b. Provide manufacturer certification of the warranty that is executed in the Owner's name.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Provider of advanced installer training.

B. Installer Qualifications:
   1. Having completed manufacturer's training.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Store panels flat, indoors, on a clean, dry surface. Remove packaging and allow panels to acclimate to room temperature for 48 hours prior to installation.

1.07 FIELD CONDITIONS

A. Do not begin installation until building is enclosed, permanent heating and cooling equipment is in operation, and residual moisture from plaster, concrete or terrazzo work has dissipated.

B. During installation, and within 48 hours prior to installation, maintain ambient temperature and relative humidity within limits required by type of panel adhesive used and recommendation of panel adhesive manufacturer.

1.08 WARRANTY

A. Section Specific Warranty: Provide manufacturer's standard warranty as described in this section. Document the warranty as defined under the Submittals heading of this section.
   1. Failures shall include, but not be limited to substantial defects in material and workmanship, rotting, rusting, corrosion, development of structural surface cracks, or requiring painting or refinishing.
   2. Warranty Period: Ten years from date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Fiberglass Reinforced Plastic Panels:
   1. Crane Composites, Inc; www.cranecomposites.com.
   2. Marlite, Inc: www.marlite.com.
   3. Panolam Industries International, Inc: www.panolam.com/#.

2.02 PANEL SYSTEMS

A. Wall Panels:
   1. Panel Size: 4 by 8 feet.
   2. Panel Thickness: 0.10 inch.
   3. Surface Design: Embossed.
   4. Color: As selected by Architect.
   5. Attachment Method: Adhesive only, sealant joints, no trim.

2.03 MATERIALS

A. Panels: Fiberglass reinforced plastic (FRP), complying with ASTM D5319.
   1. Surface Burning Characteristics: Maximum flame spread index of 25 and smoke developed index of 450; when system tested in accordance with ASTM E84.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   3. Impact Strength: Greater than 6 ft lb force per inch, when tested in accordance with ASTM D256.
   4. Chemical Cleanability: Excellent chemical resistance to common cleaners and detergents when tested in accordance with ISO 2812-1.
   5. Product Identification: Finish side identification and confirmation of meeting Class A interior finish requirements after installation and while in service, without labels.

B. Adhesive: Type recommended by panel manufacturer.

C. Panel Seam Sealant: Two-part urethane sealant as recommended by FRP panel manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions and substrate flatness before starting work.

B. Verify that substrate conditions are ready to receive the work of this section.
   1. Examine substrate surfaces to determine that corners are plumb and straight, that surfaces are smooth, sound and uniform, that nails or screw fasteners are countersunk, and that joints and cracks are filled flush and smooth with adjoining surfaces.
   2. Do not begin panel installation until substrate surfaces are in satisfactory condition.

3.02 INSTALLATION - WALLS

A. Install panels in accordance with manufacturer's Installation Guide.

B. Cut and drill panels with carbide tipped saw blades, drill bits, or snips.

C. Pre-drill fastener holes in panels, 1/8 inch greater in diameter than fastener, spaced as indicated by panel manufacturer.

D. Apply full bed of adhesive to the back side of the panel using trowel recommended by adhesive manufacturer.

E. Apply panels to wall with seams plumb and pattern aligned with adjoining panels.

F. Install panels with manufacturer's recommended gap for panel field and corner joints.

G. Seal gaps at floor, top edge, between panels and inside corners with specified two part sealant to prevent moisture intrusion.

H. Remove excess sealant after paneling is installed and prior to curing.

3.03 CLEANING

A. Clean components of foreign material without damaging finished surface.

B. Hand rub smooth surfaces with polishing cream.

3.04 PROTECTION

A. Protect installed product and finish surfaces from damage during construction.

END OF SECTION

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SECTION 07 50 10

MEMBRANE ROOFING MODIFICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Modify roofing at doors to be replaced and new penetrations in this project while maintaining existing roof warranty.

B. Elastomeric roofing membrane, adhered conventional application.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 govern the work of this section.

1.03 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for procedures.

B. Provide submittal transmittals that include all submittal items identified in each submittal group below.

C. Review Submittals - Preparatory:
   1. Product Data: Provide data indicating membrane materials, flashing materials, surfacing, and fasteners.

D. Information Submittals - Preparatory:
   1. Certification that roof system meets 72 mph wind warranty in accordance with applicable manufacturer requirements.
   2. Manufacturer's Installation Instructions: Indicate membrane seaming precautions and perimeter conditions requiring special attention.
   3. Manufacturer's Field Reports: Indicate procedures followed, ambient temperatures, humidity, wind velocity during application, and supplementary instructions given.
   4. Installer's qualification statement.
   5. Submit letter from manufacturer stating that the installer is in good standing with the roofing manufacturer.

E. Closeout Submittals:
   1. See Section 01 78 00 - Closeout Submittals for additional information regarding documenting warranties.
   2. Extended Period: Submit certificate by Contractor acknowledging the section specific period to correct work described in this Section.
      a. Provide this information on the form provided by A/E.
   3. Warranty Documentation: Submit documentation of manufacturer's warranty that acknowledges the requirements defined in this section.
      a. Provide procurement information including date(s) of procurement, identification of suppliers and contractors involved in the procurement.
      b. Provide manufacturer certification of the warranty that is executed in the Owner's name.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

B. Applicator Qualifications: Company specializing in performing the work of this section:
   1. With minimum five years documented experience.
   2. Approved by membrane manufacturer.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's original containers, dry and undamaged, with seals and labels intact.

B. Store materials in weather protected environment, clear of ground and moisture.

C. Ensure storage and staging of materials does not exceed static and dynamic load-bearing capacities of roof decking.

D. Protect foam insulation from direct exposure to sunlight.

1.06 FIELD CONDITIONS

A. Do not apply roofing membrane during unsuitable weather.

B. Do not apply roofing membrane when ambient temperature is below 40 degrees F.

C. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.

D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

E. Schedule applications so that no partially completed sections of roof are left exposed at end of workday.

1.07 WARRANTY

A. See Conditions of the Contract and General Requirements for additional warranty requirements.

B. Section Specific Warranty: Provide documentation of continuing warranty coverage for existing roofing. Document the warranty as defined under the Submittals heading of this section. Provide warranty in conformance with the following:

1. The work of this project includes work on existing roofing that is covered by a existing warranty.
    a. Roofing Contractor shall send application request for warranty(s) required herein to membrane supplier of the existing roof prior to start of Work.
    b. The following information shall be included on all guarantee and warranty documents: Owner, city or township, street address where work was performed, building name, Owner Project number, all roof areas involved and total sq. ft. area of all roof areas.
    c. Include and provide all product(s), labor and installation methods necessary and as specified herein, including membrane supplier requirements not found specified herein, as required by the approved membrane supplier for continuance of existing warranty.
    d. Ensure performance of manufacturer observations or inspections as required for continuance of the existing warranty.
    e. New membrane, insulation, shop fabricated and/or manufacturer fabricated metal flashing, pre-molded and/or factory supplied associated roof system products, their fasteners and/or all products used for adhesive and/or adherence purposes and sealants shall be covered by the membrane supplier warranty.
    f. Submit documentation from the manufacturer documenting continuation of the existing warranty covering the existing roof.
    g. Existing Roofing:
        1) Membrane at door 1009B: Carlisle .060 mil. Non-reinforced.
        2) Membrane at doors 1009A & 1001: Non-reinforced, Sureweld.080 mil. with fleeceback. Grey.
        3) See Warranty Document included in this section as Exhibit A.
    h. Installer of covered roof:

        Nieman Central Wisconsin Roofing Inc.
        N2599 24th Ave.
        Lyndon Station, WI 53944
        Phone: 608-66-3342
        mark@niemanroof.com

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide products and accessories from the original manufacturer and compatible with continuation of the existing warranty.

2.02 ACCESSORIES

A. Membrane Adhesive: As recommended by membrane manufacturer to meet stated warranty.

B. Surface Conditioner for Adhesives: Compatible with membrane and adhesives.

C. Thinners and Cleaners: As recommended by adhesive manufacturer, compatible with membrane.

D. Insulation Adhesive: As recommended by insulation manufacturer.

E. Roofing Nails: Galvanized, hot-dipped type, size and configuration as required to suit application.

F. Strip Reglet Devices: Galvanized steel, maximum possible lengths per location, with attachment flanges.

G. Sealants: As recommended by membrane manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces and site conditions are ready to receive work.

B. Verify deck is supported and secure.

C. Verify deck is clean and smooth, flat, free of depressions, waves, or projections, properly sloped and suitable for installation of roof system.

D. Verify deck surfaces are dry and free of snow or ice.

E. Verify that roof openings, curbs, including those provided by mechanical contractor, and penetrations through roof are solidly set, and wood blocking/nailers are in place.

3.02 INSTALLATION - MEMBRANE

A. Roll out membrane, free from wrinkles or tears. Place sheet into place without stretching.

B. Shingle joints on sloped substrate in direction of drainage.

C. Fully Adhered Application: Apply adhesive to substrate at rate in accordance to manufacturer's recommendations. Fully embed membrane in adhesive except in areas directly over or within 3 inches of expansion joints. Fully adhere one roll before proceeding to adjacent rolls.

D. Overlap edges and ends and seal seams by contact adhesive, minimum 3 inches. Seal permanently waterproof. Apply uniform bead of sealant to joint edge.

E. At intersections with vertical surfaces:
   1. Extend membrane over cant strips and up a minimum of 8 inches onto vertical surfaces unless detailed otherwise.
   2. Fully adhere flexible flashing over membrane and up to nailing strips.

3.03 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements for related requirements.

B. Field inspection and testing shall be performed as required by the manufacturer.

C. Correct identified defects or irregularities.

3.04 CLEANING

A. See Section 01 78 00 - Closeout Submittals for additional information regarding documenting warranties.

B. Remove bituminous markings from finished surfaces.

C. In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and comply with their documented instructions.

D. Repair or replace defaced or damaged finishes caused by work of this section.

3.05 PROTECTION

A. Protect installed roofing and flashings from construction operations.

B. Where traffic must continue over finished roof membrane, protect surfaces using durable materials.

3.06 INSPECTION/CERTIFICATION

A. Contact A/E within 48 hours of manufacturer's representatives' inspection.

B. Provide owner with certificate of compliance with warranty upon completion of inspection.

END OF SECTION

CARLISLE

GOLDEN SEAL TOTAL ROOFING SYSTEM WARRANTY

SERIAL NO. 10122986 **090** **DATE OF ISSUE: September 23, 2015**

BUILDING OWNER: HOUSING AUTHORITY OF LA CROSSE

NAME OF BUILDING: STOFFEL COURT/BECKER PLAZA REROOF HSR#15011

BUILDING ADDRESS: 333 SOUTH 7TH STREET, LA CROSSE, WI

DATE OF COMPLETION OF THE CARLISLE TOTAL ROOFING SYSTEM: 09/18/2015

DATE OF ACCEPTANCE BY CARLISLE: 09/23/2015 **(EB Warranty)** **CMD1176178**

Carlisle Roofing Systems, Inc., (Carlisle) warrants to the Building Owner **(Owner)** of the above described building, that; subject to the terms, conditions, and limitations stated in this warranty, Carlisle will repair any leak in the Carlisle Golden Seal™Total Roofing System **(Carlisle Total Roofing System)** installed by a Carlisle Authorized Roofing applicator for a period of **20** years commencing with the date of Carlisle's acceptance of the Carlisle Total Roofing System installation. However, in no event shall Carlisle's obligations extend beyond **20.5** years subsequent to the date of substantial completion of the Carlisle Total Roofing System. See below for exact date of warranty expiration.

The Carlisle Total Roofing System is defined as the following Carlisle brand materials: Membrane, Flashings, Adhesives and Sealants, Insulation, Cover Boards, Fasteners, Fastener Plates, Fastening Bars, Metal Work, Insulation Adhesives, and any other Carlisle brand products utilized in this installation.

TERMS, CONDITIONS, LIMITATIONS

1. Owner shall provide Carlisle with written notice via letter, fax or email within thirty (30) days of the discovery of any leak in the Carlisle Total Roofing System. Owner should send written notice of a leak to Carlisle's Warranty Services Department at the address set forth at the bottom of this warranty. By so notifying Carlisle, the Owner authorizes Carlisle or its designee to investigate the cause of the leak. Should the investigation reveal the cause of the leak to be outside the scope of this Warranty, investigation and repair costs for this service shall be paid by the Owner.
2. If, upon inspection, Carlisle determines that the leak is caused by a defect in the Carlisle Total Roofing System's materials, or workmanship of the Carlisle Authorized Roofing Applicator in installing the same, Owner's remedies and Carlisle's liability shall be limited to Carlisle's repair of the leak.
3. This warranty shall not be applicable if, upon Carlisle's inspection, Carlisle determines that any of the following has occurred:
   (a) The Carlisle Total Roofing System is damaged by natural disasters, including, but not limited to, lightning, fire, insect infestations, earthquake, tornado, hail, hurricanes, and winds of (3 second) peak gust speeds of seventy-two mph or higher measured at 10 meters above ground; or
   (b) Loss of integrity of the building envelope and, or structure including, but not limited to partial or complete loss of roof decking, wall siding, windows, doors or other envelope components or from roof damage by wind-blown objects, or:
   (c) The Carlisle Total Roofing System is damaged by any intentional or negligent acts, accidents, misuse, abuse, vandalism, civil disobedience, or the like.
   (d) Deterioration or failure of building components, including, but not limited to, the roof substrate, walls, mortar, HVAC units, non-Carlisle brand metal work, etc., occurs and causes a leak, or otherwise damages the Carlisle Total Roofing System; or
   (e) Acids, oils, harmful chemicals and the like come in contact with the Carlisle Total Roofing System and cause a leak, or otherwise damage the Carlisle Total Roofing System.
   (f) The Carlisle Total Roofing System encounters leaks or is otherwise damaged by condensation resulting from any condition within the building that may generate moisture.
4. This Warranty shall be null and void if any of the following shall occur:
   (a) If, after installation of the Carlisle Total Roofing System by a Carlisle Authorized Roofing Applicator there are any alterations or repairs made on or through the roof or objects such as, but not limited to, structures, fixtures, solar panels, wind turbines, roof gardens or utilities are placed upon or attached to the roof without first obtaining written authorization from Carlisle; or
   (b) Failure by the Owner to use reasonable care in maintaining the roof, said maintenance to include, but not be limited to, those items listed on Carlisle's Care & Maintenance Information sheet which accompanies this Warranty.
5. Only Carlisle brand insulation products are covered by this warranty. Carlisle specifically disclaims liability, under any theory of law, for damages sustained by or caused by non-Carlisle brand insulation products.
6. During the term of this Warranty, Carlisle shall have free access to the roof during regular business hours.
7. Carlisle shall have no obligation under this Warranty while any bills for installation, supplies, service, and warranty charges have not been paid in full to the Carlisle Authorized Roofing Applicator, Carlisle, or material suppliers.
8. Carlisle's failure at any time to enforce any of the terms or conditions stated herein shall not be construed to be a waiver of such provision.
9. Carlisle shall not be responsible for the cleanliness or discoloration of the Carlisle Total Roofing System caused by environmental conditions including, but not limited to, dirt, pollutants, or biological agents.
10. Carlisle shall have no liability under any theory of law for any claims, repairs, restoration, or other damages including, but not limited to, consequential or incidental damages relating, directly or indirectly, to the presence of any irritants, contaminants, vapors, fumes, molds, fungi, bacteria, spores, mycotoxins, or the like in the building or in the air, land, or water serving the building.
11. This warranty shall be transferable upon a change in ownership of the building when the owner has completed certain procedures including a transfer fee and an inspection of the Roofing System by a Carlisle representative.

CARLISLE DOES NOT WARRANT PRODUCTS UTILIZED IN THIS INSTALLATION WHICH IT HAS NOT FURNISHED; AND SPECIFICALLY DISCLAIMS LIABILITY, UNDER ANY THEORY OF LAW, ARISING OUT OF THE INSTALLATION AND PERFORMANCE OF, OR DAMAGES SUSTAINED BY OR CAUSED BY, PRODUCTS NOT FURNISHED BY CARLISLE OR THE PRIOR EXISTING ROOFING MATERIAL OVER WHICH THE CARLISLE ROOFING SYSTEM HAS BEEN INSTALLED

THE REMEDIES STATED HEREIN ARE THE SOLE AND EXCLUSIVE REMEDIES FOR FAILURE OF THE CARLISLE TOTAL ROOFING SYSTEM OR ITS COMPONENTS. THERE ARE NO WARRANTIES EITHER EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY, WHICH EXTEND BEYOND THE FACE HEREOF. CARLISLE SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR DAMAGE TO THE BUILDING OR ITS CONTENTS UNDER ANY THEORY OF LAW.

BY: Robert H. McNeill
AUTHORIZED SIGNATURE
TITLE: Director, Technical and Warranty Services

This Warranty Expires: **September 22, 2035**

P.O. Box 7000 Carlisle, PA 17013 Phone: 800.233.0551 Fax: 717.245.7121 www.carlislesyntec.com

WA-F0001 (1/15)

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SECTION 07 62 00
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fabricated sheet metal items, including counterflashings.

B. Sealants for joints within sheet metal fabrications.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 govern the work of this section.

B. Section 07 50 10 - Membrane Roofing Modifications: Roofing system membrane flashings.

1.03 REFERENCE STANDARDS

A. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2025a.

C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018 (Reapproved 2024).

D. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for procedures.

B. Provide submittal transmittals that include all submittal items identified in each submittal group below.

C. Review Submittals - Preparatory:
   1. Product Data: Provide manufacturer's data sheet for sheet material.

D. Review Submittals - Samples:
   1. Selection Samples: Submit manufacturer's color sample set for selection by AE.

E. Closeout Submittals:
   1. Warranty Documentation: Submit documentation the manufacturer's warranty.

1.05 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA (ASMM) requirements and standard details, except as otherwise indicated.

B. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 3 years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

B. Prevent contact with materials that could cause discoloration or staining.

1.07 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional information regarding documenting warranties.

B. Section Specific Warranty: Provide manufacturer's standard warranty as described in this section. Document the warranty as defined under the Submittals heading of this section.
   1. Manufacturer's 20 year warranty on flashing finish.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

A. Prefinished Aluminum Sheets:
   1. Match sheet materials and finish to existing adjacent materials.

2.02 FABRICATION

A. General:
   1. Form sections true to shape, accurate in size, square, and free from distortion or defects.
   2. Form pieces in longest possible lengths.
   3. Hem exposed edges on underside 1/2 inch; miter and seam corners.
   4. Fabricate corners from one piece with minimum 18-inch long legs; seam for rigidity, seal with sealant.
   5. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.

B. Counterflashing:
   1. Base Sheet Material: Prepainted, Metallic-Coated Steel Sheets.
      a. Aluminum Base Sheet Thickness: 0.040 inch, minimum.
      b. Finish: High Performance Organic Coating System.
      c. Color: To be selected by A/E from manufacturer's full line of solid colors.

2.03 ACCESSORIES

A. Fasteners: Galvanized steel, with soft neoprene washers.

B. Primer Type: Zinc chromate.

C. Concealed Sealants: Non-curing butyl sealant.

D. Exposed Sealants: ASTM C920; elastomeric sealant, with minimum movement capability as recommended by manufacturer for substrates to be sealed; color to match adjacent material.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.

B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.02 PREPARATION

A. Install starter and edge strips, and cleats before starting installation.

3.03 INSTALLATION

A. General:
   1. Comply with drawing details.
      a. SMACNA Architectural Sheet Metal Manual2012.
   2. Insert flashings into reglets to form tight fit; secure in place with plastic wedges; seal flashings into reglets with sealant.
   3. Secure flashings in place using concealed fasteners and use exposed fasteners only where permitted.
   4. Apply recommended sealant/adhesive compound between metal flashings and felt flashings.
   5. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.
   6. Exterior Flashing Receivers: Install in accordance with manufacturer's recommendations, and in proper relationship with adjacent construction.
   7. Seal metal joints watertight.

END OF SECTION

SECTION 07 92 00

JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Non-sag gunnable joint sealants.

B. Self-leveling pourable joint sealants.

C. Joint backings and accessories.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 govern the work of this section.

B. 01 40 00 - Quality Requirements Additional requirements related to testing and inspection.

C. Section 07 62 00 - Sheet Metal Flashing and Trim: Sealant for flashings.

D. Section 08 71 00 - Door Hardware: Setting exterior door thresholds in sealant.

E. Section 08 80 00 - Glazing: Glazing sealants and accessories.

1.03 REFERENCE STANDARDS

A. ASTM C661 - Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer; 2015 (Reapproved 2022).

B. ASTM C834 - Standard Specification for Latex Sealants; 2017 (Reapproved 2023).

C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018 (Reapproved 2024).

D. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2025.

E. ASTM C1311 - Standard Specification for Solvent Release Sealants; 2022.

F. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants; 2023.

G. ASTM C1521 - Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints; 2019 (Reapproved 2025).

H. ASTM D2240 - Standard Test Method for Rubber Property--Durometer Hardness; 2015 (Reapproved 2021).

I. SCAQMD 1168 - Adhesive and Sealant Applications; 1989, with Amendment (2022).

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for procedures.

B. Provide submittal packages that contain all the information identified in the submittal groups identified below. Follow any instructions regarding coordinating submittal timing between submittals of different sections.

C. Review Submittals - Preparatory:

1. Product Data: Submit manufacturer's technical datasheets for each product to be used; include the following:
    a. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
    b. List of backing materials approved for use with the specific product.
    c. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
    d. Substrates the product should not be used on.
    e. Substrates for which use of primer is required.
    f. Substrates for which laboratory adhesion and/or compatibility testing is required.
    g. Installation instructions, including precautions, limitations, and recommended backing materials and tools.

h. Sample product warranty.
i. Certification by manufacturer indicating that product complies with specification requirements.
j. Instructions for repairing and replacing failed sealant joints.

2. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.

D. Review Submittals - Samples:
1. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.
2. Samples for Verification: Where custom sealant color is specified, obtain directions from Architect and submit at least two physical samples for verification of color of each required sealant.

E. Closeout Submittals:
1. See Section 01 78 00 - Closeout Submittals for additional information regarding documenting warranties.
2. Extended Period: Submit certificate by Contractor acknowledging the section specific period to correct work described in this Section.
3. Warranty Documentation: Submit documentation the manufacturer's warranty.

1.05 QUALITY ASSURANCE

A. Maintain one copy of each referenced document covering installation requirements on site.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

C. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.

D. Nondestructive Field Adhesion Test: Test for adhesion in accordance with ASTM C1521, using Nondestructive Spot Method.
1. Record results on Field Quality Control Log.
2. Repair failed portions of joints.

E. Field Adhesion Tests of Joints: Test for adhesion using most appropriate method in accordance with ASTM C1521, or other applicable method as recommended by manufacturer.

F. Sample Color Verification: At locations identified by A/E, install selected color of sealant at interior and exterior building locations agreed upon with Architect and Owner for final approval.

1.06 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional information regarding documenting warranties.

B. Section Specific Warranty: Provide manufacturer’s customized warranty as described in this section. Document the warranty as defined under the Submittals heading of this section. Provide warranty in conformance with the following:
1. Provide 2-year manufacturer warranty for installed sealants and accessories for types that fail to achieve a watertight seal, exhibit loss of adhesion or cohesion, or do not cure. Complete forms in Owner's name and register with manufacturer.

C. Extended Period: Correct work in accordance with the terms of the General Conditions for a duration of not less than two years.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Nonsag Sealants:
1. Mapei Corporation: www.mapei.com.
2. Master Builders Solutions by BASF: www.master-builders-solutions.com/en-us.

3. Pecora Corporation: www.pecora.com.
4. RM Lucas [<>]: www.rmlucas.com.
5. Sherwin-Williams Company: www.sherwin-williams.com.
6. Sika Corporation: www.sika.com.
7. Tower Sealants Inc: www.towersealants.com.
8. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com.
9. W.R. Meadows, Inc: www.wrmeadows.com.
10. Substitutions: See Section 01 25 00 - Substitution Procedures for requirements.

B. Self-Leveling Sealants:
1. Dayton Superior Corporation: www.daytonsuperior.com.
2. Nox-Crete Inc: www.nox-crete.com.
3. RM Lucas Products: www.rmlucas.com.
4. Sherwin-Williams Company: www.sherwin-williams.com.
5. SpecChem: www.specchem.com.
6. Substitutions: See Section 01 25 00 - Substitution Procedures for requirements.

2.02 JOINT SEALANT APPLICATIONS

A. Scope:
1. Exterior Joints:
a. Seal open joints, whether or not the joint is indicated on drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to:
1) Wall expansion and control joints.
2) Joints between door, window, and other frames and adjacent construction.
3) Joints between different exposed materials.
4) Openings below ledge angles in masonry.
5) Raked mortar joints between face brick and dissimilar materials (i.e. cmu products, cast stone, limestone).
6) Other joints indicated below.
2. Interior Joints:
a. Interior joints to be sealed include, but are not limited to, the following items.
1) Joints between door, window, and other frames and adjacent construction.
2) Intersection of countertop/backsplash at wall.
3) Other joints indicated below.
3. Do Not Seal:
a. Intentional weep holes in masonry.
b. Joints indicated to be covered with expansion joint cover assemblies.
c. Joints where sealant is specified to be furnished and installed by manufacturer of product to be sealed.
d. Joints where sealant installation is specified in other sections.
e. Joints between suspended ceilings and walls.
f. Weepholes in window frames.

B. Type JS-2 - Exterior Joints: Use non-sag silyl-terminated polyether/polyurethane sealant, unless otherwise indicated.
1. Type JS-6 - Lap Joints in Sheet Metal Fabrications: Butyl rubber, non-curing.
2. Type JS-6 - Lap Joints between Manufactured Metal Panels: Butyl rubber, non-curing.

C. Type JS-3 -Interior Joints: Use non-sag polyurethane sealant, unless otherwise indicated.
1. Type JS-5 - Wall and Ceiling Joints in Non-Wet Areas: Acrylic emulsion latex sealant.
2. Type JS-1 - Joints between Fixtures in Wet Areas and Floors, Walls, and Ceilings: Mildew-resistant silicone sealant; clear.
3. Type FLR-3 or FLR-4 - Narrow Control Joints in Interior Concrete Slabs: Self-leveling epoxy or polyurea sealant.

D. Interior Wet Areas: Restrooms and Kitchens; fixtures in wet areas include plumbing fixtures, food service equipment, countertops, cabinets, and other similar items.

2.03 JOINT SEALANTS - GENERAL

A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.

2.04 NONSAG JOINT SEALANTS

A. Type JS-1 - Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
   1. Color: Clear.
   2. Products:
      a. ARDEX Engineered Cements; ARDEX SX: www.ardexamericas.com.
      b. LATICRETE International, Inc; LATICRETE LATASIL: www.laticrete.com.
      c. Merkrete, by Parex USA, Inc; Merkrete Colored Caulking: www.merkrete.com.
      d. Pecora Corporation; Pecora 898 NST (Non-Staining Technology): www.pecora.com.
      e. Sika Corporation; Sikasil N Plus US: usa.sika.com.
      f. Sherwin-Williams Company; White Lightening Silicone: www.sherwin-williams.com.
      g. Substitutions: See Section 01 25 00 - Substitution Procedures for requirements.

B. Type JS-2 - Silyl-Terminated Polyether (STPE) and Polyurethane (STPU) Sealant: ASTM C920, Grade NS, Uses M and A; single component; not expected to withstand continuous water immersion or traffic.
   1. Movement Capability: Plus and minus 50 percent, minimum.
   2. Hardness Range: 15 to 25, Shore A, when tested in accordance with ASTM C661.
   3. Color: To be selected by Architect from manufacturer's full range.
      a. For exterior masonry colors A/E shall select up to 3 colors from manufacturer's chart of a minimum of 30 colors. Refer to 04 20 00 for required mockup directions.
   4. Service Temperature Range: Minus 40 to 180 degrees F.
   5. Products:
      a. Franklin International Inc.; WeatherMaster Sealant: www.titebond.com.
      b. Master Builders Solutions; MasterSeal NP100: www.master-builders-solutions.com/en-us.
      c. Pecora Corporation: DynaTrol I-XL Hybrid: www.pecora.com.
      d. Sherwin-Williams Company; Loxon H1: www.sherwin-williams.com.
      e. Sika Corporation; Sikaflex HY 150: usa.sika.com.
      f. Tremco Commercial Sealants and Waterproofing; Dymonic FC: www.tremcosealants.com.
      g. Substitutions: See Section 01 25 00 - Substitution Procedures for requirements.

C. Type JS-3 - Polyurethane Sealant: ASTM C920, Grade NS, Uses M and A; single or multicomponent; not expected to withstand continuous water immersion or traffic.
   1. Movement Capability: Plus and minus 35 percent, minimum.
   2. Hardness Range: 20 to 35, Shore A, when tested in accordance with ASTM C661.
   3. Color: To be selected by Architect from manufacturer's standard range.
   4. Service Temperature Range: Minus 40 to 180 degrees F.
   5. Products:
      a. RM Lucas Products: #9600 Joint & Termination Sealant. www.rmlucas.com.
      b. Sherwin-Williams Company; Loxon S1: www.sherwin-williams.com.
      c. Sika Corporation; Sikaflex-1a: www.usa.sika.com.
      d. Sika Corporation; Sikaflex-15 LM: www.usa.sika.com.
      e. Sika Corporation; Sikaflex-2c NS: www.usa.sika.com.
      f. Tremco Commercial Sealants & Waterproofing; Dymonic 100: www.tremcosealants.com.
      g. W. R. Meadows, Inc; POURTHANE NS: www.wrmeadows.com.

h. Substitutions: See Section 01 25 00 - Substitution Procedures for requirements.

D. Type JS-5 - Acrylic Emulsion Latex: Water-based; ASTM C834, single component, non-staining, non-bleeding, non-sagging, paintable; not intended for exterior use.
   1. Color: To be selected by Architect from manufacturer's full range.
   2. Grade: ASTM C834; Grade 0 Degrees F (Minus 18 Degrees C).
   3. Products:
      a. Pecora Corporation; AC-20 + Silicone Acrylic Latex Caulking Compound: www.pecora.com.
      b. Sherwin-Williams Company; White Lightning 3006 Siliconized Acrylic Latex Caulk: www.sherwin-williams.com.
      c. Sherwin-Williams Company; 850A Acrylic Latex Caulk: www.sherwin-williams.com.
      d. Sherwin-Williams Company; 950A Siliconized Acrylic Latex Caulk: www.sherwin-williams.com.
      e. Sherwin-Williams Company; Bolt Quickdry Siliconized Acrylic Latex Caulk: www.sherwin-williams.com.
      f. Sherwin-Williams Company; Powerhouse Siliconized Acrylic Latex Sealant: www.sherwin-williams.com.
      g. Tremco Commercial Sealants & Waterproofing; Tremflex 834: www.tremcosealants.com.
      h. Substitutions: See Section 01 25 00 - Substitution Procedures for requirements.

E. Type JS-6 - Non-Curing Butyl Sealant: Solvent-based; ASTM C1311; single component, non-sag, non-skinning, non-hardening, non-bleeding; vapor-impermeable; intended for fully concealed applications.

2.05 SELF-LEVELING JOINT SEALANTS

A. Type FLR-3 - Semi-Rigid Self-Leveling Epoxy Joint Filler: Epoxy or epoxy/polyurethane copolymer; intended for filling cracks and control joints not subject to significant movement; rigid enough to support concrete edges under traffic.
   1. Composition: Multicomponent, 100 percent solids by weight.
   2. Durometer Hardness: Minimum of 85 for Type A or 35 for Type D, after seven days when tested in accordance with ASTM D2240.
   3. Color: To be selected by Architect from manufacturer's standard colors.
   4. Joint Width, Minimum: 1/8 inch.
   5. Joint Width, Maximum: 1/4 inch.
   6. Joint Depth: Provide product suitable for joints from 1/8 inch to 2 inches in depth including space for backer rod.
   7. Products:
      a. Dayton Superior Corporation; Pro-Flex: www.daytonsuperior.com.
      b. SpecChem; Spec Poxy CJ. www.specchemllc.com.
      c. Substitutions: See Section 01 25 00 - Substitution Procedures for requirements.

B. Type FLR-4 - Semi-Rigid Self-Leveling Polyurea Joint Filler: Two-component, 100 percent solids; intended for filling cracks and control joints not subject to significant movement; rigid enough to support concrete edges under traffic.
   1. Durometer Hardness, Type A: 75, minimum, after seven days when tested in accordance with ASTM D2240.
   2. Color: To be selected by Architect from manufacturer's standard colors.
   3. Joint Width, Minimum: 1/8 inch.
   4. Joint Width, Maximum: 1/2 inch.
   5. Joint Depth: Provide product suitable for joints from 1/8 inch to 1 inch in depth excluding space for backer rod.
   6. Products:
      a. ARDEX Engineered Cements; ARDEX ARDISEAL RAPID PLUS: www.ardexamericas.com.

b. Euclid Chemical Company; EUCO QWIKjoint UVR: www.euclidchemical.com.
c. Nox-Crete Inc; DynaFlex JF-85: www.nox-crete.com.
d. SpecChem, LLC; Rapid Flex CJ: www.specchemllc.com.
e. Substitutions: See Section 01 25 00 - Substitution Procedures for requirements.

2.06 ACCESSORIES

A. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.

B. Masking Tape: Self-adhesive, nonabsorbent, nonstaining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.

C. Joint Cleaner: Noncorrosive and nonstaining type, type recommended by sealant manufacturer; compatible with joint forming materials.

D. Primers: Type recommended by sealant manufacturer to suit application; nonstaining.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

E. Concrete Floor Joints That Will Be Exposed in Completed Work: Test joint filler in an inconspicuous area to verify that it does not stain or discolor slab.

3.03 INSTALLATION

A. Install this work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Provide joint sealant installations complying with ASTM C1193.

C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.

D. Install bond breaker backing tape where backer rod cannot be used.

E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.

F. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

G. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

H. Concrete Floor Joint Filler: After full cure, shave joint filler flush with top of concrete slab.

I. Consult manufacturer if joint spacing is outside of manufacturer's published limits.

3.04 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements for related requirements.

B. Perform field quality control inspection/testing as specified in PART 1 under QUALITY ASSURANCE article.

C. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

END OF SECTION

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SECTION 08 14 16
FLUSH WOOD DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Flush wood doors; flush configuration; non-rated.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 govern the work of this section.

B. Section 08 71 00 - Door Hardware.

1.03 REFERENCE STANDARDS

A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

B. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards; 2021, with Errata.

C. ICC (IBC) - International Building Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

D. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2025.

E. WDMA I.S. 1A - Interior Architectural Wood Flush Doors; 2021, with Errata (2022).

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for procedures.

B. Provide submittal transmittals that include all submittal items identified in each submittal group below.

C. It is permissible for a single supplier to combine submittal items for multiple sections within Division 8 Openings. This permission applies to sections that describe requirements for glazing, hardware, any passage door and windows that are framed using the same systems as the passage doors. Identify all sections that are included in the transmittal on the coversheet.

D. Review Submittals - Preparatory:
   1. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.
   2. Shop Drawings: Show doors and frames, elevations, sizes, types, swings, undercuts, beveling, blocking for hardware, factory machining, factory finishing, cutouts for glazing and other details.

E. Review Submittals - Samples:
   1. Samples: Submit two samples of door veneer, 12 by 12 inch in size illustrating wood grain, stain color, and sheen.

F. Information Submittals - Preparatory:
   1. Certificate: Submit labels and certificates required by quality assurance and quality control programs.

G. Closeout Submittals:
   1. See Section 01 78 00 - Closeout Submittals for additional information regarding documenting warranties.
   2. Warranty Documentation: Submit documentation of manufacturer's warranty that acknowledges the requirements defined in this section.

1.05 QUALITY ASSURANCE

A. Maintain one copy of the specified door quality standard on site for review during installation and finishing.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section, with not less than three years of documented experience.

C. Supplier: A company experienced in the builders' hardware industry representing wood door products for a minimum of two (2) years, and can call upon an AHC, registered Architectural Hardware Consultant, for consultation during the full extent of the project.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Package, deliver and store doors in accordance with specified quality standard.

B. Accept doors on site in manufacturer's packaging, and inspect for damage.

C. Protect doors with resilient packaging sealed with heat shrunk plastic; do not store in damp or wet areas or areas where sunlight might bleach veneer; seal top and bottom edges with tinted sealer if stored more than one week, and break seal on site to permit ventilation.

1.07 PROJECT CONDITIONS

A. Coordinate the work with door opening construction, door frame and door hardware installation.

1.08 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.

B. Section Specific Warranty: Provide manufacturer’s customized warranty as described in this section. Document the warranty as defined under the Submittals heading of this section. Provide warranty in conformance with the following:
   1. Provide manufacturer's warranty on interior doors for the life of the installation. Complete forms in Owner's name and register with manufacturer.
   2. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Wood Veneer Faced Doors:
   1. Forte Opening Solutions: www.forteopenings.com.
   2. Oshkosh Architectural Door Company; www.oshkoshdoor.com.
   3. VT Industries; www.vtindustries.com.
   4. Streko; www.strekodoors.com.
   5. Substitutions: See Section 01 25 00 - Substitution Procedures for requirements.

2.02 DOORS

A. Doors: See drawings for locations and additional requirements.
   1. Quality Standard: Custom Grade, Heavy Duty performance, in accordance with WDMA I.S. 1A.
   2. Wood Veneer Faced Doors: 5-ply unless otherwise indicated.

B. Interior Doors: 1-3/4 inches thick unless otherwise indicated; flush construction.
   1. Provide solid core doors at each location.

2.03 DOOR AND PANEL CORES

A. Non-Rated Solid Core and 20 Minute Rated Doors: Type particleboard core (PC), plies and faces as indicated.

2.04 DOOR FACINGS

A. Veneer Facing for Transparent Finish: Red oak, veneer grade in accordance with quality standard indicated, plain sliced (flat cut), with book match between leaves of veneer, running match of spliced veneer leaves assembled on door or panel face.
   1. Vertical Edges: laminated.

B. Facing Adhesive: Type I - waterproof.

2.05 DOOR CONSTRUCTION

A. Fabricate doors in accordance with door quality standard specified.

B. Cores Constructed with stiles and rails:

C. Provide solid blocks at lock edge for hardware reinforcement.

D. Where supplementary protective edge trim is required, install trim after veneer facing has been applied full-width.

E. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.

F. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.

G. Provide edge clearances in accordance with the quality standard specified.

2.06 FINISHES - WOOD VENEER DOORS

A. Finish work in accordance with WDMA I.S. 1A for grade specified and as follows:
   1. Transparent:
      a. System - TR-6, Catalyzed Polyurethane.
      b. Stain: As selected by Architect.
      c. Sheen: Satin.

B. Factory finish doors in accordance with approved sample. Stain colors shall be selected from manufacturer's full line.

C. Seal edges as required by manufacturer’s standards to meet lifetime warranty.

2.07 ACCESSORIES

A. Glazing Stops: Wood, of same species as door facing, butted corners; prepared for countersink style tamper proof screws.

B. Door Hardware: See Section 08 71 00.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.02 INSTALLATION

A. Install doors in accordance with manufacturer's instructions and specified quality standard.

B. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.

C. Use machine tools to cut or drill for hardware.

D. Coordinate installation of new doors with installation of frames and hardware.

E. Coordinate installation of glazing.

F. Seal all job site sawn surfaces with two coats of polyurethane.

3.03 TOLERANCES

A. Comply with specified quality standard for fit and clearance tolerances.

B. Comply with specified quality standard for telegraphing, warp, and squareness.

3.04 ADJUSTING

A. Adjust doors for smooth and balanced door movement.

B. Adjust closers for full closure.

3.05 SCHEDULE - SEE DRAWINGS

END OF SECTION

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SECTION 08 16 13
FIBERGLASS DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fiberglass doors.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 govern the work of this section.

B. Section 07 92 00 - Joint Sealants: Sealing joints between door frames and adjacent construction.

C. Section 08 43 13 - Aluminum-Framed Storefronts: System at all aluminum frames/doors.

D. Section 08 71 00 - Door Hardware.

1.03 REFERENCE STANDARDS

A. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors; 2024.

B. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.

C. ASTM D635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position; 2022.

D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2026.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for procedures.

B. Provide submittal transmittals that include all submittal items identified in each submittal group below.

C. Review Submittals - Preparatory:
   1. Product Data: Provide manufacturer's standard details, installation instructions, hardware and anchor recommendations.
   2. Shop Drawings: Indicate layout and profiles; include assembly methods.
      a. Indicate product components, including hardware reinforcement locations and preparations, accessories, finish colors, patterns, and textures.
      b. Indicate wall conditions, door and frame elevations, sections, materials, gauges, finishes, location of door hardware by dimension, and details of openings; use same reference numbers indicated on drawings to identify details and openings.

D. Review Submittals - Samples:
   1. Selection Samples: Submit two complete sets of color chips, illustrating manufacturer's available finishes, colors, and textures.

E. Closeout Submittals:
   1. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer; include detailed terms of warranty.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with minimum 5 years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer’s original, unopened, undamaged containers with identification labels intact.

B. Store materials in original packaging, under cover, protected from exposure to harmful weather conditions and from direct contact with water.
   1. Store at temperature and humidity conditions recommended by manufacturer.
   2. Do not use non-vented plastic or canvas shelters.
   3. Immediately remove wet wrappers.

C. Store in position recommended by manufacturer, elevated minimum 4 inches above grade, with minimum 1/4 inch space between doors.

1.07 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Fiberglass Reinforced Plastic Doors:
   1. Corrim: www.corrim.com.
   2. Edgewater FRP Door: www.edgewaterfrp.com.
   3. Substitutions: See Section 01 25 00 - Substitution Procedures for requirements.

2.02 DOOR AND FRAME ASSEMBLIES-FIBERGLASS REINFORCED DOORS

A. Door: Factory-fabricated, prepared and machined for hardware.
   1. Doors may be single sourced with aluminum frames only with hinges matching those specified in Section 08 71 00. Frame color shall be high performance organic coating to match that selected from Section 08 43 13.
   2. Physical Endurance: Swinging door cycle test to ANSI/SDI A250.4, Level A (1,000,000 cycles) minimum; tested with hardware and fasteners intended for use on project.
   3. Screw-Holding Capacity: Tested to 890 pounds, minimum.
   4. Surface Burning Characteristics: Flame spread index (FSI) of 0 to 25, Class A, and smoke developed index (SDI) of 450 or less, when tested in accordance with ASTM E84.
   5. Flammability: Self-extinguishing when tested in accordance with ASTM D635.
   6. Clearance Between Door and Frame: 1/8 inch, maximum.
   7. Clearance Between Bottom of Door and Finished Floor: 1/2 inch, maximum; not less than 1/4 inch clearance to threshold.

2.03 COMPONENTS

A. Doors: Fiberglass construction with reinforced core.
   1. Type: As indicated on drawings, including swinging and sliding doors.
   2. Thickness: 1-3/4 inch, nominal.
   3. Core Material: Manufacturer's standard core material for application indicated.
   4. Construction:
      a. Molded in one piece including through color gel coating on each side; manufacturer's standard subframe, core and faces fused during curing; hardware reinforcements.
   5. Face Sheet Texture: Smooth.
   6. Door Panel Configuration: As indicated on drawings.
   7. Subframe and Reinforcements: Fiberglass pultrusions, polymer foam, stainless steel, aluminum, or carbon steel; no wood.
   8. Waterproof Integrity: Provide factory fabricated edges, cut-outs, and hardware preparations of fiberglass reinforced plastic (FRP); provide cut-outs with joints sealed independently of glazing, louver inserts, or trim.
   9. Hardware Preparations: Factory reinforce, machine, and prepare for door hardware including field installed items; provide solid blocking for each item; field cutting, drilling or tapping is not permitted; obtain manufacturer's hardware templates for preparation as necessary.

B. Door Frames: Provide type in compliance with performance requirements specified for doors.
   1. Type: Per section 08 43 13.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify actual dimensions of openings by field measurements before door fabrication; show recorded measurements on shop drawings.

B. Do not begin installation until substrates have been properly prepared.

3.02 PREPARATION

A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

B. Clean and prepare substrate in accordance with manufacturer's directions.

C. Protect adjacent work and finish surfaces from damage during installation.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions; do not penetrate frames with anchors.

B. Set units plumb, level, and true-to-line, without warping or racking doors, and with specified clearances; anchor in place.

C. Separate aluminum and other metal surfaces from sources of corrosion of electrolytic action at points of contact with other materials.

D. Repair or replace damaged installed products.

3.04 ADJUSTING

A. Lubricate, test, and adjust doors to operate easily, free from warp, twist or distortion, and to fit watertight for entire perimeter.

B. Adjust hardware for smooth and quiet operation.

C. Adjust doors to fit snugly and close without sticking or binding.

3.05 CLEANING

A. Clean installed products in accordance with manufacturer’s instructions prior to owner’s acceptance.

END OF SECTION

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SECTION 08 43 13
ALUMINUM-FRAMED STOREFRONTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Aluminum-framed storefront, with vision glass.

B. Aluminum doors and frames.

C. Weatherstripping.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 govern the work of this section.

B. Section 07 92 00 - Joint Sealants: Sealing joints between frames and adjacent construction.

C. Section 08 16 13 - Fiberglass Doors: Door panels to coordinate with door frames specified in Section 08 43 13.

D. Section 08 71 00 - Door Hardware: Hardware items other than specified in this section.

E. Section 08 80 00 - Glazing: Glass and glazing accessories.

F. Division 26 and 28: Connection to related powered and access control accessories.

1.03 REFERENCE STANDARDS

A. AAMA 501.2 - Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls, and Sloped Glazing Systems; 2025.

B. AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections; 2009.

C. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

D. AAMA CW-10 - Care and Handling of Architectural Aluminum from Shop to Site; 2015.

E. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.

F. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.

G. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.

H. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric); 2021.

I. ASTM E283/E283M - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2019.

J. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2014 (Reapproved 2021).

K. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000 (Reapproved 2023).

L. ICC (IBC)-2015 - International Building Code; 2015.

M. ICC (IECC)-2015 - International Energy Conservation Code; 2015.

N. NFRC 100 - Procedure for Determining Fenestration Product U-factors; 2023.

1.04 SUBMITTALS

A. See Conditions of the Contract and General Requirements for procedures.

B. Provide submittal transmittals that include all submittal items identified in each submittal group below.

C. Review Submittals - Preparatory:
   1. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, internal drainage details and unit u-value, center of glass u-value and solar heat gain coefficient.
   2. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related work, expansion and contraction joint location and details, and field welding required.
   3. Design Data: Provide framing member structural and physical characteristics, dimensional limitations.

D. Review Submittals - Samples:
   1. Samples: Submit one sample illustrating finished aluminum surface.
   2. State which finish best matched existing openings to remain.

E. Information Submittals - During Execution:
   1. Field Quality Control Submittals: Report of field testing for water penetration.

F. Closeout Submittals:
   1. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with minimum 3 years of documented experience.

B. Unit U-value factors shall be labeled in accordance with NFRC 100 and 500.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Handle products of this section in accordance with AAMA CW-10.

B. Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond to aluminum when exposed to sunlight or weather.

1.07 FIELD CONDITIONS

A. Do not install sealants when ambient temperature is less than 40 degrees F. Maintain this minimum temperature during and 48 hours after installation.

1.08 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.

B. Correct defective Work within a one year period after the Date of Substantial Completion.

C. Provide ten year manufacturer warranty against failure of glass seal on insulating glass units, including interpane dusting or misting. Include provision for replacement of failed units.

D. Provide 20 year manufacturer warranty against excessive degradation of exterior PVDF finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Aluminum-Framed Storefront and Doors: High Performance Thermal Break.for Window Framing.
   1. Kawneer North America: Trifab 451UT. www.kawneer.com.
   2. Manko Window Systems, Inc: 2450xpt. www.mankowindows.com.
   3. Tubelite, Inc.: TU24000. www.tubeliteinc.com.
   4. YKK AP: YES 45 XT. www.ykkap.com.

5. Oldcastle Building Envelope: 3000XT. www.oldcastlebe.com.
6. Efco: 403X. www.efcocorp.com.
7. See Conditions of the Contract and General Requirements for additional warranty requirements.
8. Substitutions: See Section 01 25 00 - Substitution Procedures for requirements.

2.02 ALUMINUM-FRAMED STOREFRONT

A. Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.
   1. Glazing Position: Centered (front to back).
   2. Vertical Mullion Dimensions: 2 inches wide x 4 1/2 inches deep.
   3. Frame Member Wall Thickness: 1/8 inch.
   4. Finish: Superior performing organic coatings.
      a. Factory finish all surfaces that will be exposed in completed assemblies.
      b. Coat concealed metal surfaces that will be in contact with cementitious materials or dissimilar metals with bituminous paint.
   5. Finish Color: As selected by Architect from manufacturer's standard line. State which finish best matches existing doors to remain in submittals.
   6. Fabrication: Joints and corners flush, hairline, and weatherproof, accurately fitted and secured; prepared to receive anchors and hardware; fasteners and attachments concealed from view; reinforced as required for imposed loads.
   7. Construction: Eliminate noises caused by wind and thermal movement, prevent vibration harmonics, and prevent "stack effect" in internal spaces.
   8. System Internal Drainage: Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system.
   9. Expansion/Contraction: Provide for expansion and contraction within system components caused by cycling temperature range of 170 degrees F over a 12 hour period without causing detrimental effect to system components, anchorages, and other building elements.
   10. Movement: Allow for movement between storefront and adjacent construction, without damage to components or deterioration of seals.
   11. Perimeter Clearance: Minimize space between framing members and adjacent construction while allowing expected movement.
   12. Maintain continuous air barrier and/or vapor retarder seal throughout assembly, primarily in line with inside pane of glazing and inner sheet of infill panel, and heel bead of glazing compound.

B. Performance Requirements:
   1. Wind Loads: Design and size components to withstand the specified load requirements without damage or permanent set, when tested in accordance with ASTM E330/E330M, using loads 1.5 times the design wind loads and 10 second duration of maximum load.
      a. Design Wind Loads: Comply with requirements of ASCE 7.
      b. Member Deflection: Limit member deflection to flexure limit of glass in any direction, with full recovery of glazing materials.
   2. Water Penetration Resistance: No uncontrolled water on interior face, when tested in accordance with ASTM E331 at pressure differential of 12 psf.
   3. Air Leakage: 0.06 cfm/sq ft maximum leakage of storefront wall area when tested in accordance with ASTM E283/E283M at 1.57 psf pressure difference.
   4. Condensation Resistance Factor of Framing: 50, minimum, measured in accordance with AAMA 1503.

2.03 DOOR COMPONENTS

A. Aluminum Exterior Door Framing Members: 1/8 inch minimum wall thickness, tubular aluminum sections, drainage holes and internal weep drainage system.
   1. Glazing stops: Applied.

B. Interior Aluminum Door Framing Members: Tubular aluminum sections, non-thermally broken, drainage holes and internal weep drainage system.
   1. Glazing stops: Applied.

2.04 WINDOW AND SIDELIGHT COMPONENTS

A. Aluminum Framing Members: Tubular aluminum sections, thermally broken with interior section insulated from exterior, drainage holes and internal weep drainage system.
   1. Framing members for interior applications need not be thermally broken.
   2. Glazing Stops: Applied.

B. Glazing: See Section 08 80 00.

C. Swing Doors: Glazed aluminum.
   1. Thickness: 1-3/4 inches.
   2. Wide Stile: 5 inch minimum stiles and top rail.
   3. Bottom Rail: 10 inches wide minimum single rail design.
   4. Glazing Stops: Square.
   5. Finish: Same as storefront.

2.05 MATERIALS

A. Extruded Aluminum: ASTM B221 (ASTM B221M).

B. Sheet Aluminum: ASTM B209/B209M.

C. Fasteners: Stainless steel.

D. Extruded Sills: Aluminum to match window frame. Profile as detailed.

E. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements.

2.06 FINISHES

A. Superior Performing Organic Coatings System: Polyvinylidene fluoride (PVDF), multi-coat, superior-performing organic coatings system complying with AAMA 2605, including at least 70 percent PVDF resin or powder, and at least 80 percent of aluminum extrusion and panels surfaces having minimum total dry film thickness (DFT) of 1.2 mils, 0.0012 inch.

2.07 HARDWARE

A. Other Door Hardware: See Section 08 71 00.

B. Weatherstripping: Wool pile, continuous and replaceable; provide on all doors.

C. Sill Sweep Strips: Resilient seal type, retracting, of neoprene; provide on all doors.

2.08 FABRICATION

A. Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.

B. Accurately fit and secure joints and corners. Make joints flush, hairline, and weatherproof.

C. Prepare components to receive anchor devices. Fabricate anchors.

D. Coat concealed metal surfaces that will be in contact with cementitious materials or dissimilar metals with bituminous paint.

E. Arrange fasteners and attachments to conceal from view.

F. Reinforce components internally for door hardware and door operators.

G. Reinforce framing members for imposed loads.

H. Finishing: Apply factory finish to all surfaces that will be exposed in completed assemblies.
   1. Touch-up surfaces cut during fabrication so that no natural aluminum is visible in completed assemblies, including joint edges.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install wall system in accordance with manufacturer's instructions.

B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.

C. Provide alignment attachments and shims to permanently fasten system to building structure.

D. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.

E. Provide thermal isolation where components penetrate or disrupt building insulation.

F. Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight dam.

G. Where fasteners penetrate sill flashings, make watertight by seating and sealing fastener heads to sill flashing.

H. Coordinate installation of conduit box at head of frame and flexible conduit in frame to electric strike at electrified doors identified in Hardware Schedule with Division 26.

I. Coordinate attachment and seal of perimeter air and vapor barrier materials.

J. Pack fibrous insulation or apply expanding foam in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

K. Set thresholds in bed of sealant and secure.

L. Install glass in accordance with Section 08 80 00, using glazing method required to achieve performance criteria.

M. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.

3.02 FIELD QUALITY CONTROL

A. Water-Spray Test: Provide water spray quality test of installed storefront components in accordance with AAMA 501.2 during construction process and before installation of interior finishes.

1. Perform a minimum of two tests in each designated area as directed by Architect.
2. Conduct tests in each area prior to 10 percent and 50 percent completion of this work.
3. Tests performed when owner determines a questionable installation has occurred.
4. If test passes, owner shall pay for testing.
5. If test fails, contractor shall pay for testing.

3.03 ADJUSTING

A. Adjust operating hardware for smooth operation.

3.04 CLEANING

A. Remove protective material from pre-finished aluminum surfaces.

B. Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths, and take care to remove dirt from corners and to wipe surfaces clean.

END OF SECTION

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SECTION 08 71 00

FINISH HARDWARE

PART 1: GENERAL

1.01 RELATED DOCUMENTS

A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

1.02 WORK INCLUDED

A. Furnish all finish hardware specified herein, listed in the hardware schedule, or required by the drawings.

B. Where items of hardware are not definitely or correctly specified and are required for the intended service, such omission, error, or other discrepancy should be directed to the Architect prior to the bid date for clarification by addendum. Otherwise, furnish such items in the type and quantity established by this specification for the appropriate service intended.

1.03 RELATED WORK

A. Section 08 11 13 – Hollow Metal Doors and Frames.

C. Section 08 14 16 – Flush Wood Doors.

E. Section 08 43 13 – Aluminum-Framed Storefronts: All hardware including cylinders to be supplied by 08 71 00. Manufacturer's standard weatherstrip and sweeps shall be supplied by aluminum door and frame supplier.

F. Section 08 44 13 – Glazed Aluminum Curtain Walls: All hardware including cylinders to be supplied by 08 71 00. Manufacturer's standard weatherstrip and sweeps shall be supplied by curtain wall frame supplier.

1.04 REFERENCES

A. A.D.A. - Americans with Disabilities Act.

B. ANSI ICC A117.1-2009: Specifications for making facilities accessible.

C. NFPA 80 - Standards For Fire Doors and Windows.

D. NFPA 101 - Life Safety Code.

E. U.L. - Building Material Directory.

F. D.H.I. - Recommended Locations for Architectural Hardware.

G. Applicable State and Local Building Codes, including IBC 2009.

1.05 SUBMITTALS

A. Submit five (5) copies of a detailed hardware schedule, vertical format. Prepare under the supervision of an AHC, registered Architectural Hardware Consultant, and under provisions of Division One.

1. Itemize hardware in the sequence and format established by this specification.
2. List and describe each opening separately. Include all doors with identical hardware,

except hand, in a single heading. Include door number, room designations, degree of swing, and hand.
3. List related details. Include dimensions, door and frame material, and other considerations affecting hardware.
4. List all hardware items to be supplied. Include manufacturer's name, quantity, product name, catalog number, size, finish, attachments, and related details where applicable.
5. Resubmit five (5) copies of the corrected schedule when required.

B. Keying Schedule: After receipt of approved hardware schedule submit a copy of keying schedule as a result of a keying meeting between the Owner and the hardware supplier.

C. Samples: If so directed by the Architect, submit samples of finish hardware items for approval. Properly identify each sample as to make and number, and furnish in the specified finish.

D. Templates: Furnish a copy of approved hardware schedule, along with applicable templates for factory-prepared hardware to each door and frame fabricator.

E. Electrical Hardware: Submit electrical specifications and applicable information to the electrical contractor after receipt of the approved hardware schedule.

F. Substitutions: Submit under provisions of Division One. Provide detailed information and catalog cuts indicating the comparison to the specified hardware. If requested by the Architect, provide a sample accompanied by a sample of the specified item for comparison.

1.06 QUALITY ASSURANCE

A. Qualifications:
1. Manufacturer: Except where specified in the hardware schedule, furnish products of only one manufacturer for each type of hardware.
2. Supplier: A company experienced in the builders' hardware industry for a minimum of two (2) years, and can call upon an AHC, registered Architectural Hardware Consultant, for consultation during the full extent of the project

B. Regulatory Requirements:
1. Furnish UL or Warnock Hersey listed hardware for all fire labeled and 20 minute openings in conformance with requirements for class of opening scheduled, whether specifically called for in this specification or not.
2. Furnish hardware that conforms to all applicable state and local building codes, including IBC 2000 positive pressure testing requirements. Where specified hardware is not in conformance with applicable codes, such omission or error should be directed to the Architect prior to the bid date for clarification by addendum; otherwise furnish hardware as required by code.

C. Training and Inspection:
1. Hold pre-installation meeting to coordinate training of installation personnel. Installers shall be trained by manufacturer’s representative.
2. Manufacturer’s representative shall inspect installation of hardware as part of substantial completion requirements.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver, store and handle in accordance with Division One. Mark each original container with a door number that corresponds to the approved hardware schedule for the installation location.

B. Receive, inventory and store hardware in a secure and dry environment; protect against loss and damage.

C. Report any shortages to the hardware supplier no later than 48 hours after receipt of delivery to the job site.

D. Stockpile items sufficiently in advance to ensure their availability. Coordinate delivery, handling, and installation of hardware items to ensure orderly progress of total work, and minimize or eliminate losses and damage.

PART 2: PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

Products	Specified	Acceptable
Hinges	PBB	Stanley, McKinney, Hager
Locks and Latches	BEST	NO SUB
Push/Pull Latches	Rockwood	Trimco, Burns, Hager
Exit Devices	Precision	
Door Closers	Stanley	LCN
Auto Operators	Stanley	No Sub
Protective Plates	Rockwood	Burns, Hager
Overhead Stops/Holders	ABH	Dorma, Glynn Johnson
Wall Stops/Floor Stops	Rockwood	Trimco, Hager, DCI
Thresholds, Sweeps, Weatherstrip	Reese	National Guard Products, Pemko

2.02 HINGES

A. Acceptable manufacturers and respective catalog numbers:

Description	P.B.B.	Stanley	McKinney	Hager
Std. Wt. Plain Bearing - Steel	PB81	F179	T2714	1279
Std. Wt. Ball Bearing - Steel	BB81	FBB179	TA2714	BB1279
Std. Wt. Ball Bearing -non ferrous	BB21/BB51	FBB191	TB2314	BB1191
Hvy. Wt. Ball Bearing Steel	4B81	FBB168	T4B3786	BB1168
Hvy. Wt. Ball Bearing – non ferrous	4B21/4B51	FBB179	T4B3386	BB1199

B. Hinges supplied must be tested and comply with ANSI/BHMA standards for consistency, wear and corrosion resistance.

C. Quantity: Furnish hinges for each door leaf as follows, unless otherwise noted in groups:
1. Doors up to and including 90" high - 3 hinges.
2. Doors over 90" high through 120" high - 4 hinges.

D. Type: Furnish as follows, unless otherwise noted in groups:
1. Standard weight, plain bearing hinge for interior openings through 36" wide without a door closer.

2. Standard weight, ball bearing hinge for interior openings over 36" through 40" wide with a door closer, and for interior openings through 40" wide with a door closer.
3. Heavy weight, four ball bearing hinge for all exterior openings unless noted in groups.

E. Size: Furnish as follows, unless otherwise noted in groups:
1. 1 3/4" doors: 4-1/2" x 4-1/2"
2. Provide proper hinge width to clear trim and allow full 180° swing.

F. Hinges for all lockable doors opening outward shall have non-removable pin (NRP). All other hinges shall have non-rising pins.

2.03 LOCKS AND LATCHES

A. Acceptable manufacturers and respective catalog numbers:

Description	Best
Cylindrical locks	9K3
Cylinders	Rim and Mortise 1E

B. Furnish lock types and functions as specified in the hardware schedule, and as follows:
1. Provide 2-3/4" backset.
2. Provide 2-3/4" x 1-1/8" “T” strike with a dust box for use in wood doors or frames.
3. Provide 4-7/8" x 1-1/4" ANSI strike for installation in a hollow metal door or frame.
4. Locksets to conform to ANSI A156.2, Series 4000, Grade 1 and be UL listed.

2.04 EXIT DEVICES

A. Acceptable manufacturers and respective catalog numbers:

Description	Precision
Wide Stile Rim	2100
Wide Stile Surf. Vert. Rod	2200
Wide Stile Conc. Vert. Rod	2800
Wide Stile Mortise	2300
Narrow Stile Rim	2400
Narrow Stile Conc. Vert. Rod	2600

B. Furnish exit device types and functions as specified in the hardware schedule.

C. Lever handles supplied with exit devices shall match the design specified for locks and latches.

2.05 PULLS, PUSHBARS, PUSH/PULL PLATES

A. Acceptable manufacturers and respective catalog numbers:

Description	Rockwood	Trimco	Burns

B. Supply product as listed in groups or equal to acceptable manufacturers..

2.06 DOOR CLOSERS

A. Acceptable manufacturers and respective catalog numbers:

Description	LCN	STANLEY
Heavy Duty Reg. Arm	4041	4450
Heavy Duty Parallel Arm	4041 EDA	4450 EDA
Heavy Duty Stop Arm	4041 CUSH	4450 CUSH

B. Furnish complete with mounting brackets, drop plates, spacers, special shoes, and thru bolts as may be required by the door and frame conditions.

2.07 PROTECTIVE PLATES

A. Acceptable manufacturers: Rockwood, Trimco, Burns, Hager.

B. All kickplate heights shall be as listed in groups and 2" less door width single doors and 1" less for pairs.

C. Thickness shall be .050" (16 gauge).

2.08 LOW ENERGY AUTOMATIC OPERATORS

A. Acceptable manufacturers and respective catalog numbers:

Description	STANLEY
Operator -	D4990
Hard Wired Wall Switch	AS REQ
Wireless Wall Switch	CL4990 KIT
Wireless Receiver	CL4990 KIT

B. Provide arms, mounting plates, sizes, stops, and any component that may be necessary to interface with electrified hardware that are required for complete and proper operation of the openings affected. Completed installation must meet or exceed requirements of ANSI A159.19.

C. Provide actuators as detailed in groups.

D. Conduit, electrical back boxes, wiring, and 120 VAC input power by Division 16 - Electrical.

2.09 OVERHEAD STOPS/HOLDERS

A. Acceptable manufacturers and respective catalog numbers:

Description	A.B.H.	Dorma	Glynn Johnson
Heavy Duty Surface	9000	900	90
Heavy Duty Concealed	1000	910	100
Standard Duty Surface	4400	700	450
Standard Duty Concealed	4000	710	410

B. Furnish an overhead stop if a door opens against equipment, casework, sidelights, or other objects that would make wall bumpers inappropriate, and as specified in the hardware groups.

2.10 WALL STOPS

A. Acceptable manufacturers and respective catalog numbers:

Description	Rockwood	Hager
Wrought Convex Wall	407	232W
Wrought Concave w/Toggle	409	237W

B. When "wall stop" is called for in hardware group, provide 407 or 409. When overhead stops are required, they will be specified by product number in the group.

C. Wall stops shall not be mounted to casework, cabinet work, sidelights, or equipment.

2.11 THRESHOLDS, SWEEPS, WEATHERSTRIP, DRIP CAPS, GASKET, ASTRAGALS

A. Acceptable manufacturers and respective catalog numbers:

Description	Reese	Pemko	National Guard
Threshold	S205	171A	425A
Sweep	323	315N	200N
Sweep	967	18133CP	OV633
Weatherstrip	970	45100CP	603
Weatherstrip	DS78	315CR	130N
Gasket	797B	S88	1010

B. Where specified in groups, furnish the above products unless otherwise detailed.

2.12 DOOR HARDWARE FINISHES

A. Unless indicated otherwise in the groups provide finishes as follows:

1. Hinges, exterior: US32D
2. Hinges, interior: US26D
3. Flush Bolts: US26D
4. Exit Devices: US32D
5. Locks and Latches: US26D
6. Pulls, Pushbars, Push/Pull: US32D
7. Door Closers: Painted Aluminum
8. Low Energy Automatic Operators: Painted Aluminum
9. Protective Plates: US32D
10. Overhead Stops: Painted Aluminum
11. Wall Stops: US32D
12. Gasket: Black
13. Thresholds: Mill Aluminum
14. Weatherstrip, Sweeps: Clear Anodized Aluminum

2.12 KEYING

A. The Hardware Supplier, in consultation with the Owner's authorized representative, shall prepare a detailed keying schedule. A copy of the final approved keying schedule bearing the signature of approval of the Owner's Representative shall be filed with the Architect. All locks shall be keyed into the same system as is used on the existing building.

B. Key locks in sets or subsets, master key and grand master key as directed by Owner.

C. Furnish the required number of keys for each keyed group in quantity as directed by the Owner.

D. Grand master and master keys shall be delivered by registered mail direct from the manufacturer to the Owner.

PART 3: EXECUTION

3.01 EXAMINATION

A. Examine doors, frames, and related items for conditions that would prevent the proper application of finish hardware. Do not proceed until defects are corrected.

3.02 INSTALLATION

A. Install each hardware item in strict compliance with the manufacturer's printed instructions and recommendations, using only fasteners supplied by, or called for by the manufacturer.

B. Set units level, plumb and true to the line and location. Prepare and reinforce the attachment substrate as necessary for proper installation and operation.

C. Mortise and cut to close tolerance and conceal evidence of cutting in the finished work. Drill and countersink units which are not factory prepared for anchorage fasteners.

D. If manufacturer’s instructions do not call out a mounting location, refer to the Door and Hardware Institute's publication *Recommended Locations for Architectural Hardware.*

E. Deliver to the Owner one (1) complete set of installation and adjustment instructions, as well as all tools that were furnished with the hardware.

3.03 ADJUSTMENT AND CLEANING

A. At final completion, adjust and check each operating item of hardware at each door to ensure proper operation and function of every unit. Lubricate any moving parts that do not operate freely, smoothly, and quietly using only lubricant as recommended by the manufacturer of the hardware item. Replace units that cannot be adjusted or lubricated to operate properly.

B. Instruct the Owner’s personnel in the proper adjustments of the hardware as needed.

C. Clean and restore hardware to the original finish.

3.04 HARDWARE SCHEDULE

STOFFEL COURT

HARDWARE GROUP 1
EACH SINGLE ALUM/FRP DOOR TO HAVE:
DR.001,

1 EA CONTINUOUS HINGE	BY ALUM/FRP FRAME/DR SUPPLIER	
1 EA STORERM LOCK	9K37D15DS3 626	BEST
1 EA CLOSER	HD8016 SPAT 689	BEST
1 EA DROP PLATE	DP80 689	BEST
1 EA BLADE STOP	BS 689	BEST
1 EA CUSH SHOE SUPPORT	FTHD 689	BEST
1 EA LATCH PROTECTOR	320-RCW US32D	ROCKWOOD
1 EA THRESHOLD	S425A36	REESE
1 EA SWEEP AND WEATHERSTRIP	BY ALUM/FRP SUPPLIER	

HARDWARE GROUP 2
EACH PAIR OF ALUM/FRP DOORS TO HAVE:
DR.109,116

2 EA CONTINUOUS HINGE	BY ALUM/FRP FRAME/DR SUPPLIER	
1 EA STORERM LOCK	9K37D15DS3 626	BEST
2 EA FLUSHBOLTS	FB458 626	IVES
1 EA DUST PR STRIKE	DP2 626	IVES
2 EA SURFACE OVERHEAD HOLDER	900H 652	GLYNNJO
1 EA THRESHOLD	S425A64	REESE
2 EA SWEEP AND WEATHERSTRIP	BY ALUM/FRP SUPPLIER	

HARDWARE GROUP 3
EACH SINGLE DOOR TO HAVE:
DR.106A

3 EA HINGES	FBB179 4.5 X 4.5 652	STANLEY
1 EA MORTISE LOCKSET	45H7T14H SE 626	BEST
1 EA DR VIEWER	U698 26D	IVES
1 EA WEATHERSTRIP	815A3684	REESE
1 EA DR BOTTOM	DB595A36	REESE
1 EA THRESHOLD	S425A36	REESE

SCREEN DOOR BY OTHERS ALONG WITH HARDWARE FOR IT.

HARDWARE GROUP 4
EACH SINGLE ALUM/FRP DOOR TO HAVE:
DR.1009B

1 EA CONTINUOUS HINGE	BY ALUM/FRP FRAME/DR SUPPLIER

1 EA STORERM LOCK	9K37D15DS3 626	BEST
1 EA CLOSER	HD8016 SPAT 689	BEST
1 EA DROP PLATE	DP80 689	BEST
1 EA BLADE STOP	BS 689	BEST
1 EA CUSH SHOE SUPPORT	FTHD 689	BEST
1 EA THRESHOLD	S425A36	REESE
1 EA SWEEP AND WEATHERSTRIP	BY ALUM/FRP SUPPLIER	

HARDWARE GROUP 5
EACH SINGLE ALUM/FRP DOOR TO HAVE:
DR.1009A

1 EA CONTINUOUS HINGE	BY ALUM/FRP FRAME/DR SUPPLIER	
1 EA STORERM LOCK	9K37D15DS3 626	BEST
1 EA CLOSER	HD8016 AF89P 689	BEST
1 EA WALL STOP	409 US32D	ROCKWOOD
1 EA THRESHOLD	S425A36	REESE
1 EA DR BOTTOM AND WEATHERSTRIP	BY ALUM/FRP SUPPLIER	

INSWINGING EXTERIOR DOOR PROVIDE PROPER DR BOTTOM SEAL FOR THIS SITUATION.

HARDWARE GROUP 6
EACH SINGLE ALUM DOOR TO HAVE:
DR.1001

1 EA CONTINUOUS HINGE	BY ALUM FRAME/DR SUPPLIER	
1 EA STORERM LOCK	9K37D15DS3 626	BEST
1 EA CLOSER	HD8016 AF89P 689	BEST
1 EA ELECTRIC STRIKE	REUSE EXISTING LOCK	
1 EA WALL STOP	409 US32D	ROCKWOOD
1 EA THRESHOLD	S425A36	REESE
1 EA DR BOTTOM AND WEATHERSTRIP	BY ALUM SUPPLIER	
1 EA CARD READER/PWR SUPPLY	REUSE EXISTING	

INSWINGING EXTERIOR DOOR PROVIDE PROPER DR BOTTOM SEAL FOR THIS SITUATION.

SOLBERG

HARDWARE GROUP 1
EACH PAIR OF ALUM/FRP DOORS TO HAVE:
DR.119

2 EA CONTINUOUS HINGE	BY ALUM/FRP FRAME/DR SUPPLIER	
1 EA STORERM LOCK	9K37D15DS3 626	BEST
2 EA FLUSHBOLTS	FB458 626	IVES

1 EA DUST PR STRIKE	DP2 626	IVES
2 EA SURFACE OVERHEAD HOLDER	900H 652	GLYNNJO
1 EA THRESHOLD	S425A64	REESE
2 EA SWEEP AND WEATHERSTRIP	BY ALUM/FRP SUPPLIER	

HARDWARE GROUP 2
EACH SINGLE ALUM DOOR TO HAVE:
DR.120

1 EA CONTINUOUS HINGE	BY ALUM FRAME/DR SUPPLIER	
1 EA EXIT DEVICE	2103 X CA03 626	PRECISION
1 EA RIM CYLINDER	12E72 626	BEST
1 EA OFFSET PULL	BF157 US32D	ROCKWOOD
1 EA AUTO OPERATOR	9542 STD 689	LCN
1 EA ON/OFF ROCKER SWITCH	8310-806R	LCN
1 EA ACTUATOR	8310-856T	LCN
1 EA ELECTRIC STRIKE	9400 US32D	HES
1 EA THRESHOLD	S425A48	REESE
1 EA SWEEP AND WEATHERSTRIP	BY ALUM SUPPLIER	
1 EA CARD/PWR SUPPLY	REUSE EXISTING	

HARDWARE GROUP 3
EACH SINGLE FRP DOOR TO HAVE:
DR.121,122

3 EA HINGES	FBB179 4.5 X 4.5 652	STANLEY

ALL OTHER EXISTING HARDWARE REUSE.

HARDWARE GROUP 4
EACH SINGLE ALUM/FRP DOOR TO HAVE:
DR.A1,B1

1 EA CONTINUOUS HINGE	BY ALUM/FRP FRAME/DR SUPPLIER	
1 EA STORERM LOCK	9K37D15DS3 626	BEST
2 EA CLOSER	HD8016 SPAT 689	BEST
2 EA DROP PLATE	DP80 689	BEST
2 EA BLADE STOP	BS 689	BEST
2 EA CUSH SHOE SUPPORT	FTHD 689	BEST
1 EA LATCH PROTECTOR	320-RCW US32D	ROCKWOOD
1 EA THRESHOLD	S425A36	REESE
1 EA SWEEP AND WEATHERSTRIP	BY ALUM/FRP SUPPLIER	

END OF SECTION 08 71 00

SECTION 08 71 00
FINISH HARDWARE

PART 1: GENERAL

1.01 RELATED DOCUMENTS

A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

1.02 WORK INCLUDED

A. Furnish all finish hardware specified herein, listed in the hardware schedule, or required by the drawings.

B. Where items of hardware are not definitely or correctly specified and are required for the intended service, such omission, error, or other discrepancy should be directed to the Architect prior to the bid date for clarification by addendum. Otherwise, furnish such items in the type and quantity established by this specification for the appropriate service intended.

1.03 RELATED WORK

A. Section 08 11 13 – Hollow Metal Doors and Frames.

B. Section 08 14 16 – Flush Wood Doors.

C. Section 08 16 13 – Fiberglass Doors.

D. Section 08 43 13 – Aluminum-Framed Storefronts: All hardware including cylinders to be supplied by 08 71 00. Manufacturer's standard weatherstrip and sweeps shall be supplied by aluminum door and frame supplier.

1.04 REFERENCES

A. A.D.A. - Americans with Disabilities Act.

B. ANSI ICC A117.1-2009: Specifications for making facilities accessible.

C. NFPA 80 - Standards For Fire Doors and Windows.

D. NFPA 101 - Life Safety Code.

E. U.L. - Building Material Directory.

F. D.H.I. - Recommended Locations for Architectural Hardware.

G. Applicable State and Local Building Codes, including IBC 2009.

1.05 SUBMITTALS

A. Submit five (5) copies of a detailed hardware schedule, vertical format. Prepare under the supervision of an AHC, registered Architectural Hardware Consultant, and under provisions of Division One.
1. Itemize hardware in the sequence and format established by this specification.
2. List and describe each opening separately. Include all doors with identical hardware,

except hand, in a single heading. Include door number, room designations, degree of swing, and hand.
3. List related details. Include dimensions, door and frame material, and other considerations affecting hardware.
4. List all hardware items to be supplied. Include manufacturer's name, quantity, product name, catalog number, size, finish, attachments, and related details where applicable.
5. Resubmit five (5) copies of the corrected schedule when required.

B. Keying Schedule: After receipt of approved hardware schedule submit a copy of keying schedule as a result of a keying meeting between the Owner and the hardware supplier.

C. Samples: If so directed by the Architect, submit samples of finish hardware items for approval. Properly identify each sample as to make and number, and furnish in the specified finish.

D. Templates: Furnish a copy of approved hardware schedule, along with applicable templates for factory-prepared hardware to each door and frame fabricator.

E. Electrical Hardware: Submit electrical specifications and applicable information to the electrical contractor after receipt of the approved hardware schedule.

F. Substitutions: Submit under provisions of Division One. Provide detailed information and catalog cuts indicating the comparison to the specified hardware. If requested by the Architect, provide a sample accompanied by a sample of the specified item for comparison.

1.06 QUALITY ASSURANCE

A. Qualifications:
1. Manufacturer: Except where specified in the hardware schedule, furnish products of only one manufacturer for each type of hardware.
2. Supplier: A company experienced in the builders' hardware industry for a minimum of two (2) years, and can call upon an AHC, registered Architectural Hardware Consultant, for consultation during the full extent of the project

B. Regulatory Requirements:
1. Furnish UL or Warnock Hersey listed hardware for all fire labeled and 20 minute openings in conformance with requirements for class of opening scheduled, whether specifically called for in this specification or not.
2. Furnish hardware that conforms to all applicable state and local building codes, including IBC 2000 positive pressure testing requirements. Where specified hardware is not in conformance with applicable codes, such omission or error should be directed to the Architect prior to the bid date for clarification by addendum; otherwise furnish hardware as required by code.

C. Training and Inspection:
1. Hold pre-installation meeting to coordinate training of installation personnel. Installers shall be trained by manufacturer’s representative.
2. Manufacturer’s representative shall inspect installation of hardware as part of substantial completion requirements.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver, store and handle in accordance with Division One. Mark each original container with a door number that corresponds to the approved hardware schedule for the installation location.

B. Receive, inventory and store hardware in a secure and dry environment; protect against loss and damage.

C. Report any shortages to the hardware supplier no later than 48 hours after receipt of delivery to the job site.

D. Stockpile items sufficiently in advance to ensure their availability. Coordinate delivery, handling, and installation of hardware items to ensure orderly progress of total work, and minimize or eliminate losses and damage.

PART 2: PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

Products	Specified	Acceptable
Hinges	PBB	Stanley, McKinney, Hager
Locks and Latches	BEST	NO SUB
Push/Pull Latches	Rockwood	Trimco, Burns, Hager
Exit Devices	Precision	
Door Closers	Stanley	LCN
Auto Operators	Stanley	No Sub
Protective Plates	Rockwood	Burns, Hager
Overhead Stops/Holders	ABH	Dorma, Glynn Johnson
Wall Stops/Floor Stops	Rockwood	Trimco, Hager, DCI
Thresholds, Sweeps, Weatherstrip	Reese	National Guard Products, Pemko

2.02 HINGES

A. Acceptable manufacturers and respective catalog numbers:

Description	P.B.B.	Stanley	McKinney	Hager
Std. Wt. Plain Bearing - Steel	PB81	F179	T2714	1279
Std. Wt. Ball Bearing - Steel	BB81	FBB179	TA2714	BB1279
Std. Wt. Ball Bearing -non ferrous	BB21/BB51	FBB191	TB2314	BB1191
Hvy. Wt. Ball Bearing Steel	4B81	FBB168	T4B3786	BB1168
Hvy. Wt. Ball Bearing – non ferrous	4B21/4B51	FBB179	T4B3386	BB1199

B. Hinges supplied must be tested and comply with ANSI/BHMA standards for consistency, wear and corrosion resistance.

C. Quantity: Furnish hinges for each door leaf as follows, unless otherwise noted in groups:
1. Doors up to and including 90" high - 3 hinges.
2. Doors over 90" high through 120" high - 4 hinges.

D. Type: Furnish as follows, unless otherwise noted in groups:

1. Standard weight, plain bearing hinge for interior openings through 36" wide without a door closer.
2. Standard weight, ball bearing hinge for interior openings over 36" through 40" wide with a door closer, and for interior openings through 40" wide with a door closer.
3. Heavy weight, four ball bearing hinge for all exterior openings unless noted in groups.

E. Size: Furnish as follows, unless otherwise noted in groups:
1. 1 3/4" doors: 4-1/2" x 4-1/2"
2. Provide proper hinge width to clear trim and allow full 180° swing.

F. Hinges for all lockable doors opening outward shall have non-removable pin (NRP). All other hinges shall have non-rising pins.

2.03 LOCKS AND LATCHES

A. Acceptable manufacturers and respective catalog numbers:

Description	Best
Cylindrical locks	9K3
Cylinders	Rim and Mortise 1E

B. Furnish lock types and functions as specified in the hardware schedule, and as follows:
1. Provide 2-3/4" backset.
2. Provide 2-3/4" x 1-1/8" “T” strike with a dust box for use in wood doors or frames.
3. Provide 4-7/8" x 1-1/4" ANSI strike for installation in a hollow metal door or frame.
4. Locksets to conform to ANSI A156.2, Series 4000, Grade 1 and be UL listed.

2.04 EXIT DEVICES

A. Acceptable manufacturers and respective catalog numbers:

Description	Precision
Wide Stile Rim	2100
Wide Stile Surf. Vert. Rod	2200
Wide Stile Conc. Vert. Rod	2800
Wide Stile Mortise	2300
Narrow Stile Rim	2400
Narrow Stile Conc. Vert. Rod	2600

B. Furnish exit device types and functions as specified in the hardware schedule.

C. Lever handles supplied with exit devices shall match the design specified for locks and latches.

2.05 PULLS, PUSHBARS, PUSH/PULL PLATES

A. Acceptable manufacturers and respective catalog numbers:

Description	Rockwood	Trimco	Burns

B. Supply product as listed in groups or equal to acceptable manufacturers..

2.06 DOOR CLOSERS

A. Acceptable manufacturers and respective catalog numbers:

Description	LCN	STANLEY
Heavy Duty Reg. Arm	4041	4450
Heavy Duty Parallel Arm	4041 EDA	4450 EDA
Heavy Duty Stop Arm	4041 CUSH	4450 CUSH

B. Furnish complete with mounting brackets, drop plates, spacers, special shoes, and thru bolts as may be required by the door and frame conditions.

2.07 PROTECTIVE PLATES

A. Acceptable manufacturers: Rockwood, Trimco, Burns, Hager.

B. All kickplate heights shall be as listed in groups and 2" less door width single doors and 1" less for pairs.

C. Thickness shall be .050" (16 gauge).

2.08 LOW ENERGY AUTOMATIC OPERATORS

A. Acceptable manufacturers and respective catalog numbers:

Description	STANLEY
Operator -	D4990
Hard Wired Wall Switch	AS REQ
Wireless Wall Switch	CL4990 KIT
Wireless Receiver	CL4990 KIT

B. Provide arms, mounting plates, sizes, stops, and any component that may be necessary to interface with electrified hardware that are required for complete and proper operation of the openings affected. Completed installation must meet or exceed requirements of ANSI A159.19.

C. Provide actuators as detailed in groups.

D. Conduit, electrical back boxes, wiring, and 120 VAC input power by Division 16 - Electrical.

2.09 OVERHEAD STOPS/HOLDERS

A. Acceptable manufacturers and respective catalog numbers:

Description	A.B.H.	Dorma	Glynn Johnson
Heavy Duty Surface	9000	900	90
Heavy Duty Concealed	1000	910	100
Standard Duty Surface	4400	700	450
Standard Duty Concealed	4000	710	410

B. Furnish an overhead stop if a door opens against equipment, casework, sidelights, or

other objects that would make wall bumpers inappropriate, and as specified in the hardware groups.

2.10 WALL STOPS

A. Acceptable manufacturers and respective catalog numbers:

Description	Rockwood	Hager
Wrought Convex Wall	407	232W
Wrought Concave w/Toggle	409	237W

B. When "wall stop" is called for in hardware group, provide 407 or 409. When overhead stops are required, they will be specified by product number in the group.

C. Wall stops shall not be mounted to casework, cabinet work, sidelights, or equipment.

2.11 THRESHOLDS, SWEEPS, WEATHERSTRIP, DRIP CAPS, GASKET, ASTRAGALS

A. Acceptable manufacturers and respective catalog numbers:

Description	Reese	Pemko	National Guard
Threshold	S205	171A	425A
Sweep	323	315N	200N
Sweep	967	18133CP	OV633
Weatherstrip	970	45100CP	603
Weatherstrip	DS78	315CR	130N
Gasket	797B	S88	1010

B. Where specified in groups, furnish the above products unless otherwise detailed.

2.12 DOOR HARDWARE FINISHES

A. Unless indicated otherwise in the groups provide finishes as follows:

1. Hinges, exterior: US32D
2. Hinges, interior: US26D
3. Flush Bolts: US26D
4. Exit Devices: US32D
5. Locks and Latches: US26D
6. Pulls, Pushbars, Push/Pull: US32D
7. Door Closers: Painted Aluminum
8. Low Energy Automatic Operators: Painted Aluminum
9. Protective Plates: US32D
10. Overhead Stops: Painted Aluminum
11. Wall Stops: US32D
12. Gasket: Black
13. Thresholds: Mill Aluminum
14. Weatherstrip, Sweeps: Clear Anodized Aluminum

2.12 KEYING

A. The Hardware Supplier, in consultation with the Owner's authorized representative, shall prepare a detailed keying schedule. A copy of the final approved keying schedule

bearing the signature of approval of the Owner's Representative shall be filed with the Architect. All locks shall be keyed into the same system as is used on the existing building.

B. Key locks in sets or subsets, master key and grand master key as directed by Owner.

C. Furnish the required number of keys for each keyed group in quantity as directed by the Owner.

D. Grand master and master keys shall be delivered by registered mail direct from the manufacturer to the Owner.

PART 3: EXECUTION

3.01 EXAMINATION

A. Examine doors, frames, and related items for conditions that would prevent the proper application of finish hardware. Do not proceed until defects are corrected.

3.02 INSTALLATION

A. Install each hardware item in strict compliance with the manufacturer's printed instructions and recommendations, using only fasteners supplied by, or called for by the manufacturer.

B. Set units level, plumb and true to the line and location. Prepare and reinforce the attachment substrate as necessary for proper installation and operation.

C. Mortise and cut to close tolerance and conceal evidence of cutting in the finished work. Drill and countersink units which are not factory prepared for anchorage fasteners.

D. If manufacturer’s instructions do not call out a mounting location, refer to the Door and Hardware Institute's publication *Recommended Locations for Architectural Hardware.*

E. Deliver to the Owner one (1) complete set of installation and adjustment instructions, as well as all tools that were furnished with the hardware.

3.03 ADJUSTMENT AND CLEANING

A. At final completion, adjust and check each operating item of hardware at each door to ensure proper operation and function of every unit. Lubricate any moving parts that do not operate freely, smoothly, and quietly using only lubricant as recommended by the manufacturer of the hardware item. Replace units that cannot be adjusted or lubricated to operate properly.

B. Instruct the Owner’s personnel in the proper adjustments of the hardware as needed.

C. Clean and restore hardware to the original finish.

3.04 HARDWARE SCHEDULE

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HARDWARE GROUP 1
EACH SINGLE ALUM/FRP DOOR TO HAVE:
DR.001,

1 EA CONTINUOUS HINGE	BY ALUM/FRP FRAME/DR SUPPLIER	
1 EA STORERM LOCK	9K37D15DS3 626	BEST
1 EA CLOSER	HD8016 SPAT 689	BEST
1 EA DROP PLATE	DP80 689	BEST
1 EA BLADE STOP	BS 689	BEST
1 EA CUSH SHOE SUPPORT	FTHD 689	BEST
1 EA LATCH PROTECTOR	320-RCW US32D	ROCKWOOD
1 EA THRESHOLD	S425A36	REESE
1 EA SWEEP AND WEATHERSTRIP	BY ALUM/FRP SUPPLIER	

HARDWARE GROUP 2
EACH PAIR OF ALUM/FRP DOORS TO HAVE:
DR.109,116

2 EA CONTINUOUS HINGE	BY ALUM/FRP FRAME/DR SUPPLIER	
1 EA STORERM LOCK	9K37D15DS3 626	BEST
2 EA FLUSHBOLTS	FB458 626	IVES
1 EA DUST PR STRIKE	DP2 626	IVES
2 EA SURFACE OVERHEAD HOLDER	900H 652	GLYNNJO
1 EA THRESHOLD	S425A64	REESE
2 EA SWEEP AND WEATHERSTRIP	BY ALUM/FRP SUPPLIER	

HARDWARE GROUP 3
EACH SINGLE DOOR TO HAVE:
DR.106A

3 EA HINGES	FBB179 4.5 X 4.5 652	STANLEY
1 EA MORTISE LOCKSET	45H7T14H SE 626	BEST
1 EA DR VIEWER	U698 26D	IVES
1 EA WEATHERSTRIP	815A3684	REESE
1 EA DR BOTTOM	DB595A36	REESE
1 EA THRESHOLD	S425A36	REESE

SCREEN DOOR BY OTHERS ALONG WITH HARDWARE FOR IT.

HARDWARE GROUP 4
EACH SINGLE ALUM/FRP DOOR TO HAVE:
DR.1009B

1 EA CONTINUOUS HINGE	BY ALUM/FRP FRAME/DR SUPPLIER	
1 EA STORERM LOCK	9K37D15DS3 626	BEST
1 EA CLOSER	HD8016 SPAT 689	BEST
1 EA DROP PLATE	DP80 689	BEST
1 EA BLADE STOP	BS 689	BEST
1 EA CUSH SHOE SUPPORT	FTHD 689	BEST
1 EA THRESHOLD	S425A36	REESE
1 EA SWEEP AND WEATHERSTRIP	BY ALUM/FRP SUPPLIER	

HARDWARE GROUP 5
EACH SINGLE ALUM/FRP DOOR TO HAVE:
DR.1009A

1 EA CONTINUOUS HINGE	BY ALUM/FRP FRAME/DR SUPPLIER	
1 EA STORERM LOCK	9K37D15DS3 626	BEST
1 EA CLOSER	HD8016 AF89P 689	BEST
1 EA WALL STOP	409 US32D	ROCKWOOD
1 EA THRESHOLD	S425A36	REESE
1 EA DR BOTTOM AND WEATHERSTRIP	BY ALUM/FRP SUPPLIER	

INSWINGING EXTERIOR DOOR PROVIDE PROPER DR BOTTOM SEAL FOR THIS SITUATION.

HARDWARE GROUP 6
EACH SINGLE ALUM DOOR TO HAVE:
DR.1001

1 EA CONTINUOUS HINGE	BY ALUM FRAME/DR SUPPLIER	
1 EA STORERM LOCK	9K37D15DS3 626	BEST
1 EA CLOSER	HD8016 AF89P 689	BEST
1 EA ELECTRIC STRIKE	REUSE EXISTING LOCK	
1 EA WALL STOP	409 US32D	ROCKWOOD
1 EA THRESHOLD	S425A36	REESE
1 EA DR BOTTOM AND WEATHERSTRIP	BY ALUM SUPPLIER	
1 EA CARD READER/PWR SUPPLY	REUSE EXISTING	

INSWINGING EXTERIOR DOOR PROVIDE PROPER DR BOTTOM SEAL FOR THIS SITUATION.

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HARDWARE GROUP 1
EACH PAIR OF ALUM/FRP DOORS TO HAVE:
DR.119

2 EA CONTINUOUS HINGE	BY ALUM/FRP FRAME/DR SUPPLIER	
1 EA STORERM LOCK	9K37D15DS3 626	BEST
2 EA FLUSHBOLTS	FB458 626	IVES
1 EA DUST PR STRIKE	DP2 626	IVES
2 EA SURFACE OVERHEAD HOLDER	900H 652	GLYNNJO
1 EA THRESHOLD	S425A64	REESE
2 EA SWEEP AND WEATHERSTRIP	BY ALUM/FRP SUPPLIER	

HARDWARE GROUP 2
EACH SINGLE ALUM DOOR TO HAVE:
DR.120

1 EA CONTINUOUS HINGE	BY ALUM FRAME/DR SUPPLIER	
1 EA EXIT DEVICE	2103 X CA03 626	PRECISION
1 EA RIM CYLINDER	12E72 626	BEST
1 EA OFFSET PULL	BF157 US32D	ROCKWOOD
1 EA AUTO OPERATOR	9542 STD 689	LCN
1 EA ON/OFF ROCKER SWITCH	8310-806R	LCN
1 EA ACTUATOR	8310-856T	LCN
1 EA ELECTRIC STRIKE	9400 US32D	HES
1 EA THRESHOLD	S425A48	REESE
1 EA SWEEP AND WEATHERSTRIP	BY ALUM SUPPLIER	
1 EA CARD/PWR SUPPLY	REUSE EXISTING	

HARDWARE GROUP 3
EACH SINGLE FRP DOOR TO HAVE:
DR.121,122

3 EA HINGES	FBB179 4.5 X 4.5 652	STANLEY

ALL OTHER EXISTING HARDWARE REUSE.

HARDWARE GROUP 4
EACH SINGLE ALUM/FRP DOOR TO HAVE:
DR.A1, B1

1 EA CONTINUOUS HINGE	BY ALUM/FRP FRAME/DR SUPPLIER	
1 EA STORERM LOCK	9K37D15DS3 626	BEST
2 EA CLOSER	HD8016 SPAT 689	BEST
2 EA DROP PLATE	DP80 689	BEST
2 EA BLADE STOP	BS 689	BEST
2 EA CUSH SHOE SUPPORT	FTHD 689	BEST
1 EA LATCH PROTECTOR	320-RCW US32D	ROCKWOOD
1 EA THRESHOLD	S425A36	REESE
1 EA SWEEP AND WEATHERSTRIP	BY ALUM/FRP SUPPLIER	

END OF SECTION 08 71 00

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SECTION 08 80 00
GLAZING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Insulating glass units.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 govern the work of this section.

B. Section 07 92 00 - Joint Sealants: Sealants for other than glazing purposes.

C. Section 08 43 13 - Aluminum-Framed Storefronts: Glazing provided as part of storefront assembly.

1.03 REFERENCE STANDARDS

A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; Current Edition.

B. ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test; 2015 (Reaffirmed 2020).

C. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.

D. ASTM C1036 - Standard Specification for Flat Glass; 2025.

E. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2025.

F. ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass; 2024, with Editorial Revision (2025).

G. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2025.

H. ASTM C1376 - Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Flat Glass; 2021a.

I. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings; 2024.

J. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation; 2019.

K. GANA (GM) - GANA Glazing Manual; 2022.

L. GANA (SM) - GANA Sealant Manual; 2008.

M. IGMA TM-3000 - North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial & Residential Use; 1990 (Reaffirmed 2016).

N. NFRC 100 - Procedure for Determining Fenestration Product U-factors; 2023.

O. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence; 2023.

P. NFRC 300 - Test Method for Determining the Solar Optical Properties of Glazing Materials and Systems; 2023.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for procedures.

B. Provide submittal transmittals that include all submittal items identified in each submittal group below.

C. Review Submittals - Preparatory Group:

1. Product Data on Insulating Glass Unit and Glazing Unit Glazing Types: Provide structural, physical and environmental characteristics, size limitations, special handling and installation requirements.

2. Product Data on Glazing Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors. Coordinate the following information with product in Section 08 43 13; unit u-value, center of glass u-value and solar heat gain coefficient.

D. Closeout Submittals:
   1. See Section 01 78 00 - Closeout Submittals for additional information regarding documenting warranties.
   2. Warranty Documentation: Submit documentation of manufacturer's warranty that acknowledges the requirements defined in this section.
      a. Provide procurement information including date(s) of procurement, identification of suppliers and contractors involved in the procurement.
      b. Provide manufacturer certification of the warranty that is executed in the Owner's name.

1.05 QUALITY ASSURANCE

A. Perform Work in accordance with GANA (GM), GANA (SM), and IGMA TM-3000 for glazing installation methods. Maintain one copy on site.

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years documented experience.

1.06 FIELD CONDITIONS

A. Do not install glazing when ambient temperature is less than 40 degrees F.

B. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

1.07 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.

B. Section Specific Warranty: Provide manufacturer’s customized warranty as described in this section. Document the warranty as defined under the Submittals heading of this section. Provide warranty in conformance with the following:
   1. Insulating Glass Units: Provide a ten (10) year manufacturer warranty to include coverage for seal failure, interpane dusting or misting, including replacement of failed units.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Float Glass Manufacturers:
   1. AGC Glass Company North America, Inc: www.us.agc.com.
   2. Cardinal Glass Industries: www.cardinalcorp.com.
   3. Guardian Industries Corp: www.sunguardglass.com.
   4. Vitro Architectural Glass (formerly PPG Glass): www.vitroglazings.com.

2.02 PERFORMANCE REQUIREMENTS - EXTERIOR GLAZING ASSEMBLIES

A. Provide type and thickness of exterior glazing assemblies to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of glass.
   1. Design Pressure: Calculated in accordance with ASCE 7.
   2. Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.
   3. Provide glass edge support system sufficiently stiff to limit the lateral deflection of supported glass edges to less than 1/175 of their lengths under specified design load.
   4. Glass thicknesses listed are minimum.

B. Weather-Resistive Barrier Seals: Provide completed assemblies that maintain continuity of building enclosure water-resistive barrier, vapor retarder, and/or air barrier.
   1. In conjunction with weather barrier related materials described in other sections, as follows:
      a. Water-Resistive Barriers: See Section 07 25 00.

C. Thermal and Optical Performance: Provide exterior glazing products with performance properties as indicated. Performance properties are in accordance with manufacturer's published data as determined with the following procedures and/or test methods:
   1. Center of Glass U-Value: Comply with NFRC 100 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 7 computer program.
   2. Center of Glass Solar Heat Gain Coefficient (SHGC): Comply with NFRC 200 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 7 computer program.
   3. Solar Optical Properties: Comply with NFRC 300 test method.

2.03 GLASS MATERIALS

A. Float Glass: Provide float glass based glazing unless otherwise indicated.
   1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality - Q3.
   2. Kind HS - Heat-Strengthened Type: Complies with ASTM C1048.
   3. Kind FT - Fully Tempered Type: Complies with ASTM C1048.
   4. Fully Tempered Safety Glass: Complies with ANSI Z97.1 or 16 CFR 1201 criteria for safety glazing used in hazardous locations.
   5. Thicknesses: As indicated; provide greater thickness as required for exterior glazing wind load design.

B. Laminated Glass: Float or Tempered glass laminated in accordance with ASTM C1172.
   1. Laminated Safety Glass: Complies with ANSI Z97.1 - Class B or 16 CFR 1201 - Category II impact test requirements.
   2. Polyvinyl Butyral (PVB) Interlayer: 0.030 inch thick, minimum.

2.04 INSULATING GLASS UNITS

A. Manufacturers:
   1. Glass: Any of the manufacturers specified for float glass.
   2. Fabricator certified by glass manufacturer for type of glass, coating, and treatment involved and capable of providing specified warranty.
   3. Substitutions: See Section 01 25 00 - Substitution Procedures for requirements.

B. Insulating Glass Units: Types as indicated.
   1. Durability: Certified by an independent testing agency to comply with ASTM E2190.
   2. Coated Glass: Comply with requirements of ASTM C1376 for pyrolytic (hard-coat) or magnetic sputter vapor deposition (soft-coat) type coatings on flat glass; coated vision glass, Kind CV; coated overhead glass, Kind CO; or coated spandrel glass, Kind CS.
   3. Metal-Edge Spacers: Aluminum, bent and soldered corners.
   4. Spacer Color: Aluminum.
   5. Edge Seal:
      a. Dual-Sealed System: Provide polyisobutylene sealant as primary seal applied between spacer and glass panes, and silicone, polysulfide, or polyurethane sealant as secondary seal applied around perimeter.
   6. Color: Black.
   7. Purge interpane space with dry air, hermetically sealed.

C. GLT-12Insulating Glass Units: Security glazing.
   1. *Applications:*
      a. *Glazed lites in exterior doors.*
      b. *Glazed sidelights and panels next to doors.*
      c. *Other locations required by applicable federal, state, and local codes and regulations.*
   2. Space between lites filled with argon.

3. Outboard Lite: Fully tempered float glass, 1/4 inch thick, minimum.
    a. Tint: Gray.
    b. Low-E Coating, Basis of Design: Vitro Architectural Glass, Solarban 60 on #2 surface.
4. Inboard Lite: Laminatedfloat glass, 1/4 inch thick, minimum. 0.030 PVB layer.
    a. Tint: Clear.
5. Tint: Clear.
6. Total Thickness: 1 inch.
7. Thermal Transmittance (U-Value), Summer - Center of Glass: 0.24, nominal.
8. Visible Light Transmittance (VLT): 70 percent, nominal.
9. Solar Heat Gain Coefficient (SHGC): 0.38, nominal.

D. GLT-13Insulating Glass Units: Vision glass, double glazed. Safety Glazing.
1. *Applications: Ground floor windows away from doors and as scheduled.*
2. Space between lites filled with argon.
3. Outboard Lite: Fully tempered float glass, 1/4 inch thick, minimum.
    a. Tint: Gray.
    b. Low-E Coating, Basis of Design: Vitro Architectural Glass, Solarban 60 on #2 surface.
4. Inboard Lite: Fully tempered float glass, 1/4 inch thick, minimum.
    a. Tint: Clear.
5. Total Thickness: 1 inch.
6. Thermal Transmittance (U-Value), Summer - Center of Glass: 0.24, nominal.
7. Visible Light Transmittance (VLT): 70 percent, nominal.
8. Solar Heat Gain Coefficient (SHGC):.38, nominal.
9. Glazing Method: Dry glazing method, gasket glazing.

PART 3 EXECUTION

3.01 VERIFICATION OF CONDITIONS

A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners.

B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing system.

3.02 PREPARATION

A. Clean contact surfaces with appropriate solvent and wipe dry within maximum of 24 hours before glazing. Remove coatings that are not tightly bonded to substrates.

B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

C. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.

3.03 INSTALLATION, GENERAL

A. Install glazing in compliance with written instructions of glass, gaskets, and other glazing material manufacturers, unless more stringent requirements are indicated, including those in glazing referenced standards.

B. Install glazing sealants in accordance with ASTM C1193, GANA (SM), and manufacturer's instructions.

C. Do not exceed edge pressures around perimeter of glass lites as stipulated by glass manufacturer.

D. Set glass lites of system with uniform pattern, draw, bow, and similar characteristics.

E. Set glass lites in proper orientation so that coatings face exterior or interior as indicated.

F. Prevent glass from contact with any contaminating substances that may be the result of construction operations such as, and not limited to the following; weld splatter, fire-safing, plastering, mortar droppings, and paint.

3.04 INSTALLATION - DRY GLAZING METHOD (GASKET GLAZING)

A. Application - Exterior and/or Interior Glazed: Set glazing infills from either the exterior or the interior of the building.

B. Place setting blocks at 1/4 points with edge block no more than 6 inch from corners.

C. Rest glazing on setting blocks and push against fixed stop with sufficient pressure on gasket to attain full contact.

D. Install removable stops without displacing glazing gasket; exert pressure for full continuous contact.

3.05 CLEANING

A. Remove excess glazing materials from finish surfaces immediately after application using solvents or cleaners recommended by manufacturers.

B. Remove nonpermanent labels immediately after glazing installation is complete.

C. Clean glass and adjacent surfaces after sealants are fully cured.

D. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations.

3.06 PROTECTION

A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.

B. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

END OF SECTION

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SECTION 09 05 61

COMMON WORK RESULTS FOR FLOORING PREPARATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. This section applies to floors identified in Contract Documents that are receiving the following types of floor coverings:
   1. Fluid Applied Flooring.

B. Preparation of existing concrete floor slabs for installation of floor coverings.

C. Testing of concrete floor slabs for moisture and alkalinity (pH).

D. Patching compound.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 govern the work of this section.

B. Section 09 67 00 - Fluid Applied Flooring: The requirements for humidity testing of the slab described in this section may be omitted if not required for the fluid applied flooring manufacturer's written instructions state it may be omitted.

1.03 REFERENCE STANDARDS

A. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2022.

B. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride; 2023.

C. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes; 2019a.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordinate scheduling of cleaning and testing, so that preliminary cleaning has been completed for at least 24 hours prior to testing.

1.05 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for procedures.

B. Provide submittal transmittals that include all submittal items identified in each submittal group below.

C. Review Submittals - Preparatory:
   1. Testing Agency's Report:
      a. Description of areas tested; include floor plans and photographs if helpful.
      b. Summary of conditions encountered.
      c. Moisture and alkalinity (pH) test reports.
      d. Adhesive bond and compatibility test report.
      e. Copies of specified test methods.
      f. Recommendations for remediation of unsatisfactory surfaces.
      g. Submit report to Architect.
      h. Submit report not more than two business days after conclusion of testing.
   2. Fluid Applied Flooring Manufacturers' Product Literature: For each specific combination of substrate, floor covering, and adhesive to be used; showing:
      a. Moisture and alkalinity (pH) limits and test methods.
      b. Manufacturer's required bond/compatibility test procedure.

1.06 QUALITY ASSURANCE

A. Moisture and alkalinity (pH) testing shall be performed by an independent testing agency employed and paid by Contractor.

B. Testing Agency Qualifications: Independent testing agency experienced in the types of testing specified.
   1. Submit evidence of experience consisting of at least 3 test reports of the type required, with Owner's project contact information.

C. Contractor's Responsibility Relating to Independent Agency Testing:
   1. Provide access for and cooperate with testing agency.
   2. Confirm date of start of testing at least 10 days prior to actual start.
   3. Allow at least 4 business days on site for testing agency activities.
   4. Achieve and maintain specified ambient conditions.
   5. Notify Architect when specified ambient conditions have been achieved and when testing will start.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, handle, and protect products in accordance with manufacturer’s instructions and recommendations.

B. Deliver materials in manufacturer’s packaging; include installation instructions.

C. Keep materials from freezing.

1.08 FIELD CONDITIONS

A. Maintain ambient temperature in spaces where concrete testing is being performed, and for at least 48 hours prior to testing, at not less than 65 degrees F or more than 85 degrees F.

B. Maintain relative humidity in spaces where concrete testing is being performed, and for at least 48 hours prior to testing, at not less than 40 percent and not more than 60 percent.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONCRETE SLAB PREPARATION

A. Follow recommendations of testing agency.

B. Perform following operations in the order indicated: (Moisture testing shall occur a minimum of 60 days prior to installation of flooring systems, with any required remediation efforts to begin immediately after test results.)
   1. Preliminary cleaning.
   2. Internal relative humidity tests; 3 tests in the first 1000 square feet and one test in each additional 1000 square feet, unless otherwise indicated or required by flooring manufacturer.
   3. Alkalinity (pH) tests; in same locations as moisture vapor emission tests, unless otherwise indicated.
   4. Other preparation specified by flooring manufacturer.

3.02 PRELIMINARY CLEANING

A. Clean floors of dust, solvents, paint, wax, oil, grease, asphalt, residual adhesive, adhesive removers, film-forming curing compounds, sealing compounds, alkaline salts, excessive laitance, mold, mildew, and other materials that might prevent adhesive bond.

B. Do not use solvents or other chemicals for cleaning.

3.03 MOISTURE VAPOR EMISSION TESTING

A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.

B. Where this specification conflicts with the referenced test method, comply with the requirements of this section.

C. Verify that concrete sub-floor surfaces are ready for flooring installation by testing for moisture emission rate and alkalinity in accordance with ASTM F1869. Obtain instructions if test results are not within the following limits:
   1. Moisture emission rate: Not greater than 3 lb per 1000 sq ft per 24 hours when tested using calcium chloride moisture test kit for 72 hours.
   2. At floors to receive finish materials, perform three tests for the first 1000 square feet and at least one additional test for each additional 1000 square feet.

D. Plastic sheet test and mat bond test may not be substituted for the specified ASTM test method, as those methods do not quantify the moisture content sufficiently.

E. In the event that test values exceed floor covering manufacturer's limits, perform remediation as required. In the absence of manufacturer limits, perform remediation if test values exceed 3 pounds per 1000 square feet per 24 hours.

F. Report: Report the information required by the test method.

3.04 INTERNAL RELATIVE HUMIDITY TESTING

A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.

B. Where this specification conflicts with the referenced test method, comply with the requirements of this section.

C. Test in accordance with ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes and as follows.

D. Verify that existing concrete sub-floor surfaces are ready for flooring installation by testing for moisture emission rate and alkalinity. Obtain instructions if test results are not within limits recommended by tile manufacturer and setting materials manufacturer. Testing procedures shall be:
   1. Maximum allowable moisture levels for flooring shall be received from flooring suppliers prior to testing.
   2. At floors to receive finish materials, perform three tests for the first 1000 square feet and at least one additional test for each additional 1000 square feet.
   3. Select test locations to provide information about moisture distribution across the entire floor slab, especially areas of potential high moisture. For slabs on-grade and below-grade, include a test location within three feet of each exterior wall.

E. Testing with electrical impedance or resistance apparatus may not be substituted for the specified ASTM test method, as the values determined are not comparable to the ASTM test values and do not quantify the moisture content sufficiently.

F. In the event that test values exceed floor covering manufacturer's limits, perform remediation as required. In the absence of manufacturer limits, perform remediation if any test value exceeds 75 percent relative humidity.

G. Report: Report the information required by the test method.

3.05 ALKALINITY TESTING

A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.

B. The following procedure is the equivalent of that described in ASTM F710, repeated here for the Contractor's convenience.
   1. Use a wide range alkalinity (pH) test paper, its associated chart, and distilled or deionized water.
   2. Place several drops of water on a clean surface of concrete, forming a puddle approximately 1 inch in diameter. Allow the puddle to set for approximately 60 seconds, then dip the alkalinity (pH) test paper into the water, remove it, and compare immediately to chart to determine alkalinity (pH) reading.

3. Use of a digital pH meter with probe is acceptable; follow meter manufacturer's instructions.

C. In the event that test values exceed floor covering manufacturer's limits, perform remediation as indicated. In the absence of manufacturer limits, perform remediation if alkalinity (pH) test value is over 10.

3.06 PREPARATION

A. See individual floor covering section(s) for additional requirements.

B. Comply with requirements and recommendations of floor covering manufacturer.

C. Fill and smooth surface cracks, grooves, depressions, control joints and other non-moving joints, and other irregularities with patching compound.

D. Do not fill expansion joints, isolation joints, or other moving joints.

3.07 PROTECTION

A. Cover prepared floors with building paper or other durable covering.

END OF SECTION

SECTION 09 21 16
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Performance criteria for gypsum board assemblies.

B. Sound attenuation fire blanket.

C. Gypsum wallboard.

D. Joint treatment and accessories.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 shall govern the work of this section.

B. Section 07 92 00 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.

C. Section 09 91 23 - Interior Painting.

1.03 REFERENCE STANDARDS

A. AISI S220 - North American Standard for Cold-Formed Steel Nonstructural Framing; 2020.

B. AISI S240 - North American Standard for Cold-Formed Steel Structural Framing; 2015, with Errata (2020).

C. ASTM A1003/A1003M - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members; 2025.

D. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2017 (Reapproved 2022).

E. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2020.

F. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2025.

G. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2022.

H. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2022.

I. ASTM C1007 - Standard Specification for Installation of Load Bearing (Transverse and Axial) Steel Studs and Related Accessories; 2020 (Reapproved 2024).

J. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; 2019.

K. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2024.

L. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2021.

M. ASTM E72 - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction; 2025.

N. GA-216 - Application and Finishing of Gypsum Panel Products; 2024.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for procedures.

B. Provide submittal transmittals that include all submittal items identified in each submittal group below.

C. Review Submittals - Preparatory:
   1. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.
   2. Product Data: Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.

PART 2 PRODUCTS

2.01 METAL FRAMING MATERIALS

A. Steel Sheet: ASTM A1003/A1003M, subject to the ductility limitations indicated in AISI S220 or equivalent.

B. Manufacturers - Metal Framing, Connectors, and Accessories:
   1. ClarkDietrich Building Systems: www.clarkdietrich.com.
   2. Jaimes Industries: www.jaimesind.com.
   3. MarinoWARE: www.marinoware.com.
   4. MBA Metl Framing: www.mbastuds.com.
   5. Safti-Seal: www.saftiseal.com.
   6. Telling Industries: www.buildstrong.com.
   7. The Steel Network, Inc: www.SteelNetwork.com.

C. Non-structural Framing System Components: ASTM C645; galvanized, G40 coated, sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/120 at 5 psf.
   1. Exception: The minimum metal thickness and section properties requirements of ASTM C645 are waived provided steel of 40 ksi minimum yield strength is used, the metal is continuously dimpled, the effective thickness is at least twice the base metal thickness, and maximum stud heights are determined by testing in accordance with ASTM E72 using assemblies specified by ASTM C754.
   2. Studs: C-shaped with knurled or embossed faces.
   3. Runners: U shaped, sized to match studs.
   4. Ceiling Channels: C-shaped.

D. Non-structural Framing Accessories:
   1. Ceiling Hangers: Type and size as specified in ASTM C754 for spacing required.

2.02 BOARD MATERIALS

A. Manufacturers - Gypsum-Based Board: Note: No offshore produced gypsum board allowed.
   1. American Gypsum Company: www.americangypsum.com.
   2. Certainteed Gypsum Inc.: www.certainteed.com.
   3. Georgia-Pacific Gypsum: www.gpgypsum.com.
   4. National Gypsum Company: www.nationalgypsum.com.
   5. USG Corporation: www.usg.com.
   6. Substitutions: See Section 01 25 00 - Substitution Procedures for requirements.

B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
   2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   3. At Assemblies Indicated with Fire-Resistance Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
   4. Thickness:
      a. Vertical Surfaces: 5/8 inch.
   5. Paper-Faced Products:
      a. American Gypsum Company; FireBloc Type X Gypsum Wallboard: www.americangypsum.com.
      b. American Gypsum Company; FireBloc Type C Gypsum Wallboard: www.americangypsum.com.

c. CertainTeed Corporation; Type X Drywall: www.certainteed.com.
d. Georgia-Pacific Gypsum; ToughRock: www.gpgypsum.com.
e. Gold Bond Building Products, LLC provided by National Gypsum Company; Gold Bond Fire-Shield Gypsum Board: www.goldbondbuilding.com.
f. USG Corporation; Sheetrock Brand Firecode X Panels: www.usg.com.
g. Substitutions: See Section 01 25 00 - Substitution Procedures for requirements.

2.03 GYPSUM BOARD ACCESSORIES

A. Beads, Joint Accessories, and Other Trim: ASTM C1047, rigid plastic, unless noted otherwise.
1. Corner Beads: Low profile, for 90 degree outside corners.
2. Expansion Joints:
a. Type: Accordion profile with factory-installed protective tape.
b. Products:
1) Trim-Tex, Inc; Hideaway Expansion: www.trim-tex.com.

B. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
1. Tape for Rated Assemblies: E-Z Taping System. For tightly butted vertical and horizontal gypsum board joints above ceilings in 1 and 2 hour wood or metal stud assemblies. Follow manufacturer's requirements.

C. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion-resistant.

D. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch in Thickness: ASTM C954; steel drill screws, corrosion-resistant.

E. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that project conditions are appropriate for work of this section to commence.

3.02 FRAMING INSTALLATION

A. Metal Framing: Install in accordance with ASTM C1007AISI S220 and manufacturer's instructions.

B. Studs: Space studs 16 inches on center unless called out otherwise or required by panel manufacturer's requirements (such as for curved walls).
1. Extend partition framing to structure in all locations. Install slip track at structure as detailed on drawings.
2. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.

C. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.

D. Blocking: Install wood blocking or mechanically fastened steel sheet for support of:
1. Framed openings.
2. Wall-mounted cabinets.
3. Plumbing fixtures.
4. Toilet partitions.
5. Toilet accessories.
6. Wall-mounted door hardware.

3.03 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Nonrated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
   1. Exception: Tapered edges to receive joint treatment at right angles to framing.

C. Installation on Metal Framing: Use screws for attachment of gypsum board except face layer of nonrated double-layer assemblies, which may be installed by means of adhesive lamination.

3.04 INSTALLATION OF TRIM AND ACCESSORIES

A. Control joint placement indicated is an industry recommended minimum. Follow manufacturer and industry location and detail recommendations. Review project plans and consult with A/E to confirm appropriate joint placement.

B. Control Joints: Place control joints consistent with lines of building spaces and as follows:
   1. Not more than 30 feet apart on walls and ceilings over 50 feet long.
   2. Install continuous from each door jamb to top of partition.
   3. At wings of "L', "U", and "T" shaped ceilings.
   4. Control joints in rated walls shall be constructed to meet tested assemblies.
   5. All control joints shall have double studs located behind them.

C. Corner Beads: Install at external corners, using longest practical lengths.

D. Edge Trim: Install at locations where gypsum board abuts dissimilar materials and as indicated.

3.05 JOINT TREATMENT

A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
   1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
   2. Level 3: Walls to receive textured wall finish.
   3. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
   4. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.
   5. Level 0: Temporary partitions.

B. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
   1. Feather coats of joint compound so that camber is maximum 1/32 inch.
   2. Taping, filling, and sanding are not required at surfaces behind adhesive applied ceramic tile and fixed cabinetry.
   3. Taping, filling, and sanding are not required at base layer of double-layer applications.

C. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

3.06 FINISH

A. All painted gypsum board walls shall have a finish to match the existing adjacent surfaces.

3.07 TOLERANCES

A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION

SECTION 09 51 00
ACOUSTICAL CEILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Suspended metal grid ceiling system.

B. Acoustical units.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 govern the work of this section.

B. Mechanical Supply and Return Devices Division 26.

C. Electrical Light Fixtures Division 26.

1.03 REFERENCE STANDARDS

A. ASTM C635/C635M - Standard Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2022.

B. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2023.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for procedures.

B. Provide submittal transmittals that include all submittal items identified in each submittal group below.

C. Review Submittals - Preparatory:
   1. Product Data: Provide data on suspension system components and acoustical units.

D. Review Submittals - Samples:
   1. Samples: Submit two samples 12 by 12 inch in size illustrating material and finish of acoustical units.

1.05 QUALITY ASSURANCE

A. Suspension System Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

1.06 FIELD CONDITIONS

A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

PART 2 PRODUCTS

2.01 ACOUSTICAL UNITS

A. Acoustical Units - General: ASTM E1264, Class A.

B. BOARD TYPE ACT-3: 2'x2' Vinyl Faced Gyp Bd:
   1. Certainteed Corp: Vinylrock.
   2. USG Corporation: USG Sheetrock Brand Lay-In Gypsum Ceiling Panels.
   3. National Gypsum: Gridstone.
   4. Rockfon: Koral #1100.

2.02 SUSPENSION SYSTEMS

A. Metal Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with stabilizer bars, clips, splices, and perimeter moldings as required.
   1. Materials:
      a. Aluminum Grid: Aluminum sheet, ASTM B209/B209M.

B. Exposed Suspension System: Aluminum grid and cap.
   1. Application(s): At locations with ACT-3.

2. Structural Classification: Light-duty, when tested in accordance with ASTM C635/C635M.
3. Profile: Tee; 15/16 inch face width.
4. Finish: Baked enamel.
5. Products:
    a. USG Corporation; Donn Brand AX/AXCE 15/16 inch Acoustical Suspension System: www.usg.com/ceilings.
    b. Armstrong Ceilings; Prelude Plus XL Aluminum: www.arstrongcelings.com.
    c. Rockfon Chicago Metallic: 830 All Aluminum 15/16" Exposed: www.rockfon.com.
    d. Substitutions: See Section 01 25 00 - Substitution Procedures for requirements.

2.03 ACCESSORIES

A. Support Channels and Hangers: Galvanized steel; size and type to suit application and ceiling system flatness requirement specified.

B. Hanger Wire: 12 gauge, 0.08 inch galvanized steel wire.

C. Perimeter Moldings: Same metal and finish as grid.
1. Size: As required for installation conditions.
2. Angle Molding: L-shaped, for mounting at same elevation as face of grid.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that layout of hangers will not interfere with other work.

3.02 INSTALLATION - SUSPENSION SYSTEM

A. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.

B. Locate system on room axis according to reflected plan.

C. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
1. Use longest practical lengths.
2. Miter corners.

D. Suspension System, Non-Seismic: Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.

E. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.

F. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.

G. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.

H. Do not eccentrically load system or induce rotation of runners.

3.03 INSTALLATION - ACOUSTICAL UNITS

A. Install acoustical units in accordance with manufacturer's instructions.

B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.

C. Fit border trim neatly against abutting surfaces.

D. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.

E. Cutting Acoustical Units:
1. Cut to fit irregular grid and perimeter edge trim.

2. Make field cut edges of same profile as factory edges.

F. Where round obstructions occur, provide preformed closures to match perimeter molding.

G. Provide tegular edge at walls and other abutting vertical surfaces. Field paint cut edges to surface color and sheen.

END OF SECTION

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SECTION 09 65 13
RESILIENT BASE AND ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Resilient base.

B. Installation accessories.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 govern the work of this section.

1.03 REFERENCE STANDARDS

A. ASTM F1861 - Standard Specification for Resilient Wall Base; 2021 (Reapproved 2025).

B. RFCI (RWP) - Recommended Work Practices for Removal of Resilient Floor Coverings; 2018.

1.04 SUBMITTALS

A. See contract Conditions and General Requirements for procedures.

B. Provide submittal transmittals that include all submittal items identified in each submittal group below.

C. Review Submittals - Preparatory:
   1. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.

D. Review Submittals - Samples:
   1. Selection Samples: Submit manufacturer's complete set of color samples for Architect's initial selection.

E. Closeout Submittals:
   1. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect roll materials from damage by storing on end.

1.06 FIELD CONDITIONS

A. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

PART 2 PRODUCTS

2.01 RESILIENT BASE

A. Resilient Base: ASTM F1861, Type TV, vinyl, thermoplastic; top set Style B, Cove.
   1. Height: 4 inches.
   2. Thickness: 0.125 inch.
   3. Finish: Satin.
   4. Length: Roll.
   5. Color: Refer to master Color Schedule for basis of design.

2.02 ACCESSORIES

A. Primers and Adhesives: Waterproof; types recommended by flooring manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.

B. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

A. Clean substrate.

B. Apply primer as required to prevent "bleed-through" or interference with adhesion by substances that cannot be removed.

3.03 INSTALLATION - RESILIENT BASE

A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches between joints.

B. Miter internal corners. At external corners, use premolded units. At exposed ends, use premolded units.

C. Install base on solid backing. Bond tightly to wall and floor surfaces. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient wall base with manufacturer's recommended adhesive filler material.
   1. Adhesive shall cover a minimum of 90 percent of ribbed back of base.
   2. Leave 1/4 inch uncovered at top edge of base to prevent oozing.
   3. Roll base firmly, roll back toward starting point.

D. Scribe and fit to door frames and other interruptions.

3.04 CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage.

B. Clean in accordance with manufacturer's written instructions.

3.05 PROTECTION

A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

SECTION 09 67 00
FLUID-APPLIED FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fluid-applied flooring and base.

B. Moisture testing of concrete floors.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 govern the work of this section.

B. Section 07 92 00 - Joint Sealants: Sealing joints between fluid-applied flooring and adjacent construction and fixtures.

C. Section 09 05 61 - Common Work Results for Flooring Preparation: Removal of existing floor coverings, cleaning, and preparation.

D. Section 09 05 61 - Common Work Results for Flooring Preparation: Concrete slab moisture and alkalinity testing and remediation procedures.

1.03 REFERENCE STANDARDS

A. ICRI 310.2R - Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair; 2013.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for procedures.

B. Provide submittal transmittals that include all submittal items identified in each submittal group below.

C. Review Submittals - Preparatory:
   1. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns and colors available.

D. Information Submittals - Preparatory:
   1. Manufacturer's Installation Instructions (Upon Request): Indicate special procedures, perimeter conditions requiring special attention, and application rate for each coat.
   2. Applicator's Qualification Statement:
      a. Identify 10 projects and provide photo documentation of comparable completed projects. Include projects with broadcast flake, kitchen/food preparation areas.
      b. Submit letter from manufacturer stating that the installer is in good standing with the flooring manufacturer.

E. Closeout Submittals:
   1. Maintenance Data: Include maintenance procedures, recommended maintenance materials, procedures for stain removal, repairing surface, and suggested schedule for cleaning.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

B. Applicator Qualifications: Company specializing in performing the work of this section.
   1. Minimum 3 years of documented experience.
   2. Approved by manufacturer.

C. Supervisor Qualifications: Trained by product manufacturer, under direct full time supervision of manufacturer's own foreman.

1.06 MOCK-UPS

A. See Conditions of the Contract and General Requirements for additional requirements.

B. Construct mock-up(s) of fluid applied flooring to serve as basis for evaluation of texture and workmanship.
   1. Number of Mock-Ups to be Prepared: One for FAF - 1.
   2. Use same materials and methods for use in the work.
   3. Create mockups on portable boards.
   4. Minimum Size: 36 inches by 36 inches.

C. Obtain approval of mock-up by Architect before proceeding with work.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Store resin materials in a dry, secure area.

B. Store materials for three days prior to installation in area of installation to achieve temperature stability.

1.08 FIELD CONDITIONS

A. Maintain minimum temperature in storage area of 55 degrees F.

B. Maintain ambient temperature required by manufacturer 72 hours prior to, during, and 24 hours after installation of materials.

PART 2 PRODUCTS

2.01 FLUID-APPLIED FLOORING SYSTEMS

A. FAF-1, Fluid-Applied Flooring:
   1. System Description: Three-component urethane resin modified cementitious topping broadcasted with anti-slip aggregate and polyaspartic topcoat.
   2. Thickness: 3/16 to 1/4 inch.
   3. Base: Integrated 4 inch troweled coved base.
   4. Texture: Cleanable textured finish with Anti-Skid grit.
   5. Sheen: Satin.
   6. Broadcast Grit: Aluminum Oxide.
   7. Basis of Design: Sherwin Williams; Poly-Crete SLB; www.industrial.sherwin-williams.com.
   8. Acceptable Manufacturers:
      a. FlowResin: Flowfresh SL; www.keyresin.com.
      b. Sherwin Williams; Poly-Crete SLB; www.industrial.sherwin-williams.com.
      c. Terroxy: UC Slurry with topcoat; www.tmsupply.com.
   9. Substitutions: See Section 01 25 00 - Substitution Procedures for requirements.

2.02 ACCESSORIES

A. Subfloor Filler: Type recommended by fluid-applied flooring manufacturer.

B. Primer: Type recommended by fluid-applied flooring manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that subfloor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive flooring.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive flooring.

C. Verify that subfloor surfaces are dust-free and free of substances that could impair bonding of materials to subfloor surfaces.

D. Verify floor surfaces were prepared under Section 09 05 61 to meet application requirements for smoothness and level.

E. Cementitious Subfloor Surfaces: Verify that substrates are ready for fluid-applied flooring installation by testing for moisture and alkalinity (pH).
   1. Test in accordance with Section 09 05 61.

2. Obtain instructions if test results are not within limits recommended by fluid-applied flooring manufacturer.
3. Do not apply fluid applied flooring on slabs less than 28 days old.

F. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

A. Prepare substrate in accordance with manufacturer's written guidelines and this Section.

B. Remove existing coatings, mastics, adhesives from existing floor.

C. Remove subfloor ridges and bumps. Fill low spots, cracks, joints, holes, and other defects with manufacturer's recommended subfloor filler.

D. Prepare concrete surfaces according to ICRI 310.2R to surface profile CSP-3 to CSP-4.

E. Apply, trowel, and float filler to achieve smooth, flat, hard surface. Grind irregularities above the surface level. Prohibit traffic until filler is cured.

F. Vacuum clean substrate.

G. Apply primer to surfaces required by flooring manufacturer.

H. Remove door thresholds and reinstall thresholds not indicated to be removed permanently at same elevation after installation of flooring. Grind smooth transitions at threshold to permit flush transitions to existing adjacent concrete to remain.

I. Fill dynamic and static cracks in the existing slab per flooring manufacturer's instructions. Include routing, flexible sealants, scrim, filler.

3.03 INSTALLATION - FLOORING

A. Apply in accordance with manufacturer's instructions.

B. Apply each coat to minimum thickness required by manufacturer.

C. Finish to smooth level surface.

D. Cove at vertical surfaces.

E. Reinstall removed thresholds to remain in the completed assembly in a bed of sealant.

3.04 PROTECTION

A. Prohibit traffic on floor finish for 48 hours after installation.

B. Barricade area to protect flooring until fully cured.

END OF SECTION

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SECTION 09 91 13
EXTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Scope: Finish indicated exterior surfaces.

D. Do Not Paint or Finish the Following Items:
   1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
   5. Non-metallic roofing and flashing.
   6. Stainless steel, anodized aluminum, bronze, terne-coated stainless steel, zinc, and lead.
   7. Marble, granite, slate, and other natural stones.
   8. Floors, unless specifically indicated.
   9. Brick, glass unit masonry, architectural concrete, cast stone, integrally colored plaster and stucco.
   10. Glass.
   11. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 govern the work of this section.

B. Section 09 91 23 - Interior Painting.

1.03 REFERENCE STANDARDS

A. SSPC-SP 1 - Solvent Cleaning; 2015, with Editorial Revision (2016).

1.04 SUBMITTALS

A. See contract Conditions and General Requirements for procedures.

B. Provide submittal transmittals that include all submittal items identified in each submittal group below.

C. Review Submittals - Preparatory:
   1. Product Data: Provide complete list of products to be used, with the following information for each:
      a. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
      b. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
      c. Manufacturer's installation instructions.
      d. If proposal of substitutions is allowed under submittal procedures, explanation of substitutions proposed.

D. Review Submittals - Samples:
   1. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
      a. Where sheen is specified, submit samples in only that sheen.
      b. Where sheen is not specified, discuss sheen options with Architect before preparing samples, to eliminate sheens not required.

E. Information Submittals - Preparatory:
   1. Certification: By manufacturer that paints and finishes comply with VOC limits specified.
   2. Manufacturer's Instructions: Indicate special surface preparation procedures.
   3. Maintenance Data: Submit data including product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used.

F. Maintenance Materials:
   1. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
      a. See contract Conditions and General Requirements for procedures and requirements., for additional provisions.
      b. Extra Paint and Finish Materials: 1 gallon of each color; from the same product run, store where directed.
      c. Label each container with color in addition to the manufacturer's label.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.06 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the paint product manufacturer's temperature ranges.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply exterior paint and finishes during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.

D. Minimum Application Temperatures for Latex Paints: 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.

E. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.

B. Paints:
   1. Sherwin Williams (SW). www.sherwin-williams.com.
   2. Hallman-Lindsay (HL). www.hallmanlindsay.com.
   3. Behr Process Corporation: www.behr.com.
   4. Benjamin Moore: www.benjaminmoore.com.
   5. Diamond Vogel Paints: www.diamondvogel.com.
   6. PPG Paints: www.ppgpaints.com.
   7. Pratt & Lambert Paints: www.prattandlambert.com.
   8. Valspar Corporation: www.valsparpaint.com.

C. Primer Sealers: Same manufacturer as top coats.

D. Substitutions: See contract Conditions and General Requirements for requirements.

2.02 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready-mixed, unless required to be a field-catalyzed paint.
   1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
   2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
   3. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.
   4. Supply each paint material in quantity required to complete entire project's work from a single production run.
   5. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is described explicitly in manufacturer's product instructions.

B. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect from the manufacturer's full line.

C. Colors: As indicated in Color Schedule.
   1. Allow for minimum of three colors for each system, unless otherwise indicated, without additional cost to Owner.
   2. Extend colors to surface edges; colors may change at any edge as directed by Architect.

2.03 PAINT SYSTEMS - EXTERIOR

A. EPS 12 Asbestos Board and Sheetmetal Items: 100% Acrylic Latex Satin:
   1. (SW) Two coats Duration Exterior Acrylic Coating. Satin. (combination primer/finish).
   2. (HL) Two coats Generation 100% Acrylic Exterior L-Sheen 154. (combination primer/finish).

2.04 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Patching Material: Original Bondo filler for sheet metal.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin application of paints and finishes until substrates have been properly prepared.

B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

E. Test shop-applied primer for compatibility with subsequent cover materials.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions. Fill dings and damage in existing metal panels.

C. Remove or repair existing paints or finishes that exhibit surface defects.

D. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces for finishing.

E. Seal surfaces that might cause bleed through or staining of topcoat.

F. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

G. Asbestos Cement Panels: Remove dirt, dust and other foreign matter with a stiff fiber brush. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.

H. Ferrous Metal:
   1. Coordinate surface preparation in accordance with requirements of selected paint/coating supplier recommendations.
   2. Solvent clean according to SSPC-SP 1.
   3. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.
   4. Remove rust, loose mill scale, and other foreign substances using methods recommended in writing by paint manufacturer. Protect from corrosion until coated. Apply rust converter as required.

3.03 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Apply products in accordance with manufacturer's written instructions.

C. Where adjacent sealant is to be painted, do not apply finish coats until sealant is applied.

D. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

E. Apply each coat to uniform appearance.

F. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply additional coats until complete hide is achieved.

G. Use tack cloth to remove dust and particles just prior to applying next coat.

H. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.05 PROTECTION

A. Protect finishes until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

SECTION 09 91 23
INTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints.

C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
   1. Refer to Architectural Drawings for metal fabrications to be painted.
   2. Refer to Interior Drawings for wall and ceiling paint scope.
   3. Painting contractor shall review both architectural and interior Drawings for complete paint scope.
   4. Hollow metal doors and frames.
   5. Mechanical and Electrical:
      a. In finished areas, paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated.
      b. In finished areas, paint shop-primed items.

D. Do Not Paint or Finish the Following Items:
   1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
   5. Stainless steel, anodized aluminum, bronze, terne-coated stainless steel, and lead items.
   6. Marble, granite, slate, and other natural stones.
   7. Floors, unless specifically indicated.
   8. Ceramic and other tiles.
   9. Brick, architectural concrete, cast stone, integrally colored plaster, and stucco.
   10. Glass.
   11. Concrete masonry units in utility, mechanical, and electrical spaces.
   12. Acoustical materials, unless specifically indicated.
   13. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 govern the work of this section.

B. Section 08 11 13 - Hollow Metal Doors and Frames: Frames and doors to be field painted.

1.03 DEFINITIONS

A. Comply with ASTM D16 for interpretation of terms used in this section.

1.04 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; Current Edition.

B. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2024.

C. SSPC-SP 1 - Solvent Cleaning; 2015, with Editorial Revision (2016).

D. SSPC-SP 2 - Hand Tool Cleaning; 2024.

1.05 SUBMITTALS

A. See contract Conditions and General Requirements for procedures.

B. Provide submittal transmittals that include all submittal items identified in each submittal group below.

C. Review Submittals - Preparatory:
   1. Product Data: Provide complete list of products to be used, with the following information for each:
      a. Manufacturer's name, product name and/or catalog number, and general product category (e.g., "alkyd enamel").
      b. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
      c. Manufacturer's installation instructions.
      d. If proposal of substitutions is allowed under submittal procedures, explanation of substitutions proposed.

D. Review Submittals - Samples:
   1. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
      a. Where sheen is specified, submit samples in only that sheen.
      b. Where sheen is not specified, discuss sheen options with Architect before preparing samples, to eliminate sheens not required.

E. Information Submittals - Preparatory:
   1. Certification: By manufacturer that paints and finishes comply with VOC limits specified.
   2. Manufacturer's Instructions: Indicate special surface preparation procedures.
   3. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used.

F. Maintenance Materials:
   1. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
      a. See contract Conditions and General Requirements for procedures and requirements., for additional provisions.
      b. Extra Paint and Finish Materials: 1 gallon of each color; from the same product run, store where directed.
      c. Label each container with color in addition to the manufacturer's label.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.07 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Do not apply materials when relative humidity exceeds 85 percent, at temperatures less than 5 degrees F above the dew point, or to damp or wet surfaces.

D. Minimum Application Temperatures for Paints: 50 degrees F for interiors unless required otherwise by manufacturer's instructions.

E. Provide lighting level of 80 fc measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.

B. Paints:
   1. Base Manufacturer: Sherwin Williams (SW). www.sherwin-williams.com.
   2. Halman-Lindsay (HL): www.hallmanlindsay.com.
   3. Behr Process Corporation: www.behr.com.
   4. Benjamin Moore: www.benjaminmoore.com.
   5. Diamond Vogel Paints: www.diamondvogel.com.
   6. PPG Paints: www.ppgpaints.com.
   7. Pratt & Lambert Paints: www.prattandlambert.com.

C. Substitutions: See contract Conditions and General Requirements for requirements.

2.02 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint.
   1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
   2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
   3. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.
   4. Supply each paint material in quantity required to complete entire project's work from a single production run.
   5. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.
   6. Paint for insulated piping shall be latex based. If the insulation taping is rippled due to oil based application, the Painter shall be responsible for replacement of the insulation. Certain Class A, non-combustible paints may maintain a 25/50 smoke rating for the painted pipe insulation, PVC jacketing and fittings. Check with state and local building codes and fire marshal for approved practice before painting.

B. Volatile Organic Compound (VOC) Content:
   1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
      a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
   2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

C. Flammability: Comply with applicable code for surface burning characteristics.

D. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect from the manufacturer's full line.

E. Colors: As indicated in Color Schedule.
   1. Allow for minimum of three colors for each system, unless otherwise indicated, without additional cost to Owner.
   2. Extend colors to surface edges; colors may change at any edge as directed by Architect.

3. In finished areas, diffusers, grilles, registers, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling they are mounted on/under.
4. In unfinished areas: Paint all woodwork, doors and metal frames, convectors, ladders, railings, gratings and the like.

2.03 PAINT SYSTEMS - INTERIOR

A. IPS 5 Ferrous Metal (Primed Ferrous metal and Hollow Metal Doors and Frames): Satin/Semi-Gloss:
1. (SW) One coat Pro Industrial Pro-Cryl Universal Primer B66-310 Series, one coat Pro Industrial Pre-Catalyzed Waterbased Epoxy Semi-Gloss K46-1150 Series.
2. (HL) One coat Metalguard DTM Acrylic Primer/finish 338 and two coats two coats Rustoleum High Performance DTM Acrylic 3800.

B. IPS 14 Gypsum Board: Vinyl Acrylic Latex Eggshell over Vinyl Acrylic Primer:
1. (SW) One coat ProMar 200 Zero VOC Interior Latex primer B28W02600 Series. two coats ProMar 200 Zero VOC Interior Latex Low Gloss Eg-Shel B41-2600 Series.
2. (HL) One coat Pro Wall Primer Zero VOC 227, two coats Pro Kote Interior Latex Zero VOC Eggshell 284.

C. IPS 24 Existing Painted Gypsum Board: Vinyl Acrylic Latex Eggshell Over Existing Paint:
1. (SW) One coat Extreme Bond Interior/Exterior Bonding Primer B51W00150 Series, two coats ProMar 200 Zero VOC Interior Latex Low Gloss Eg-Shel, B41-2600 Series.
2. (HL) One coat Stainguard 100% Acrylic Primer 526, two coats Pro Kote Interior Latex Zero VOC Eggshell 284.

2.04 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin application of paints and finishes until substrates have been adequately prepared.

B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

E. Test shop-applied primer for compatibility with subsequent cover materials.

F. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces is below the following maximums:
1. Gypsum Wallboard: 12 percent.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application. Fill damaged/indented and holes in all wall surfaces from equipment removal flush with wall surface. Spot prime.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or repair existing paints or finishes that exhibit surface defects.

D. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

E. Seal surfaces that might cause bleed through or staining of topcoat.

F. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

G. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.

H. Ferrous Metal:
   1. Coordinate surface preparation in accordance with requirements of selected paint/coating supplier recommendations.
   2. Solvent clean according to SSPC-SP 1.
   3. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.
   4. Remove rust, loose mill scale, and other foreign substances using using methods recommended in writing by paint manufacturer. Protect from corrosion until coated.

I. Existing Painted Hollow Metal to Receive Paint:
   1. Remove loose paint, dirt and grime. Sand edges of paint chipping tapered smooth.
   2. Wipe frames down with solvent cleaner.

J. Metal Doors and/or Frames to be Painted: Prime metal door top and bottom edge surfaces.

3.03 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Apply products in accordance with manufacturer's written instructions.

C. Where adjacent sealant is to be painted, do not apply finish coats until sealant is applied.

D. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

E. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

F. Hollow Metal Doors and Frames: Doors and frames shall be painted with sprayer, no exceptions.

G. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.

H. Sand metal surfaces lightly between coats to achieve required finish.

I. Use tack cloth to remove dust and particles just prior to applying next coat.

J. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.05 PROTECTION

A. Protect finishes until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

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SECTION 09 96 00

HIGH-PERFORMANCE COATINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. High performance coatings.

B. Surface preparation.

1.02 RELATED REQUIREMENTS

A. Applicable provisions of Division 1 govern the work of this section.

B. Section 01 40 00 - Quality Requirements: Additional requirements for mockups and testing agency.

1.03 REFERENCE STANDARDS

A. ASTM B117 - Standard Practice for Operating Salt Spray (Fog) Apparatus; 2026.

B. ASTM D3359 - Standard Test Methods for Rating Adhesion by Tape Test; 2023.

C. ASTM D4060 - Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser; 2025.

D. SSPC-SP 1 - Solvent Cleaning; 2015, with Editorial Revision (2016).

E. SSPC-SP 2 - Hand Tool Cleaning; 2024.

1.04 SUBMITTALS

A. See contract Conditions and General Requirements for procedures.

B. Provide submittal transmittals that include all submittal items identified in each submittal group below.

C. Review Submittals - Preparatory:
   1. Product Data: Provide complete list of all products to be used, with the following information for each:
      a. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
      b. Cross-reference to specified coating system(s) product is to be used in; include description of each system.
      c. Manufacturer's installation instructions.

D. Review Submittals - Samples:
   1. Samples: Submit two samples, 8 by 8 inch in size illustrating colors available for selection.

E. Information Submittals - Preparatory:
   1. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.
   2. Maintenance Data: Include cleaning procedures and repair and patching techniques.

F. Closeout Submittals:
   1. Extended Period: Submit certificate by Contractor acknowledging the section specific period to correct work described in this Section.
      a. Provide this information on the form provided by A/E.

1.05 QUALITY ASSURANCE

A. Maintain one copy of each referenced document that applies to application on site.

B. Applicator Qualifications: Company specializing in performing the work of this section approved by manufacturer.

1.06 MOCK-UPS

A. See Section 01 40 00 - Quality Requirements for additional requirements and procedures for mockups.

B. Prepare and coat two panels and the associated HVAC shroud at locations directed by the Owner. Cure coating in accordance with the conditions and timeframe presented in the manufacturer's datasheet.

C. Contractor to hire testing agency qualified per 01 40 00 - Quality Requirements to test coatings at two locations for each substrate at each mockup per ASTM D3359 Method A (X-cut). Provide report and recommendation to A/E and Owner. Proceed with remainder of work only after receiving notice by Owner to proceed.

D. Mock-ups determined by Owner to be acceptable may be touched-up and remain as part of the work.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of coating, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Coating Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.08 FIELD CONDITIONS

A. Do not install materials when temperature is below 55 degrees F or above 90 degrees F.

B. Maintain this temperature range, 24 hours before, during, and 72 hours after installation of coating.

C. Restrict traffic from area where coating is being applied or is curing.

D. All structural steel members and miscellaneous pieces connected to structure shall be coated in a controlled shop environment.

1.09 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.

B. Extended Period: Correct work in accordance with the terms of the General Conditions for a duration of not less than two years.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide high performance coating products from the same manufacturer to the greatest extent possible.
   1. In the event that a single manufacturer cannot provide specified products, minor exceptions will be permitted provided approval by Architect is obtained using the specified procedures for substitutions.

B. High-Performance Coatings:
   1. Benjamin Moore (Available via Hallman Lindsay): www.benjaminmoore.com.
      a. John DeVries, Architectural Rep., 608-834-8844, john.devries@hallmanlindsay.com.
   2. Sherwin-Williams Company: www.sherwin-williams.com/industries.
      a. Robbie Wilson, Professional Coatings Representative, 608-386-1604, robert.m.wilson@sherwin.com.
   3. Substitutions: See Section 01 25 00 - Substitution Procedures for requirements.

2.02 TOP COAT MATERIALS

A. High Performance Exterior Coating:
   1. Asbestos Board and Sheetmetal Items: Two-component urethane:
      a. (SW) One coat FAST-CLAD DTM Urethane (B65-850, B65V850) – Gloss.
      b. (HL/Benjamin Moore) Two coats High Performance DTM Mastic Urethane (HP5720) - Satin.
   2. Color: As selected by A/E from full line. The intent is to match the original color of the existing.

2.03 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of coated surfaces. Where particular products are identified in manufacturers' datasheets, provide the manufacturer specified products.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Do not begin application of coatings until substrates have been properly prepared.

C. Verify that substrate surfaces are ready to receive work as instructed by the coating manufacturer. Obtain and follow manufacturer's instructions for examination and testing of substrates.

D. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may affect proper application.

3.02 PREPARATION

A. Protect adjacent surfaces and materials not receiving coating from spatter and overspray; mask if necessary to provide adequate protection. Repair damage.

B. Clean surfaces of loose foreign matter.

C. Remove finish hardware, fixture covers, and accessories and store.

D. Work shall not proceed until adequate protection has been provided. Contractor does not have the option of leaving adjacent surfaces unprotected while coating operations are proceeding. Protect adjacent surfaces and materials not receiving coating from spatter and overspray by masking, drop cloths, protective covers, etc. if necessary to provide adequate protection. Provide floor protection at material storage and mixing areas. Provide all necessary accessories (application tools, cleaning materials, and ventilation fans) to properly perform the work. Repair damage.

E. Protection of personnel and proper safety precautions shall be followed at all times. Work shall be supervised during surface preparation operations through final coating. Proper safety equipment shall be worn by applicators in accordance with state and federal safety standards.

F. Asbestos Board and Existing Painted Sheet Metal Items:
   1. Solvent clean according to SSPC-SP 1.
   2. Prepare surface according to SSPC-SP 2.
   3. Comply with manufacturer instructions for the manufacturers products.

3.03 PRIMING

A. Apply primer to all surfaces, unless specifically not required by coating manufacturer. Apply in accordance with coating manufacturer's instructions. Extend up walls at perimeter 4 inches.

3.04 COATING APPLICATION-EXTERIOR PANELS AND FABRICATED SHEET METAL ITEMS.

A. Apply coatings in accordance with manufacturer's instructions, to thicknesses specified/required for complete system on all surfaces concealed and exposed.

B. Apply in uniform thickness coats, without runs, drips, pinholes, brush marks, or variations in color, texture, or finish. Finish edges, crevices, corners, and other changes in dimension with full coating thickness.

C. Provide appropriate materials and instructions to coat damaged areas and welded connections after installation.

3.05 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements for general requirements for field inspection.

B. Dry Film Thickness Testing: Contractor hired qualified testing and inspecting agency shall inspect and test coatings for dry film thickness.
   1. Touch up and restore coated surfaces damaged by testing.
   2. If test results show that dry film thickness of applied coating does not comply with coating manufacturer's written recommendations, and specified thickness, Contractor shall pay for retesting and apply additional coats as needed to provide dry film thickness that complies with coating manufacturer's written recommendations, and specified thickness.

C. See requirements in Mock-ups paragraph of this section.

3.06 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

B. Clean surfaces immediately of overspray, splatter, and excess material.

C. After coating has cured, clean and replace finish hardware, fixtures, and fittings previously removed.

3.07 PROTECTION

A. Protect finished work from damage.

END OF SECTION

DOCUMENT 23 00 10
DIVISION 23 TABLE OF CONTENTS

Division 23 - Mechanical

Section Number	Title
23 00 10	TABLE OF CONTENTS
23 01 30	HVAC AIR DUCT CLEANING
23 05 00	GENERAL PROVISIONS
23 05 13	MOTORS AND VARIABLE FREQUENCY DRIVES
23 05 93	BALANCING SYSTEMS (WATER/AIR)
23 31 00	DUCTWORK
23 33 00	AIR DUCT ACCESSORIES
23 34 23	CENTRIFUGAL WALL & ROOF EXHAUSTERS
23 82 39	FAN POWERED TERMINAL UNITS

END OF DOCUMENT 23 00 10

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SECTION 23 01 30
HVAC AIR DUCT CLEANING

PART 1: GENERAL

1.01 RELATED DOCUMENTS

A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

B. The requirements of Section 23 05 00 apply to this Section.

1.02 RELATED WORK

A. Section 23 07 13 - Duct Insulation.

B. Section 23 33 00 - Air Duct Accessories.

C. Section 23 05 93 - Balancing Systems: Water/Air

1.03 APPLICABLE STANDARDS AND PUBLICATIONS

A. The following current standards and publications of the issues currently in effect form a part of this specification to the extent indicated by any reference thereto:

1. National Air Duct Cleaners Association (NADCA): “Assessment, Cleaning & Restoration of HVAC Systems (ACR).”
2. National Air Duct Cleaners Association (NADCA): “Introduction to HVAC System Cleaning Services,” 2004.
3. Underwriters’ Laboratories (UL): UL Standard 181 (current edition including all revisions).
4. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE): Standard 62-2010, "Ventilation for Acceptable Indoor Air Quality".
5. Environmental Protection Agency (EPA): "Building Air Quality," December 1991.
6. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA): “HVAC Duct Construction Standards - Metal and Flexible,” 2005.
7. North American Insulation Manufacturers Association (NAIMA): "Cleaning Fibrous Glass Insulated Air Duct Systems," 2002.

1.04 SPECIAL PROVISIONS

A. Qualification of the HVAC System Cleaning Contractor

1. Membership: The HVAC system cleaning contractor shall be a certified member of the National Air Duct Cleaners Association (NADCA), or shall maintain membership in a nationally recognized non-profit industry organization dedicated to the cleaning of HVAC systems.
2. Certification: The HVAC system cleaning contractor shall have a minimum of one (1) Air System Cleaning Specialist (ASCS) certified by NADCA on a full time basis, or shall have staff certified by a nationally recognized certification program and organization dedicated to the cleaning of HVAC systems.
3. Supervisor Qualifications: A person certified as an ASCS by NADCA, or maintaining an equivalent certification by a nationally recognized program and organization, shall be responsible for the total work herein specified.

4. Experience: The HVAC system cleaning contractor shall submit records of experience in the field of HVAC system inspection and cleaning as requested by the owner. Bids shall only be considered from firms which are regularly engaged in HVAC system maintenance with an emphasis on HVAC system cleaning and decontamination.
5. Equipment, Materials and Labor: The HVAC system cleaning contractor shall possess and furnish all necessary equipment, materials and labor to adequately perform the specified services.
   a) The contractor shall assure that its employees have received safety equipment training, medical surveillance programs, individual health protection measures, and manufacturer's product and material safety data sheets (MSDS) as required for the work by the U.S. Occupational Safety and Health Administration, and as described by this specification. For work performed in countries outside of the U.S.A., contractors should comply with applicable national safety codes and standards.
   b) The contractor shall maintain a copy of all current MSDS documentation and safety certifications at the site at all times, as well as comply with all other site documentation requirements of applicable OSHA programs and this specification.
6. Licensing: The HVAC system cleaning contractor shall provide proof of maintaining the proper license(s), if any, as required to do work in this state. Contractor shall comply with all Federal, state and local rules, regulations, and licensing requirements.

1.05 STANDARDS

A. NADCA Standards: The HVAC system cleaning contractor shall perform the services specified here in accordance with the current published standards of the National Air Duct Cleaners Association (NADCA).
   1. All terms in this specification shall have their meaning defined as stated in the NADCA Standards.
   2. NADCA Standards must be followed with no modifications or deviations being allowed.

1.06 ADMINISTRATIVE REQUIREMENTS

A. Coordination:
   1. Coordinate the Work of this section with the work of other trades, and the work of different contractors.
B. Pre-cleaning Meeting:
   1. Conduct pre-cleaning meeting with representatives of Owner, Contractor, and facility occupants affected by cleaning work.
   2. Coordinate meeting date with Owner, Architect, Engineer.
C. Sequencing:
   1. Perform duct cleaning work after HVAC system construction and duct leakage testing are complete.
D. Scheduling:
   1. Prepare and submit HVAC system cleaning activities schedule in according with Division 01 section describing project scheduling requirements

1.07 SUBMITTALS

A. Include manufacturer's data and/or Contractor data for the following:
   1. List of equipment to be used.

2. Product description and MSDS sheets for cleaners, biocides and encapsulants.
3. Access doors.

PART 2: PRODUCTS

2.01 GENERAL

A. Use products which conform to NFPA 90A, possessing a flame spread rating of not over 25 and a smoke developed rating no higher than 50.

2.02 CLEANERS, BIOCIDES AND ENCAPSULANTS

A. Cleaners, biocides and encapsulants shall be water based products specifically designed for application to HVAC duct interiors and capable of being applied with airless spray equipment. Biocides and encapsulants must be colored differently than substrate to be coated.

B. Biocidal agents to be formulated for long term fungicidal activity with no loss on aging. Biocidal agents must be registered with the U.S. Environmental Protection Agency for use on the interior of HVAC duct systems.

C. Cured biocides and encapsulants must provide tough washable elastic protective finish able to withstand light impact or abrasion without breaking down over time or releasing fibers.

2.03 DUCT LINERS AND DUCT ACCESSORIES

A. See applicable specifications sections.

2.04 EQUIPMENT

A. Particulate Collection Equipment: Fan/filter unit sized to create sufficient quantity of negative pressure for capture and filtration of air and contaminants dislodged during duct cleaning. Equipment to include prefiltration and HEPA final filtration with 99.97% collection efficiency for 0.3 micron size particles.

B. Portable pressure washers to be capable of 500 psig to 1000 psig operation.

C. Power brush systems designed specifically for duct cleaning.

PART 3: CLEANING SPECIFICATIONS AND REQUIREMENTS

3.01 EXAMINATION

A. HVAC System Assessment and Site Survey:

1. Before commencing work, assess HVAC system condition to determine appropriate engineering controls, safety measures, tools, equipment and cleaning products and methods required to complete the work.
2. Perform HVAC system assessment by ASCS, Certified Ventilation Inspector (CVI), or equivalent.
3. If microbial testing or sampling are required, engage services of technicians trained and acceptable to authorities having jurisdiction.

B. Work Plans:

1. Project Schedule: Outline starting date, dates and times when work will take place, and completion date.
   a) Determine sequence of cleaning each system or portion of the work and coordinate with work of other trades and activities.

2. Product Data and Safety Data Sheets: Product data submittals listing general use and specific chemical cleaning products and coatings used while performing the work, along with Safety Data Sheets for chemical products used to perform the work.
3. Safety Plan: Define responsibilities of each organization's designated representative involved with executing work plan throughout project.
   a) Include disclaimers identifying items not covered under project warranty or guarantee.

3.02 PROTECTION OF IN-PLACE CONDITIONS

A. Protect existing structures, surfaces, and systems from damage resulting from duct cleaning work.

B. Report damage caused by this work to Owner and A/E.

3.03 HVAC SYSTEM PREPARATION

A. Service openings:

1. Access duct cleaning work through existing or new service openings, allowing safe access and thorough cleaning throughout specified components.
2. Work through service openings sized to allow mechanical tool entry and visual inspection, as required for cleaning activities.
3. Where possible, work through existing service openings.
4. Where new service openings are required, install openings as follows:
   a) Do not degrade structural, thermal, or functional system integrity, and comply with applicable SMACNA duct construction methods.
   b) Install service openings complying with UL and NFPA standards, federal, state, and local code requirements, and requirements of Authorities Having Jurisdiction.
   c) Where required, install duct access doors complying with UL Standard 181, and fabricated with materials classified for flammability and smoke developed.
   d) Where required, install tapes complying with UL 181A.
   e) Where required, install closure panels fabricated from equivalent material and same or heavier gage.
   f) Mechanically fasten closure panels over service openings with screws or rivets at perimeter, maximum 4 inches spacing.
   g) Fabricate closure panel to overlap duct opening perimeter, minimum 1 inch.
   h) Insulate closure panels to match adjacent duct interior and exterior surfaces.
   i) Seal rigid fibrous glass duct systems in accordance with NAIMA recommended practices.
   j) Install closure techniques: UL Standard 181 or UL Standard 181A.
   k) Close service openings installed in rigid fibrous glass ductwork and metal ductwork with fibrous glass liner with no exposed fibrous glass edges exposed to airstream.
5. Install service openings that can be reopened for future inspection or remediation.
   a) Mark outside of duct and report service opening locations to Owner in project closeout documents.
6. Do not cut service openings into flexible duct.
   a) Disconnect flexible duct at both ends as required for inspection and cleaning.
   b) Reconnect flexible duct ends in accordance with SMACNA standards.

3.04 CLEANING EQUIPMENT MAINTENANCE AND USE

A. Maintain equipment employed in work performance in good working order, consistent with equipment manufacturer's written instructions and applicable jurisdictional requirements.

B. Clean and inspect equipment before bringing to work site.

C. Do not introduce contaminants from cleaning equipment into indoor environment or HVAC system.

D. Service equipment to limit possible HVAC system contamination from insufficient service equipment cleaning, and unsafe operating conditions for service personnel and building occupants.

E. Perform activities requiring opening contaminated vacuum collection equipment on-site, including servicing or filter maintenance, in appropriate containment area or outside building.

F. Clean and seal collection devices, vacuums and other tools and devices before relocating to different building areas, moving equipment through occupied spaces, and before removing equipment from building.

G. Locate fuel-powered equipment to prevent combustion emissions and air exhaust emissions from entering building envelope.

1. Monitor and manage equipment operation and location to prevent introduction of combustion emissions into occupied space.

H. Furnish HEPA-filtered equipment with minimum collection efficiency of 99.97 percent at 0.3 micron particle size, when vacuum collection equipment exhausts within building envelope

3.05 CLEANING - GENERAL

A. Perform HVAC system cleaning in accordance with ACR, The NADCA Standard.

B. Remove visible non-adhered particulates.

1. Clean HVAC components employing agitation device to dislodge contaminants from HVAC component surface, and then capturing contaminants with vacuum collection device.
   a) Acceptable methods include those that do not damage integrity of ductwork and other system components, and does not damage porous surface materials including internal insulation and duct lining.
2. Clean HVAC components using source removal mechanical cleaning methods designed to extract contaminants from within HVAC system and safely remove contaminants from facility.
3. Select source removal methods rendering HVAC system visibly clean and capable of passing cleanliness verification methods as described in ACR, The NADCA Standard.
4. Do not employ cleaning method, or combination of methods, that can damage HVAC system components or negatively alter system integrity.
5. Do not damage HVAC system and components with wet cleaning, power washing, steam cleaning and other wet process cleaning.

C. Apply cleaning materials in accordance with manufacturer's instructions.

1. Do not apply cleaning agents or water to electrical, fibrous glass or other porous HVAC system components.

D. Capture removed contamination and cleaning materials and legally dispose.

E. Verify HVAC system surface and component cleanliness in accordance NADCA Standard.

F. Particulate Collection:
   1. Employ contaminant removal methods incorporating vacuum collection devices operated continuously during cleaning.
      a) Connect vacuum collection device to component being cleaned through service opening.
      b) Employ vacuum collection device of sufficient capacity to maintain areas being cleaned under negative pressure, containing debris is contained and preventing contaminant migration to adjacent areas.
   2. When possible, discharge ducted exhaust air from vacuum collection devices outdoors, keeping discharge air clear of outdoor air intakes, operable windows, and other locations allowing outdoor air entry.
      a) Do not violate outdoor environmental standards, codes or regulations.
      b) Do not discharge unfiltered air from vacuum collection devices outdoors.
   3. When necessary to exhaust vacuum collection devices indoors, including hand-held and wet-vacuum machines, keep discharge air in work area, and provide machine air discharge HEPA filtration, rated at 99.97 percent collection efficiency for 0.3 micron particles and larger.

3.06 AIR DUCT SYSTEMS

A. Clean air ducts to remove non-adhered substances.

B. Access air duct interiors through service openings in system that are large enough to accommodate mechanical cleaning procedures and allow for cleanliness verification.

C. Use mechanical agitation methods to remove particulate, debris, and non-adhered particulate.

D. Capture dislodged substances with vacuum collection device.

E. Do not employ cleaning methods that damage HVAC components.

F. Mark position of dampers and air-directional mechanical devices inside HVAC system prior to cleaning.

G. When cleaning is complete, restore dampers and devices to their marked positions.

H. After cleaning, verify cleanliness of HVAC system surfaces and components in accordance ACR, The NADCA Standard.

3.07 TYPE 1 DRY CLEANING METHOD

A. Operate HEPA-filtered negative air machines with that discharge continuously during Type 1 cleaning process.

B. Mechanically remove adhered dirt and contaminants in accordance with ACR, The NADCA Standard.

3.08 TYPE 2 WET CLEANING METHOD

A. Employ Type 2 wet cleaning method when visual inspection reveals suspect microbial matter on coil or drain pan. Access both upstream and downstream sides of each coil section for cleaning.

B. Employ engineering controls required for coil cleaning in accordance with ACR, The NADCA Standard.

C. Verify cleanliness after cleaning has been performed as described in ACR, The NADCA Standard.

D. Perform Type 2 cleaning if debris still remains on the coil or the coil is impacted after Type 1 cleaning has been completed and post-cleaning inspection has been performed.

E. After cleaning, verify cleanliness of HVAC coils in accordance ACR, The NADCA Standard.

3.09 DUCT-MOUNTED INLINE COILS

A. Perform visual inspection of coil and drain pan to determine whether Type 1 dry cleaning, or Type 2 wet cleaning is required.

B. Employ cleaning methods which will render coil visibly clean in accordance with ACR, The NADCA Standard.

C. Isolate coil from duct system during cleaning process. Do not allow removed particles to migrate to, or redeposit on, unintended areas.

D. Apply coil cleaning products in accordance with manufacturer's published data and labeling.

E. Clean and flush coil, condensate drain pan and drain line. Verify proper drainage operation before and after cleaning.

F. Apply cleaning methods and products that do not cause damage to, or erosion of, coil surface or fins.

G. Type 1 Dry Cleaning Method:

1. Operate negative air machines with HEPA-filtered discharge continuously during Type 1 cleaning process.
2. Mechanically remove adhered dirt and contaminants in accordance with ACR, The NADCA Standard.

H. Type 2 Wet Cleaning Method:

1. Employ Type 2 wet cleaning method when visual inspection reveals suspect microbial matter on coil or drain pan. Access both upstream and downstream sides of each coil section for cleaning.
2. Employ engineering controls required for coil cleaning in accordance with ACR, The NADCA Standard.
3. Verify cleanliness after cleaning has been performed as described in ACR, The NADCA Standard.
4. Perform Type 2 cleaning if debris still remains on the coil or the coil is impacted after Type 1 cleaning has been completed and post-cleaning inspection has been performed.
5. Capture rinse water when cleaning duct mounted coils without drain pans. Do not allow water to remain in cleaned ductwork.

I. After cleaning, verify cleanliness of HVAC coils in accordance ACR, The NADCA Standard.

3.10 INTERNALLY INSULATED DUCT SYSTEM COMPONENTS AND SOUND ATTENUATORS

A. Employ cleaning methods that do not damage internal insulation or sound attenuating components, and that render system capable of passing cleanliness verification tests.

B. Clean fibrous glass duct liner or duct board present in equipment or air ducts employing mechanical agitation methods to remove particulate, debris, and non-adhered particulate.

C. Do not create abrasions, breaks, or tears to fibrous glass liner or duct board surfaces.

D. Maintain HVAC system under constant negative pressure when cleaning internal insulation components.

E. Do not wet insulation components.

F. Identify for replacement fibrous glass materials with evidence of damage, deterioration, delaminating, friable materials, biological growth, or moisture that cannot be restored by cleaning or resurfacing.

G. When required, remediate exposed, damaged insulation exposed to HVAC system air stream.

1. Scrape insulation and adhesive residue from metal duct system surfaces that have undergone degraded insulation removal.
2. Remove loose, visible debris prior to installation of new insulation.
3. Where biologically contaminated insulation was removed, apply antimicrobial agents to remove traces of contamination or abate mold in accordance with ANSI/IICRC S520.

3.11 SPECIAL TECHNIQUES

A. Engineering Controls:

1. Employ engineering controls to maintain worker and building occupant safety, and prevent contaminating surfaces outside work area.
   a) Comply with government regulations, and industry standards and guidelines relevant to working in the facility environment in which the work is located.
   b) Control odors, mists, and aromatic vapors during cleaning process.

B. Controlling Product Emissions:

1. Apply cleaning agents and other chemicals in accordance with manufacturer's recommended procedures and product application instructions, including exhaust ventilation.

C. Negative Duct Pressurization:

1. Throughout cleaning process, keep HVAC system and associated air ducts at negative differential pressure, relative to indoor non-work area.
2. Maintain negative pressure differential between portion of HVAC duct system being cleaned and surrounding indoor occupant spaces.
3. Continuously monitor and verify correct pressure differential.
4. When performing vacuum collection, employ negative air machine drawing air from equipment being cleaned.
5. When negative air machine is not fitted with HEPA filtration, duct exhaust air from negative air machine to outdoor location, keeping discharge air clear of outdoor air intakes, operable windows, and other locations where outdoor air enters building.
   a) Do not violate outdoor environmental standards, codes or regulations by releasing debris.
   b) Do not discharge unfiltered air from vacuum collection devices outdoors.

D. Microbial Agents:

1. Apply antimicrobial agents only when active biological growth is reasonably suspected, or where unacceptable levels of biological contamination have been verified through testing.
2. Apply antimicrobial agents after removal of surface deposits and debris.
3. Apply antimicrobial agents in accordance with antimicrobial agent manufacturer's written recommendations and associated EPA registration listing.

3.12 FIELD QUALITY CONTROL

A. Inspect work to verify cleanliness immediately after HVAC system component cleaning and prior to placing system in operation.

B. Do not apply treatment, coating, or antimicrobial agent to cleaned HVAC system or components until the work has been inspected and determined to be acceptable.

C. Visual Inspection:

1. When cleaning is complete, perform final inspection in presence of Owner and A/E.
2. Perform visual inspection of porous and non-porous HVAC system component surfaces. Verify HVAC system is visibly clean as defined in ACR, The NADCA Standard.
3. If no contaminants are evident through visual inspection, HVAC is considered clean and acceptable.
4. If contaminants are evident through visual inspection, repeat cleaning system areas where contaminants are visible.
   a) Notify Owner and A/E to schedule cleanliness re-inspection.

D. Surface Comparison Test for Porous Surfaces Only:

1. If visual inspection is inconclusive or disputed, then perform Surface Comparison Test in accordance with ACR, The NADCA Standard.
   a) Attach vacuum brush to operating contact vacuum.
   b) Employ contact vacuum with HEPA-filtered discharge, capable of achieving minimum 80 inches w.g. static lift and fitted with 2.5-inch diameter round nylon brush attached to 1.5-inch diameter vacuum hose.
   c) Pass brush over surface test area four times.
   d) Visually compare tested and untested surfaces to determine whether visible surface characteristics are detectable.
2. When surface comparison test is complete, HVAC component surface is considered acceptably clean if there is no visually detectable difference between tested and untested surface characteristics.

E. NADCA Vacuum Test for Non-Porous Surfaces Only:

1. When required, perform Vacuum Test in presence of Owner and A/E, and in accordance with ACR, The NADCA Standard.
2. Apply NADCA Vacuum Test template to flowing-air side of component’s surface.
3. Attach vacuum cassette with filter media to calibrated air sampling pump and pass open face of filter cassette over two 2 cm x 25 cm openings marked on template.
4. Pass vacuum cassette over system surfaces at 2 inches/second.
5. When sampling is complete, prepare filter cassette and weigh it to determine total amount of debris collected.
6. Surface is considered acceptably clean, when net weight of debris collected on filter cassette is less than 0.75 mg/100 cm2.

PART 4: EXECUTION

4.01 GENERAL REQIUREMENTS

A. Use products and equipment in accordance with manufacturer’s instructions.

B. Protect existing structures, surfaces, and systems from damage resulting from duct cleaning work.

C. Seal HVAC system debris and removed contaminated materials in containers before removal from work area.

4.02 DISPOSAL OF JOB SITE DUCT CLEANING WASTE

A. Handle materials classified as hazardous by governmental agencies in accordance with applicable federal, state, and local, regulations and codes.

B. Dispose of debris removed from HVAC System in accordance with applicable federal, state, and local requirements

4.03 SYSTEMS TO BE CLEANED

A. Clean main ductwork systems from lowest level to roof penetration on the following components:

System/Component	Location	Action
Bathroom Exhaust Main Duct Systems	Throughout Building	Clean, Encapsulant (if req.)
Kitchen Exhaust Main Duct Systems	Throughout Building	Clean, Encapsulant (if req.)
Trash Chutes	Throughout Building	Clean, Biocides

Associated branch ductwork to each apartment, turning vanes, dampers, coils, VAV boxes, drain pans, plenums, diffusers, registers, grilles and louvers; air handling units and associated fans, coils, drain pans, plenums and dampers; fans; terminal units and other equipment will NOT be cleaned.

4.04 ACCESS DOORS

A. Install access doors where indicated on the drawings and in locations where access is required for cleaning or inspection. See specification Section 23 33 00 for access door requirements.

B. Size and numbers of duct access doors to be sufficient to perform the intended service. Minimum access door size shall be 8 x 8 inch size for hand access, 18 x 18 inch size for shoulder access, or other size as indicated. Install access doors on both inlet and outlet sides of reheat coils as well as other duct mounted coils if not existing.

4.05 BIOCIDES AND ENCAPSULANTS

A. Biocides and encapsulants are to be applied only after cleaning and verification have been completed and surfaces are dry. System fans are to remain off and critical barriers maintained to prevent migration of biocides and encapsulants from the HVAC systems.

B. Apply biocides to the following surfaces which are suspected of or have been tested and verified for microbial contamination:

1. Trash Chute Risers

C. Apply encapsulants to the following surfaces where microbial contamination is not suspected:

1. Damaged fibrous glass thermal or acoustical insulation.
2. Sheet metal where thermal or acoustical insulation has been removed.

D. Biocides and encapsulants to be directly sprayed (not fogged), brushed or rolled onto surfaces to achieve a continuous film of thickness recommended by manufacturer. Increase application rate on porous or rough surfaces. Protect coils, fan blades, bearings, damper linkages and seals, fire/smoke dampers, humidifiers, airflow sensors, pressure sensors, temperature sensors and humidity sensors during application of biocides and encapsulants. Clean any overspray from these components immediately. Allow products to fully cure prior to using HVAC systems. Operate systems during unoccupied hours flushing with fresh air to purge system prior to occupied use.

4.06 CLEANLINESS VERIFICATION

A. General: Verification of HVAC System cleanliness will be determined after mechanical cleaning and before the application of any treatment or introduction of any treatment-related substance to the HVAC system, including biocidal agents and coatings.

B. Visual Inspection: The HVAC system shall be inspected visually to ensure that no visible contaminants are present.

1. If no contaminants are evident through visual inspection, the HVAC system shall be considered clean; however, the owner reserves the right to further verify system cleanliness through Surface Comparison Testing or the NADCA vacuum test specified in the NADCA standards.
2. If visible contaminants are evident through visual inspection, those portions of the system where contaminants are visible shall be re-cleaned and subjected to re-inspection for cleanliness.
3. NADCA vacuum test analysis should be performed by a qualified third party experienced in testing of this nature.

4.07 WASTE MANAGEMENT

A. Double-bag all waste and debris in 0.24 polyethylene bags.

B. Dispose of debris off-site in accordance with applicable federal, state and local requirements.

4.08 SYSTEM STARTUP

A. Adjusting:

1. After satisfactory completion of field quality control activities, restore adjustable devices to original settings, including, but not limited to, dampers, air directional devices, etc.

B. Install closures over services access openings before allowing system restart for normal facility operation.

C. When system is placed in operation, remove temporary filter elements after minimum 24 hours operation

4.09 POST-PROJECT REPORT

A. At the conclusion of the project, the Contractor shall provide a report to the Owner & A/E indicating the following:

1. Describing systems cleaned, methods and materials used, problems encountered.
2. Success of the cleaning project, as verified through visual inspection and/or gravimetric analysis.
3. Areas of the system found to be damaged and/or in need of repair.

END OF SECTION 23 01 30

SECTION 23 05 00
GENERAL PROVISIONS

PART 1: GENERAL

1.01 RELATED DOCUMENTS

A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.
   1. Section 01 50 00 Temporary Facilities and Controls.

1.02 WORK INCLUDED

A. Provide all materials, labor, services and incidentals necessary for the completion of this Division of the Work.

B. Requirements of Section 23 05 00 applies to applicable Sections of Division 2 and all Sections of Division 23.
   1. Bidding Requirements, Contract Forms, Conditions of the Contract, Division 1-General Requirements, and Sections 23 01 30 through 23 84 13 inclusive Heating, Ventilating, and Cooling Work.

C. Cutting and Patching: Section 01 07 00.

1.03 RELATED WORK

A. Fire Stopping: Section 07 84 00.
   1. Refer to this section for instructions and determination of responsibility.
   2. The Mechanical Trades shall submit the cost of firestopping for their Trade to the Prime Contractor under Section 07 84 00 Fire Stopping. The Prime Contractor shall then decide whether to do all of the fire stopping or assign it to the individual Trade at the submitted cost.

1.04 QUALITY ASSURANCE

A. Submit Bid based on materials and equipment of manufacturers specified. Catalog numbers of base manufacturer establishes quality required. Other manufacturers listed may be bid without prior approval, providing product is equal to base specification and subject to proof of compliance during shop drawing review by Architect/Engineer.
   1. All items specified shall be the latest type or model produced by manufacturer specified. If descriptive specification or model number is obsolete, substitute current product.

B. Whenever a product of a manufacturer other than the Base Specification is furnished, include in the Bid, any additional costs for labor and/or materials required to adapt the substituted equipment variations, to the original system design. This includes full compensation to other Trades for changes required in their work. Variations include, but are not limited to:
   1. Additional breeching, piping extensions, stack revisions, etc. for changes in location of boiler outlets.
   2. Additional piping or ductwork extensions for equipment tapping variations.
   3. Additional structural support for heavier equipment.
   4. Changes in sizes of roof curbs, equipment supports and equipment pads.

5. Added cost for changes in electrical work; larger motors, wiring, disconnects, starters, lighting relocation, etc.

C. Contractor shall conform to drawings and specifications, even when there may be conditions or items specified in excess of State or local codes or regulations, unless the Contractor has notified the A/E and the documents have been modified by either an Addenda or Change Order changing or clarifying the specific matter.

D. Contractor shall contact the A/E no later than seven days before the bids are received/opened for the correct interpretation of any item on the drawing or specification needing clarification. If needed, the documents would be modified by an Addenda, changing or clarifying the specific matter.

E. All work must be performed in a workmanlike manner and according to manufacturer's recommendations.

1.05 DRAWINGS AND SPECIFICATIONS

A. In general, the drawings of the Mechanical Systems and Equipment are to scale where possible. Drawings shall not take precedence over field measurements.

B. Plans of piping and ductwork, although shown on scale drawings, are diagrammatic only. They are intended to indicate the size and/or capacity where stipulated, approximate location and/or direction, and approximate general arrangement of one phase of work to another, but not the exact detail or exact arrangement of construction. Additional offsets, fittings, etc. required for a complete and operational system shall be the responsibility of this contractor and shall be provided and so bid and shall not result in additional costs to the owner during construction.

C. If it is found before installation of any or all construction phases, that a more convenient, suitable or workable arrangement of any or all phases of the project would result by varying or altering the arrangement indicated on the drawings, the Project Manager/Engineer may require any or all Contractors to change the location or arrangement of their work without additional cost to the Owner. Such rearrangement shall be in accordance with directions from the Project Manager/Engineer.

D. Where discrepancies are discovered after certain portions or phases of any Contract have been installed, the Project Manager /Engineer reserves the right to have any or all Contractors make minor changes in pipe, duct, fixture or equipment locations or arrangements to avoid conflict with other work at no additional cost to the Owner.

E. Because the drawings are to a relatively small scale to show as large a portion as is practical, the fact that only certain features of the system are indicated does not mean that other similar or different features or details will not be required. Contractor shall furnish all incidental labor, materials, or equipment for the systems under his control, so that each system is a complete and operating one unless otherwise specifically stipulated in the detailed body of the Specifications.

F. The Contractor shall be responsible for determining all field measurements before commencing construction, giving due consideration to building design and other equipment to be installed. Mechanical equipment not dimensioned on the drawings shall be field located, giving due consideration to the work of other trades. The Contractor shall verify all dimensions before proceeding with the work. Where cutting and patching is required, each Contractor shall be responsible for his own work, unless indicated otherwise on the drawings.

G. Dimensions shall not be scaled from the drawings. If the Contractor discovers any discrepancy between actual measurements and those shown on the drawings which prevents good practice, good arrangement, or which is contrary to the intent of the drawings and specifications, he shall notify the Project Manager /Engineer before proceeding with the work.

1.06 SITE INSPECTION

A. Before submitting a proposal for the work contemplated in these specifications and accompanying drawings, each bidder shall examine the site and familiarize himself with all the existing conditions and limitations, including the extent of demolition, cutting and patching to be done by the Contractor for Mechanical Work.

B. No additional owner costs will be allowed because of the Contractor's misunderstanding as to the amount of work involved, or his lack of knowledge of any condition in connection with the work.

1.07 REGULATORY REQUIREMENTS

A. Comply with all State and Local Codes, laws, ordinances and regulations. Comply with applicable OSHA regulations.

B. Boilers, water heaters, storage tanks and other pressure vessels shall be A.S.M.E. constructed and stamped, where required by State or Local Codes. Boilers shall be installed as per ASME Codes, by Contractor's having ASME Certification, where required.

C. Comply with and pay fees for all required reviews, approvals, permits and inspections.

D. Where drawings and specifications call for materials or workmanship in excess of these requirements, drawings and specifications shall govern.

1.08 QUALIFICATIONS FOR WELDERS

A. Welders shall be qualified to perform work in accordance with Section 9 of the ASME Code or Independent Testing Laboratory.

B. Cost to qualify welders shall be borne by Contractor.

C. Standard specification provision for the Fabrication and Erection of Piping Systems as recommended by the National Certified Pipe Welding Bureau.

1. Piping shall comply with the provisions of the latest revision of the applicable sections of the ASME Code for Pressure Piping, ANSI/ASME B31.
2. Boiler external piping shall comply with the latest revision of Section I of the ASME Boiler and Pressure Vessel Code, ANSI/ASME BPV-1 Power Boilers.

D. SUBMITTALS:

1. Before any welding is performed, the contractor shall submit to the Owner, or his authorized representative, a copy of his Welding Procedure Specification together with the Procedure Qualification Record as required by Section IX of the ASME Boiler and Pressure Vessel Code.
2. Before any welder shall perform any welding, the Contractor shall submit to the Owner, or his authorized representative, a copy of the Manufacture's Record of Welder or Welding Operator Qualification tests as required by Section IX of the ASME Boiler and Pressure Vessel Code.

E. The types and extent of the non-destructive examinations required for pipe welds are shown in Table 136.4 of the ASME Code for the Pressure Piping, ANSI/ASME B31.1-Power Piping. If requirements for non-destructive examination are to be other than that stated above, the degree of examination, and basis for the rejection shall be matter of prior written agreement between the fabricator, or contractor and the purchaser.

F. Each Contractor shall be responsible for the quality of welding done by his organization and shall repair or replace any work not in accordance with these specifications.

1.09 DELIVERY, STORAGE AND HANDLING

A. Cover and protect all materials and equipment stored at Project Site from weather. Support above ground on temporary bases.

B. Cover all mechanical products and control devices from damage, dust, plaster and other construction debris. After installation is completed or while storing inside building, wrap and enclose all fixtures, equipment and control devices with canvas or heavy mill plastic, secured with wire or cord. Fixtures may be protected with the factory applied heavy paper or carton they are shipped in. Do not remove protection device until room or area is cleaned and free of dust and debris.

C. Handle all materials and equipment in accordance with manufacturer's written instructions. Lift only with lugs provided for the purpose. Handle carefully to avoid damage.

D. Do not store or install equipment unless temperature in maintained between 32 degrees F and 104 degrees F, at a relative humidity less than 95 percent (non-condensing). Maintain conditions during and after installation of products.

1.10 WARRANTY

A. Provide one-year warranty from date of substantial completion, unless otherwise noted, to the Owner for all fixtures, equipment, materials, and workmanship.

B. Warranty requirements shall extend to correction, without cost to the Owner, of all Work found to be defective or nonconforming to the contract documents. The Contractor shall bear the cost of correcting all damage resulting from defects or nonconformance with contract documents.

C. Refer to individual sections for extended warranties.

1.11 SUBMITTALS

A. Submit in accord with Section 01 30 00 Administrative Requirements.

1. Descriptive product data describing all material furnished under Part 2 of this Section.
2. Submit each Specifications Section under separate cover to streamline review process. The entire submittal may be rejected when only one of the many products from different sections does not meet specifications.
   a) Include section number and name on cover.
   b) When multiple products are shown on a single page indicate which specific product you plan on using.
   c) Tag with equipment Mark Numbers and Types from specifications, plans and schedules.
   d) Leave an area for the review stamps so as to not obscure information on the submittal.
   e) General and Mechanical Contractors to review and stamp before forwarding on to Engineer.

1.12 PROPOSED SUBSTITUTIONS

A. See specifications Section 00 22 13 Supplementary Instructions to Bidders.

B. See specifications Section 01 63 00 Substitution Request Form.

1. Fill out this form for each product that you would like to make a substitution for.
   a) No substitution will be considered unless: Written request for approval has been submitted by the Bidder and has been received by the AE at least 7 (seven) days prior to the date for receipt of bids.
2. Provide the model number and information about the product you wish to substitute, not just a manufactures name. AE will not be researching your catalog for a product that can be substituted for the base product specified.
3. Manufacturers specifically listed by name as having equal products in the specification do not need to have a Substitution Request prior to bidding.

1.13 ALTERNATES

A. Refer to Bid Form and Instructions to Bidders.

1.14 DEFINITIONS

A. Furnish: Supply equipment as required by specifications and drawing descriptions or as detailed on drawings and deliver to job site. Miscellaneous accessories required for normal operation but not specifically mentioned shall be included unless otherwise specified.

B. Install: Place and secure equipment in its designated location and connect up completely and ready for operation.

C. Provide: Furnish and Install equipment noted.

D. Remove: Remove and dispose of, unless indicated to be turned over to Owner.

E. Relocate: Remove indicated equipment and relocate to Owner’s designated location.

PART 2: PRODUCTS

2.01 MATERIALS, FIXTURES AND EQUIPMENT

A. Provide all new products unless otherwise indicated.

B. All pipe sizes are I.D. unless otherwise indicated.

C. Nameplate bearing manufacturer's name or identifiable trademark shall be securely affixed in a conspicuous plate on equipment, or name or trademark cast integrally with equipment, stamped or otherwise permanently marked on each item of equipment.

2.02 DRIVE GUARDS

A. Provide guards for all belt-driven motors.

B. Provide guards for all motor shafts.

C. Guards shall be sheet steel, cast iron, expanded metal or wire mesh. Include access hole for speed measurement.

2.03 LINTELS

A. For lintels over grouped piping or ductwork passing through walls, over recessed convectors, etc. refer to Architectural and Structural Drawings.

2.04 CONCRETE PADS AND BASES

A. For concrete pads and bases under mechanical equipment refer to Architectural, Mechanical and Structural Drawings. Under this Section, notify other Trades, of any equipment changes that will affect sizes of pads and bases.

B. Provide concrete equipment pads for all floor and grade mounted equipment, not indicated on Architectural or Structural Drawings. Minimum 3 ½" thick, sized for the purpose intended.

   1. Provide enough height for cooling coil condensate traps on AHUs. Either a base rail or thicker concrete pad.

C. Concrete work shall conform to Division 3.

2.05 ROOF OPENINGS

A. Structural support steel at roof openings for roof exhausters and hoods provided by structural.

2.06 STEEL SUPPORTS AND HANGERS

A. Steel angle or pipe supports for floor mounted equipment and steel hangers for suspended equipment, including supplemental beams or angles mounted to building structure, will be furnished and installed under appropriate Mechanical Section, designed to carry total supported weight.

2.07 SERVICE OUTLETS

A. Provide a service outlet at or near mechanical equipment.

B. The single-phase, 15 or 20-A, 125-V receptacle required by this section is intended to be used to service HVAC & refrigeration equipment. It is required to be accessible, within 25 ft. of the equipment, and located on the same level as the equipment. If the equipment is at grade level, the receptacle must be installed at that level; however, if it is a rooftop unit, the receptacle is required to be located on the rooftop within 25 ft. of the equipment.

C. Because the equipment may need to be disconnected from power when being serviced, the receptacle is not permitted to be connected to the load side of the disconnect for the equipment. The receptacle for servicing the HVAC equipment must be GFCI protected per NEC.

   1. A GFCI protected outlet located within 25 ft. of the HVAC equipment will make it unnecessary for the servicing technician to use an extension cord that could be plugged into an outlet without GFCI protection.

PART 3: EXECUTION

3.01 DEMOLITION

A. Perform all demolition as indicated on the drawings to accomplish new work. Where demolition work is to be performed adjacent to existing work that remains in an occupied area, construct temporary dust partition to minimize the amount of contamination of the occupied space. Where pipe or duct is removed and not reconnected with new work, cap ends of existing services as if they were new work. Coordinate work with the user agency to minimize disruption to the existing building occupants.

B. All pipe, wiring and associated conduit, insulation, ductwork, and similar items demolished, abandoned, or deactivated are to be removed from the site by the Contractor. All piping and ductwork specialties are to be removed from the site by the Contractor unless they are dismantled and removed or stored by the user agency. All designated equipment is to be turned over to the user agency for their use at a place and time so designated. Maintain the condition of material and/or equipment that is indicated to be reused equal to that existing before work began.

3.02 TEMPORARY ENVIROMENTAL CONTROL

A. Refer to Section 01 50 00 Temporary Facilities and Controls for temporary heating, cooling and ventilation requirements. Coordinate with General Contractor

3.03 INSTALLATION - GENERAL

A. If the contractor doesn't understand what we expect from the construction specifications and drawings, or site conditions will not allow the installation as depicted, contact the Architect/Engineer before changes are made to the installation. Items such as:
   1. There isn't enough room to pitch piping as shown.
   2. Obstructions were discovered that prohibited the routing shown.

B. Piping, ducts and similar items are shown on Project Drawings in approximate position desired; do not scale.

C. Determine exact location at Project Site by preliminary layout of systems (electrical, mechanical, sprinkler, structural, ceiling space, etc.) and resolve all conflicts prior to fabrication and/or ordering of materials.

D. Install exposed piping parallel to building lines, at uniform grade and at sufficient distance from walls to allow proper connections to risers and drops.

E. Close openings and open ends of all piping and ductwork during construction to exclude dust, debris and vandalism.

F. Sealing and Fire Stopping
   1. FIRE AND/OR SMOKE RATED PENETRATIONS:
      a) Provide all fire stopping of fire rated penetrations and sealing of smoke rated penetrations in compliance with Section 07 84 00 Fire Stopping.
   2. NON-RATED PENETRATIONS:
      a) Pipe Penetrations Through Below Grade Walls:
         1) In exterior wall openings below grade, use a modular mechanical type seal consisting of interlocking synthetic rubber links shaped to continuously fill the annular space between the uninsulated pipe and the cored opening or a water-stop type wall sleeve.
            (a) Assemble rubber links of mechanical seal to the proper size for the pipe and tighten in place, in accordance with manufacturer's instructions. Install so that the bolts used to tighten the seal are accessible from the interior of the building or vault.
      b) Pipe Penetrations:
         1) At pipe penetrations of non-rated interior walls, floors and exterior walls above grade, use urethane caulk in annular space between pipe insulation and sleeve. For non-rated drywall, plaster or wood walls where sleeve is not required use urethane caulk in annular space between pipe insulation and wall material.
            (a) At all interior walls and exterior walls, pipe penetrations are required to be sealed. Apply sealant to both sides of the penetration in such a manner

that the annular space between the pipe sleeve or cored opening and the pipe or insulation is completely blocked. Pipe penetrations in exposed locations shall require escutcheon for finished appearance.

c) Duct Penetrations:
   1) Annular space between duct (with or without insulation) and the non-rated walls or floor opening shall not be larger than 2". Where existing openings have an annular space larger than 2", the space shall be patched to match existing construction to within 2" around the duct. Where shown or specified, pack annular space with fiberglass batt insulation or mineral wool insulation. Provide 4" sheet metal escutcheon around duct on both sides of partition or floor to cover annular space.
      (a) Duct penetrations through non-rated partitions shall require sheet metal escutcheons with fiberglass or mineral wool insulation fill for spaces that include laboratories, clean rooms, animal rooms, kitchens, cart wash rooms, janitor closets, toilet rooms, mechanical rooms, conference rooms, private consultation rooms, where ducts are exposed and where noted on drawings elsewhere.

3. PENETRATIONS SUBJECT TO WATER INTRUSION:
   a) For penetrations (both rated and non-rated) in floors subject to water intrusion or in rooms housing electrical equipment (but not within walls) provide one of the following:
      1) Pipe penetration where steel pipe sleeve is used extend steel sleeve 2” above the floor.
      2) Pipe penetration where cast in place fire stopping device/sleeve is used, extend device/sleeve 2” above the floor (provided it meets the device’s UL listing).
      3) Pipe penetration where there is no steel sleeve or cast in place fire stopping device/sleeve, provide 2”x 2” x 1/8” galvanized steel angles fastened to floor surrounding the penetration or group of penetrations to prevent water from getting to penetration. Provide urethane caulk between angles and floor and fasten angles to floor minimum 8”on center. Seal corners water tight with urethane caulk.
      4) Duct penetrations. Provide 2”x 2” x 1/8” galvanized steel angles fastened to floor surrounding the penetration or group of penetrations to prevent water from getting to penetration. Provide urethane caulk between angles and floor and fasten angles to floor minimum 8”on center. Seal corners water tight with urethane caulk.
   b) Floors subject to water intrusion or rooms housing electrical equipment include the following locations:
      - Food Service/Kitchen Areas
      - Walk In Coolers/Freezers
      - Laundries
      - Restrooms
      - Locker/Shower Rooms
      - Janitor Rooms w/ Sinks
      - Wet Laboratories
      - Mechanical/Plumbing Equipment Rooms
      - Swimming Pool Rooms/Pool Equipment Rooms
      - Chemical/Hazardous Waste Storage
      - Maintenance/Industrial Shops
      - Vehicle Storage and Parking Ramps

- Greenhouses
- Data/Telecommunications Rooms
- Electrical Equipment Rooms

c) Provide waterproof caulk sealant top coating on fire stopping system (or other approved means to protect the fire stopping system from water) in areas subject to wash down such as Food Service and Dish Washing Areas.

G. No piping shall be permitted to be installed in, enter or pass through dedicated electrical spaces for electrical switchboards, panelboards, distribution boards, etc. Dedicated electrical spaces extend from floor to structural ceiling with a width and depth that of the electrical equipment. No piping shall be permitted to be installed in, enter or pass through dedicated working spaces in front of electrical switchboards, panelboards, distribution boards, etc. Dedicated working spaces match the equipment width but not less than 30", a depth of 36" and a height to at least 78" above floor. (Sections 110-16 through 110-26 and 384-4 of NFPA 70.)

H. Where piping penetrates concrete/masonry walls and/or floors, protect piping from physical damage and corrosion by using protective tape material or pipe insulation to prevent physical contact with concrete/masonry, mortar, etc.

I. Core drill openings in existing floor/wall, as required. Size of openings shall not exceed 1" larger than the O.D. of the piping penetrating the assembly. Coordinate with draft/fire stopping requirements.

3.04 EQUIPMENT SUPPLIERS' INSPECTION

A. The following equipment shall not be placed in operation until a competent installation and service representative of the manufacturer has inspected the installation and certified that the equipment is properly installed, adjusted and lubricated; that preliminary operating instructions have been given; and that the equipment is ready for operation:

1. Variable Frequency Drives

B. Contractor shall arrange for and obtain supplier's on-site inspection(s) at proper time(s) to assure each phase of equipment installation and/or connection is in accordance with the manufacturer's instructions.

C. Submit copies of start-up reports to the Architect/Engineer and include copies of Owner's Operation and Maintenance Manuals.

3.05 EQUIPMENT START-UP

A. Equipment start-up shall not be used for temporary heating and cooling purposes without the consent of the Architect/Engineer.

3.06 OPENINGS THRU ROOF

A. All ducts, piping, and other items passing through roof shall be at least 18" apart and 18" in from roof edge, to permit proper flashing.

3.07 ADJUSTMENTS

A. Adjust all specialty items, dampers and controls to normal operating position.

B. Start and operate all mechanical equipment and systems prior to occupancy by Owner.

C. Lubricate all motors, bearing and similar items, prior to completion of project and before operating equipment.

D. All motor belt drives shall be checked for proper alignment, belt tension and fan RPM.

E. All mechanical couplings shall be checked for alignment.

F. Pressure Vessels: Pressure relief valves on equipment shall be checked for setting and accuracy. Raise pressure on system to cause operation of relief valves.

3.08 ACCESSIBILITY

A. Access panels to valves, dampers, controls and equipment in walls or above inaccessible ceilings, will normally be indicated on Architectural Drawings.

B. Provide access to all concealed mechanical equipment or accessories requiring same, not indicated on Architectural Drawings.

C. Size of access panels shall be larger than the devices requiring access, but shall be not less than 6" square for wall panels and not less than 12" square for ceiling panels. Where the openings must allow adequate room for a person to pass through, a 24" x 24" panel shall be provided.

D. Construction of access panels shall comply with Specification Section 08310 Access Doors and Panels.

3.09 CLEAN-UP

A. Remove all dust, plaster and construction debris from ductwork, piping, fixtures and equipment prior to painting or occupancy by Owner.

B. Touch-up paint on all mechanical equipment that has rusted or has had finish marred during construction. Replace if satisfactory repair cannot be made.

C. Pipe system cleansing, sterilizing and other cleaning is specified in appropriate Sections of this Division.

3.10 UTILITY REBATES

A. This Contractor shall secure on behalf of the Owner all utility rebates associated with the design. This shall include all submittals to the utility companies including substantiation where required and making all necessary arrangements on behalf of the Owner.

3.11 MAINTENANCE DATA AND OPERATING INSTRUCTIONS

A. Deliver to the Owner, through the Architect/Engineer maintenance data and operating instructions. Assemble material in three-ring binders, using an index at the front of each volume and tabs for each specification section number involved. In addition to the data indicated in the General Requirements, include the following information:

1. Copies of all approved shop drawings.
2. Manufacturer's wiring diagrams for electrically powered equipment.
3. Records of tests performed to certify compliance with system requirements.
4. Certificates of inspection by regulatory agencies.
5. Parts lists for equipment, valves and specialties.
6. Manufacturer’s installation, operation and maintenance recommendations for fixtures, equipment, valves and specialties.
7. Valve schedules.
8. Lubrication instructions, including list/frequency of lubrication.
9. Warranties.
10. Equipment Startup Reports.

11. Test and Balance Reports.
12. Sub-contractor names, addresses, and telephone numbers.
13. Additional information as indicated in the technical specification sections.
14. Separate collective information by specification section and product. Group together in their respective sections and with the respective products.

B. Instruct and demonstrate to the Owner or his representative, the operation and servicing (normal maintenance) of all equipment and systems provided.

C. Operation and maintenance manuals shall be compiled, organized and submitted for each building.

END OF SECTION 23 05 00

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SECTION 23 05 13
MOTORS AND VARIABLE FREQUENCY DRIVES

PART 1: GENERAL

1.01 RELATED DOCUMENTS

A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

B. The requirements of Section 23 05 00 apply to this Section.

1.02 SUBMITTALS

A. Submit in accord with Section 01 30 00.

1. Shop drawings and descriptive product data describing all material furnished under Part 2 of this Section.

1.03 ELECTRICAL COORDINATION

A. All starters, overload relay heater coils, disconnect switches and fuses, relays, wire, conduit, pushbuttons, pilot lights, and other devices required for the control of motors or electrical equipment are furnished and installed under Division 26, Electrical, except as specifically noted elsewhere in this Division of specifications:

1. Mechanical equipment having starters mounted in panels integral with units.
2. Starters which must be furnished with equipment by manufacturer.
3. Refer to schedule under Electrical Work, Division 26.

B. Overload relays shall be provided as follows:

1. Two for 208 and 480 volt, single phase motors.
2. Three for all 3 phase motors.
3. Provide properly sized heaters for overload relays.

C. DISCONNECT SWITCHES

1. Disconnect switches for mechanical equipment will be furnished under Division 26, Electrical; except that some mechanical equipment may include a built-in disconnect switch, in which case this would be indicated under the respective equipment specification.
   a) Provide fused disconnects for equipment with compressors, condensing units or chillers, etc.
   b) Provide non-fused disconnects for fans or pumps, etc.

D. WIRING

1. Wiring of electric motors and starters furnished in connection with mechanical work, including mounting of starters furnished under Division 23, will be done under Division 26 Electrical.
2. Interconnecting wiring for boiler controls and/or temperature controls shall be furnished and installed complete under Division 23, Mechanical. Wiring, including low voltage, shall be installed in conduit.

E. Electrical drawings and/or specifications show number and horsepower rating of all motors furnished by this Contractor, together with their actuating devices if these devices are furnished under Division 26, Electrical. Should any discrepancy in size, horsepower rating, electrical characteristics or means of control be found for any motor or other electrical equipment after contracts are awarded, Contractor is to immediately notify the architect/engineer of such discrepancy. Costs involved in any changes required due to equipment substitutions initiated by this contractor will be the responsibility of this contractor.

F. Furnish project specific wiring diagrams to Division 26, Electrical, for all equipment and devices furnished by this Contractor and indicated to be wired under Division 26.

1.04 PRODUCT CRITERIA

A. Motors to conform to all applicable requirements of NEMA, IEEE, ANSI, and NEC standards and shall be listed by U.L. for the service specified.

1. Air-Conditioning and Refrigeration Equipment nameplates shall list SCCR rating per NEC.

B. Select motors for conditions in which they will be required to perform; i.e., general purpose, splash proof, explosion proof, standard duty, high torque or any other special type as required by the equipment or motor manufacturer's recommendations.

C. Furnish motors for starting in accordance with utility requirements and compatible with starters as specified.

1.05 EQUIPMENT START-UP (VFD'S)

A. Provide system start-up; the equipment manufacturer's representative will provide supervision and be in attendance during unit start-up.

1. Equipment shall not be placed in operation until a competent installation and service representative of the manufacturer has inspected the installation and certified that the equipment is properly installed, adjusted and lubricated; that preliminary operating instructions have been given; and that the equipment is ready for operation. Submit three copies of a written startup report following the initial start up to be included to O&M manuals. Include in the report: work done to the system, all readings taken, a statement certifying that the unit(s) have been placed in proper running condition as recommended by the manufacturer and as intended in the drawings and specifications.

PART 2: PRODUCTS

2.01 THREE PHASE, SINGLE SPEED MOTORS

A. Use NEMA rated 200 volt, three phase, 60 hertz motors for all motors 1/2 HP and larger unless specifically indicated.

B. Use NEMA general purpose, continuous duty, Design B, normal starting torque, T-frame or U-frame motors with Class B or better insulation unless the manufacturer of the equipment on which the motor is being used has different requirements. Use open drip-proof motors unless totally enclosed fan-cooled, totally enclosed non-ventilated, explosion-proof, or encapsulated motors are specified in the equipment sections.

C. Use grease lubricated anti-friction ball bearings with housings equipped with plugged/capped provision for relubrication, rated for minimum AFBMA 9, L-10 life of 20,000 hours. Calculate bearing load with NEMA minimum V-belt pulley with belt center line at the end of NEMA standard shaft extension. Stamp bearing sizes on nameplate.

D. All open drip-proof motors to have a 1.15 service factor. Other motor types may have minimum 1.0 service factors.

E. All motors 1 HP and larger shall meet or exceed requirements of ASHRAE 90.1-2013.

F. All motors 1-1/2 HP and larger shall meet or exceed local utility requirements for high efficiency motors. Mechanical Contractor shall verify current requirements with utility.

G. All motors 1 HP and larger, except specially wound motors and inline pump motors 56 frame and smaller, to be high efficiency design with full load efficiencies which meet or exceed the values listed below when tested in accordance with NEMA Standard MG1-12.53a and MG1-12.53b. Motor efficiencies listed below are nominal. Minimum motor efficiencies shall not be less than the minimum efficiency as listed in Wisconsin Administrative Code, ILHR Chapter 63, Table 63.32.

MOTOR HP	FULL-LOAD NOMINAL EFFICIENCIES % (PREMIUM EFFICIENCY)					
	OPEN DRIP-PROOF			TOTALLY ENCLOSED FAN COOLED		
	1200 RPM 6-POLE	1800 RPM 4-POLE	3600 RPM 2-POLE	1200 RPM 6-POLE	1800 RPM 4-POLE	3600 RPM 2-POLE
1	82.5	85.5	77.0	82.5	85.5	77.0
1.5	86.5	86.5	84.0	87.5	86.5	84.0
2	87.5	86.5	85.5	88.5	86.5	85.5
3	88.5	89.5	85.5	89.5	89.5	86.5
5	89.5	89.5	86.5	89.5	89.5	88.5
7.5	90.2	91.0	88.5	91.0	91.7	89.5
10	91.7	91.7	89.5	91.0	91.7	90.2
15	91.7	93.0	90.2	91.7	92.4	91.0
20	92.4	93.0	91.0	91.7	93.0	91.0
25	93.0	93.6	91.7	93.0	93.6	91.7
30	93.6	94.1	91.7	93.0	93.6	91.7
40	94.1	94.1	92.4	94.1	94.1	92.4
50	94.1	94.5	93.0	94.1	94.5	93.0
60	94.5	95.0	93.6	94.5	95.0	93.6
75	94.5	95.0	93.6	94.5	95.4	93.6
100	95.0	95.4	93.6	95.0	95.4	94.1
125	95.0	95.4	94.1	95.0	95.4	95.0
150	95.4	95.8	94.1	95.8	95.8	95.0
200	95.4	95.8	95.0	95.8	96.2	95.4

2.02 MOTORS ON VARIABLE FREQUENCY DRIVES

A. All motors driven by VFDs shall be premium efficiency type as noted above.

B. Motors shall be designed for use with VFDs in variable torque applications with 1.15 service factor. Motors shall not be equipped with auxiliary blowers.

C. Motors driven by VFDs shall have Class F or H insulation and be designated by the motor manufacturer to be suitable for inverter duty service in accordance with NEMA MG 1 Section IV, “Performance Standards Applying to All Machines,” Part 31 “Definite-Purpose Inverter-Fed Polyphase Motors.”

D. Shaft Grounding Rings

1. All motors operated on variable frequency drives shall be equipped with a maintenance-free, conductive microfiber shaft grounding ring to meet NEMA MG-1, 3.4.4.4.3 requirements, with a minimum of two rows of circumferential microfibers to discharge damaging shaft voltages away from the bearings to ground. SGR’s Service Life: Designed to last for service life of motor. Product manufactured by AEGIS SGR Conductive MicroFiber Shaft Grounding Ring, Inpro/Seal CDR or approved equal.
2. Application Note: Motors up to 100 HP shall be provided with one shaft grounding ring installed on either the drive end or non-drive end. Motors over 100 HP shall be provided with an insulated bearing on the non-drive end and a shaft grounding ring on the drive end of the motor with the exception of line contact bearings in the drive end of the machine. In this instance the line contact bearing must be electrically insulated and the AEGIS Bearing Protection Ring installed on the opposite drive end of the motor. Grounding rings shall be provided and installed by the motor manufacturer or contractor and shall be installed in accordance with the shaft grounding ring manufacturer’s recommendations.

E. High Frequency Bonding

1. All motors operated on variable frequency drives shall be bonded from the motorfoot to system ground with a high-frequency ground strap made of flat braided, tinned copper with terminations to accommodate motor foot and system ground connection. Provide AEGIS HF Ground Straps, or equal.
2. Application Note: High-frequency grounding straps must be used to ensure the proper grounding of all inverter-driven induction motor frames.

2.03 SINGLE PHASE, SINGLE SPEED MOTORS

A. Use NEMA rated 115 volt, single phase, 60 hertz motors for all motors 1/3 HP and smaller. Include internal overloads.

B. Motors for fans that are 1/12 HP or greater and less than 1 HP shall be electronically-commutated motors or shall have a minimum motor efficiency of 70% when rated in accordance with DOE 10 CFR 431. These motors shall also have the means to adjust motor speed for either balancing or remote control. Belt-driven fans may sheave adjustments for airflow balancing in lieu of varying motor speed.

1. Exceptions:
   a) Motors in the airstream within fan-coils and terminal units that operate only when providing heating to the space served.
   b) Motors installed in space conditioning equipment certified under Section 6.4.12 or motors covered by Tables 10.8.d or 10.8.e of the ASHRAE Standard 90.1-2010.

2.04 ELECTRONICALLY COMMUTATED MOTORS (ECM)

A. Motor to be a brushless DC electronic commutation type motor (ECM) specifically designed for fan applications. AC induction type motors are not acceptable. Examples of unacceptable motors are: Shaded Pole, Permanent Split Capacitor (PSC), Split Phase, Capacitor Start and 3 phase induction type motors. Motors shall be permanently lubricated with heavy duty ball bearings to match the fan load and pre-wired to the specific voltage and phase. Internal motor circuitry shall convert AC power supplied to the fan to DC power to operate the motor. Motor shall be speed controllable down to 20% of full speed (80% turndown). Speed shall be controlled by either a potentiometer dial mounted at the motor or by a 0-10 VDC signal. Motor shall be a minimum of 85% efficient at all speeds.

B. Provide as Scheduled.

2.05 VARIABLE FREQUENCY DRIVE (VFD)

A. Based on product by ABB.

1. Equal products by Cutler Hammer, Danfoss, Franklin Electric, Hitachi, Louis Allis, Magnetech, Robicon, Siemens, Square D, Toshiba, Trane, VTAC, WEG, or Yaskawa are acceptable.

B. The variable frequency drive shall be sized to meet the horsepower requirements of the air handling unit listed in the schedules on drawing. Sizing shall be by the motor full load nameplate amps and not by nominal horsepower.

C. Units shall be suitable for input power of electrical system as scheduled on the drawings ±10%, 3 phase, 60 Hertz nominal.

D. Use a current limiting control device to limit output current to 110% continuous for one minute; also refer to Protection Features in this section. Full load output current available from drive shall not be less than motor nameplate amperage. The full load amp rating of the VFD shall not be less than the values indicated in the NEC Table 430-150.

E. Output power shall be suitable for driving standard NEMA B design, three phase alternating current induction motors at full rated speed with capability of 6:1 turndown.

F. Additional performance capabilities to include the following:

1. Ride through a momentary power outage of 15 cycles,
2. Start into a rotating load without damage to drive components or motor,
3. Capable of automatic restart into a rotating load after a preset, adjustable time delay following a power outage
4. Input power factor: Min 0.95 throughout the speed range
5. Minimum efficiency: 95% at 100% speed, 85% at 50% speed

G. The unit shall be U.L. listed, solid state, microprocessor based with a 6-pulse width modulated (PWM) output wave form (none others are acceptable).

H. The VFD shall employ a full wave bridge rectifier and capacitors to minimize the ripple of the rectified voltage to maintain near constant DC voltage. Insulated gate bipolar transistors (IGBT’s) shall be employed as the output switching device.

I. The NEMA-1 enclosure shall be provided with a hinged door with a door-mounted disconnect which must be thrown to the "off" position to gain access. Include power on and drive fault pilot lights and speed, power and ammeter digital indication on panel face. Include input fuses if required for UL rating. Provide the necessary heat sinks required to allow the unit to operate at full load at an ambient temperature of 40 degrees C.

1. All VFD’s shall have a disconnect on the cabinet door.

2. UL listed for minimum 100,000 amp SCCR.

J. Manual/auto selector switch chooses operation from the door mounted speed potentiometer to the automatic speed operation from a remote signal. The VFD package shall include semi-conductor rated input fuses to protect power components. Hand/Start, Off/Stop and Auto/Start selector switches shall be provided to start and stop the VFD and determine the speed reference. VFD's mounted inside an air handling unit section shall have an external disconnect located on the outside of the access door.

K. VFD automatically restarts the invertor after it has shutoff due to power outage or power dig. There is a time delay built into the system to allow the fan to coast to a stop before the control restarts after power has returned to within specifications. This time delay will be 60 seconds.

L. Provide the following features:

1. Adjustable acceleration/deceleration time.
2. Minimum and maximum frequency selector switch.
3. An auxiliary set of run contacts.
4. A signal to drive the variable air volume boxes 100% open for safety reasons during periods of manual mode.

M. Controller shall not add any current or voltage transients to the input AC power distribution system, DDC controls, sensitive equipment, etc., and shall not be affected by or from other devices on the AC power system. All VFD's shall include input line reactors. The reactors shall mount in the same enclosure as the VFD and shall be wired and tested at the factory. The reactors shall be sized such that when all drives are operating at full speed and full load, the total voltage distortion shall be 5% or less as measured at the load side of the service transformer per IEEE 519-1981.

1. Line reactor shall be a three phase inductor, iron core, 600V, Class H insulation, 115 degree C rise, copper windings with screw type terminal blocks.
2. Input line reactors and DC Bus filtered chokes (factory installed and wired in the drive enclosure) shall be provided to allow reliable operation on a typical commercial power distribution system and to minimize harmonics reflected onto the input line.
   a) Shall not interfere with computer and other electronic systems in the building.
   b) If not inherently protected, provide a suitable isolation transformer.
   c) The system shall not produce spikes on the incoming line.
3. Any inverter that generates sufficient electrical line noise to interfere with operation of sensitive building equipment shall be field modified or replaced by the inverter supplier at no additional cost to the Owner.

N. Additional Control Features:

1. Illuminated display keypad
2. Hand-Off-Automatic (HOA) selector switch to select local or remote start/stop and speed control
3. Analog input, selectable 0-10v or 4-20 mA, for automatic control from the temperature control system
4. Adjustable acceleration and deceleration rate so that the time period from start to full speed and from full speed to stop can be field adjusted
5. Adjustable minimum and maximum speed settings for both automatic and manual modes of operation
6. Field adjustment of minimum and maximum output frequency

7. Two (2) sets of programmable form “C” contacts for remote indication of variable frequency drive condition. Note: default programming to be set for “Drive Run & Fault”.
8. External Fault indicator
9. One (1) input for a N.O. dry contact type input for remote start/stop
10. One (1) input for a N.C. dry contact type input for external faults: (freezestats, fire alarm, smokes, etc).
11. One (1) N.O. dry contact output for proving motor status. This output shall be programmed to detect belt or coupling break that would remove the load from the motor. The dry contact will open on loss of load or VFD being off.
12. PID control loop capable of VFD control from an external device connected to a VFD analog input.

O. The VFD controller shall convert VFD information into protocol that will be compatible with Section 23 09 93, Building Automation System (BAS), supplied on the project. This output shall be through a serial interface port capable of two-way communication with the building BAS provided on this project. Final connection shall not require any additional intermediate gateway devices to provide throughput of data. The following data shall be provided at a minimum:
1. Fault condition
2. Speed
3. Amperage
4. Frequency
5. Voltage

P. Protection Features:
1. Use electronic protection circuitry in the power circuits to provide an orderly shutdown of the drive without blowing fuses or tripping circuit breakers and prevent component loss under the following abnormal conditions:
   a) Activation of any safety device;
   b) Instantaneous overcurrent and/or over voltage of output;
   c) Power line overvoltage and under voltage protection;
   d) Phase loss;
   e) Single and three phase short circuiting;
   f) Ground faults;
   g) Control circuit malfunction;
   h) Over temperature; and
   i) Output current over limit.
2. Provide the following additional protective features:
   a) Input drive fuses that are located ahead of the drive and are UL listed type fuses.
   b) Input transient overvoltage protection up to 3000 volts per ANSI 37.90A;
   c) DC bus fusing or other electronic controls which limit the rate of rise of the DC bus current and de-energizes the drive at a predetermined current level;
   d) Fusing for the control circuit transformer; and
   e) Grounded control chassis.
   f) All disconnect switches between VFD and motor(s) shall include an auxiliary contact interlock wired to the VFD fault trip input to shut down the drive upon opening of the disconnect main contacts.

PART 3: EXECUTION

3.01 INSTALLATION

A. Mount motors on a rigid base designed to accept a motor, using shims if required under each mounting foot to get a secure installation.

B. When motor will be flexible coupled to the driven device, mount coupling to the shafts in accordance with the coupling manufacturer's recommendations. Using a dial indicator, check angular misalignment of the two shafts; adjust motor position as necessary so that the angular misalignment of the shafts does not exceed 0.002 inches per inch diameter of the coupling hub. Again using the dial indicator, check the shaft for run-out to assure concentricity of the shafts; adjust as necessary so that run-out does not exceed 0.002 inch.

C. When motor will be connected to the driven device by means of a belt drive, mount sheaves on the appropriate shafts in accordance with the manufacturer's instructions. Use a straight edge to check alignment of the sheaves; reposition sheaves as necessary so that the straight edge contacts both sheave faces squarely. After sheaves are aligned, loosen the adjustable motor base so that the belt(s) can be added and tighten the base so that the belt tension is in accordance with the drive manufacturer's recommendations. Frequently recheck belt tension and adjust if necessary during the first day of operation and again after 80 hours of operation.

D. Verify the proper rotation of each three-phase motor as it is being wired or before the motor is energized for any reason.

E. Lubricate all motors requiring lubrication. Record lubrication material used and the frequency of use. Include this information in the maintenance manuals.

F. The Mechanical Trade shall confirm voltage requirements with the Electrical Trade prior to ordering equipment.

3.02 VARIABLE FREQUENCY DRIVES

A. All VFD’s on the project shall be from the same manufacturer, see requirements under PRODUCTS.

B. Interconnection with Building Automation System shall be under Section 23 09 14.

C. See schedule on plans for devices that are to be provided with a separate VFD.

D. Complete the installation as recommended by the manufacturer.

E. Mount VFD on a support stand or support from wall as required.

F. Provide factory trained start-up and training session with Owner's personnel at Project Site.

G. The VFD H-O-A switch on the cabinet door shall act as disconnect. Electrical Contractor shall wire VFD from a fuse or circuit breaker panel.

H. Power wiring shall be provided by Division 26, Electrical. Control wiring shall be provided by Section 23 09 14, Controls.

1. Input power wiring shall be installed in a separate conduit, output power wiring shall be installed in a separate conduit and control wiring shall be installed in a separate conduit. Do not mix input power, output power, or control wiring in a common conduit. Separate conduits for input and output power wiring shall be provided for each motor. Input and output power wiring for more than one motor shall not share a common conduit. If provided, do not mount output line filter above the drive.

3.03 MOTORS ON VARIABLE FREQUENCY DRIVES

A. Shaft Grounding (All Motors With Variable Frequency Drives)

1. The shaft grounding system shall reduce the shaft to frame voltage below 3 volts, have low drag, and be field installable with hand held tools. Require no periodic adjustments or maintenance for a running life of five to ten years at speeds up to 1800 RPM.
   a) The grounding brush element must be changeable without shutting down or using special tools.

B. Shaft Grounding Brushes

1. Provide brush style bearing protection to bleed current from the motor shaft to the motor casing to suit motor application. Brushes shall be field replaceable and utilize a high conductivity and low contact resistance silver graphite brush grade K007 and must have a consistent force spring and holder system to maintain positive contact.
2. Manufacturers: Shaft Grounding Systems (SGS), Helwig Carbon Bearing Protection Kits (BPK), or equal.

C. Shaft Grounding Rings

1. Shaft Grounding Rings (SGR) shall be factory installed inside the motors by the manufacturer wherever possible.
   a) SGR's may be field installed by installing contractor subject to Engineer's approval. Provide AEGIS SGR Colloidal Silver Shaft Coating, or approved equal, on shafts prior to rings installation, per SGR manufacturer's recommendations, after first cleaning shafts.
2. Install and test SGR's in accordance with manufacturer's recommendations. Install the SGR so that the aluminum frame maintains an even clearance around the shaft. Conductive microfibers shall be in full circumferential contact with conductive metal surface of the shaft. Do not use thread lock to secure the mounting screws as it may compromise the conductive path to ground. If thread lock is required, use a small amount of EP2400 AEGIS Conductive Epoxy, or approved equal, to secure the screws in place.
3. Shafts shall be clean and free of any coatings, paint, or other nonconductive material (clean to bare metal). Depending upon the condition of the shaft, it may require using emery cloth or Scotch-Brite. If the shaft is visibly clean, a nonpetroleum based solvent may be used to remove any residue. Check the conductivity of the shaft using an ohm meter.
   a) Ohms test: Place the positive and negative meter leads on the shaft at a place where the microfibers will contact the shaft. Each motor will have a different reading but in general one should have a maximum reading of less than 2 ohms. If the reading is higher, clean the shaft again and retest.

D. Motor Testing

1. After motors with SGR are fully installed in the field (in equipment, assemblies, or individually), for both factory-installed-SGR and field-installed-SGR cases, test for a conductive path to ground using an Ohm meter. Place one probe on metal frame of SGR and one probe on motor frame. Motor must be grounded to common earth ground with variable frequency drive according to applicable standards. Verify that SGR installations and test readings comply with SGR manufacturer's requirements.

3.04 WIRING

A. Wiring under Division 26, Electrical. Electrical Contractor shall furnish and install all power wiring from panel board to motors and junction boxes in factory-assembled units.

B. Refer to Equipment Schedules on Plans for appropriate motor horsepower required.

C. Refer to Division 26, Electrical for electrical circuit size and wiring. If the circuit size and wiring are not acceptable, any change in wire size and circuit breaker size shall be included under this Section. Coordinate with Electrical Trade.

D. Electrical Contractor shall furnish and install all fused and/or circuit breaker disconnect switches, except as indicated otherwise for VFD.

E. Electrical Contractor shall install all starters in cooperation with and under the supervision of the Mechanical Contractor.

END OF SECTION 23 05 13

SECTION 23 05 93
BALANCING SYSTEMS: WATER/AIR

PART 1: GENERAL

1.01 RELATED DOCUMENTS

A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

B. The requirements of Section 23 05 00 apply to this Section.

1.02 SCOPE

A. Include total system air balancing and testing, as follows:

1. Adjust and balance complete mechanical system as hereinafter specified.
2. Record all data in bound report brochure, indexed and itemized relative to equipment, outlets and system.
3. After all work of this project is completed by other contractors, make all required adjustments and do all work specified below and submit Final Report.

B. Air balance includes the following devices:

1. Fans

1.03 SUBMITTALS

A. Submit in accord with Section 01 30 00.

B. Submit name the name of adjusting and balancing agency for approval within 30 days after award of Contract.

C. Provide reports in letter size, 3-ring binder manuals, complete with index page and indexing tabs, with cover identification at front and side, neatly typed.

D. Certified Test and Balance Report shall include:

1. Cover Sheet.
2. Certification page, signed and sealed.
3. Instrument Calibration Report.
4. Synopsis of work performed and conditions encountered.
5. Test date and reading by on all sheets.
6. All data listed in Part 3 - Execution, Balance Data. In a format approved by NEBB or AABC.
7. Air Systems.
   a) System Diagram showing pressures at locations indicated on Fan Equipment Report.
   b) Air Apparatus Test Report including equipment type used to measure CFM's.

1.04 RELATED SECTIONS

A. Section 23 36 00 - Air Terminal Units

B. Section 23 37 13 - Grilles, Registers and Diffusers

1.05 REFERENCE STANDARDS

A. AABC National Standards for Field Measurement and Instrumentation, Total System Balance.

B. ASHRAE 1995 Applications Handbook: Chapter 34, Testing, Adjusting and Balancing.

C. NEBB Procedural Standards for Testing, Balancing and Adjusting of Environmental Systems.

1.06 ADDITIONAL WARRANTY

A. For a period of one year this contractor shall include the time and equipment to verify the performance of up to 20% of the balanced items and make adjustments as required.

B. This work shall be completed in the presence of the Owner or Engineer.

PART 2: PRODUCTS

2.01 SERVICE FIRMS

A. Contractor shall be NEBB or A.A.B.C. certified and specialize in balancing field. Contractor shall provide all labor, engineering, test equipment, ladders and scaffolding required. All personnel involved in the execution of the work shall be experienced and factory trained in the total balancing of mechanical systems, as well as being regular employees of the balancer.

1. The Balancing Contractor shall be an independent contractor from the Mechanical Contractor performing the installation of the mechanical systems.

2.02 SERVICE

A. Contractor will balance to the values established by the Drawings and Specifications.

B. For hydronic systems, the balancing fittings (stations) will be furnished and installed in piping under Section 23 21 16.

C. Balancing shall not begin until the systems have been completed, cleaned and are in full working order.

D. Balancer shall coordinate and work with the Temperature Control installer, (Section 23 09 93) in establishing system operating conditions.

E. Reports shall be signed by a Certified Supervisor.

2.03 TEST EQUIPMENT

A. Test equipment furnished by the Contractor will remain his property. All instruments will have been calibrated recently verification of calibration provided with submittal data.

B. Check that all equipment is operating properly and lubricated.

PART 3: EXECUTION

3.01 GENERAL

A. Balancing shall not begin until the systems have been completed, cleaned and are in full working order.

B. Balancing Contractor shall coordinate and work with the Control Contractor in establishing system operating conditions.

C. TAB ISSUES: At time of balancing notify appropriate party of problems related to calibrated balancing valve access so that corrections can be made in a timely fashion. If there are major concerns as to the performance of the systems notify the engineer before the final report is issued so that solutions can be implemented prior to occupancy.

D. VOLUME BY TEMPERATURE DIFFERENCE: If air or water volumes are calculated through temperature difference include the temperatures of the fluid streams used in the calculation and the equation used in the report.

1. A minimum of 20 degree F temperature difference between OAT and RAT is recommended for accuracy.

3.02 TEST AND BALANCING PROCEDURE FOR AIR

A. Provide outdoor dry and wet bulb temperatures, wind direction and velocity, and barometric pressure at the time tests are conducted on all supply fans.

B. Do not adjust total air volume of system with volume dampers alone. Adjust adjustable sheaves on units provided with them. Replace non-adjustable sheaves as required to obtain flows and pressures listed.

C. Before commencing work, verify that systems are complete and operable. Ensure the following:

1. Determine that all air handling systems are free of obstructions.
2. Temperature control systems are installed complete and operable.
3. Final filters are clean and in place.
4. Correct fan rotation.
5. Fire, smoke and volume dampers are in place and open.
6. Coil fins have been cleaned and combed.
7. Access doors are closed and duct end caps are in place.
8. Air outlets are installed and connected.
9. Duct system leakage has been minimized

D. Start with all dampers and grilles fully open. Check that filters are installed and clean.

E. Measure supply air volumes by means of duct traverse method, taking a minimum of sixteen (16) readings. Test holes shall be in a straight duct, as far as possible downstream from the elbows, bends, take-offs and other turbulence generating devices, to optimize reliability of flow measurements. Seal duct access holes with plastic or metal snap-in plugs. The use of duct tape to seal access holes will not be permitted.

F. Adjust balancing dampers for required branch duct air quantities.

G. Adjust grilles and diffusers to within minus 5% to plus 10% of individual requirements specified for air quantities greater than 300 CFM and zero to plus 15% for air quantities 300 CFM or less. Adjust to minimize drafts in all areas.

H. FILTERS: Simulate design pressure drops on filters for systems with a design airflow over 2000 CFM by covering up portions of the surface. Design (mid-life) pressure drop for:

- 1”-2” disposable media filters (MERV 1-4) is 0.25” w.g.
- 2” deep <20% dust spot, pleated filters (MERV 5-6) is 0.40” w.g.
- 2” deep 25-35% dust spot, pleated filters (MERV 7-8) is 0.55” w.g.
- 4” deep 45-50% dust spot, pleated filters (MERV 9) is 0.60” w.g.
- 4” deep 50-65% dust spot, pleated filters (MERV 10-11) is 0.65” w.g.

- 50-65% dust spot, 12” deep rigid cell & pocket (MERV 10-11) is 0.65” w.g.
- 80-95% dust spot, 12” deep rigid cell & pocket (MERV 13-14) is 0.75” w.g.
- 12” deep 95% DOP rigid cell (MERV 16) is 1.5” w.g.
- 12” deep 99.97% HEPA rigid cell is 2.0” w.g.

I. Total air delivery in any particular fan system shall be obtained by adjustment of the fan speed. The drive motor of each fan shall not be loaded over the corrected full load amperage rating of the motor involved.

3.03 CHANGES/ADJUSTMENTS

A. Any changes that are required for the final balancing results shall be provided for by the respective Contractors who supply and install the equipment, except changing of pulleys, belts and providing additional access holes, which shall be done under this Section, at no additional cost to the Owner.

3.04 BALANCING DATA

A. System report shall include the following information:
   1. Fans:
      a) Manufacturer, size and H.P.
      b) Amperage (nameplate, corrected full load and final operating).
      c) Motor current characteristics, starter size, heater size.
      d) Fan RPM (design and final operating); [maximum and minimum for VAV].
      e) Brake horsepower.
      f) Fan CFM (design and final operating).
      g) Fan suction, discharge and total static pressure (design and final operating).
      h) Method by which CFM was determined.
      i) VFD speed
   2. Duct Traverse:
      a) Total CFM, duct static pressure, air temperature and area.
      b) Inside duct dimensions.
      c) Duct section showing velocities at given points.
      d) Total number of points and average velocity

3.05 FINAL ADJUSTMENT

A. The Contractor shall work with other Trades, after initial balancing is completed, in an effort to resolve any air or water quantity shortage or other problems apparent after review of data.

B. Determine cause of problem and suggest remedy.

C. Should remedial action be required, continue balancing only after corrective action is completed.

D. Do not submit balancing report until all air volume or GPM water flows measured are within design percentages as noted above.

E. Reinstall all insulating covers on pipe balancing stations.

F. Include duct leakage test results with air balance report.

3.06 OPPOSITE SEASON TEST

A. The balancing agency shall perform an inspection of the HVAC system during the opposite season from that in which the initial adjustments were made. The balancing agency shall make any necessary modifications to the initial adjustments to produce optimum system operation.

END OF SECTION 23 05 93

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SECTION 23 31 00
DUCTWORK

PART 1: GENERAL

1.01 RELATED DOCUMENTS

A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

B. The requirements of Section 23 05 00 apply to this Section.

C. See Section 23 37 16 Fabric Ductwork.

1.02 REFERENCE STANDARDS

A. ANSI/ASTM B209 Specification for Aluminum and Aluminum-Alloy Sheet and Plate

B. ASTM A90 Test Method for Weight of Coating on Zinc-Coated (Galvanized) Iron or Steel Articles

C. ASTM A167 Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip

D. ASTM A525 Specification for General Requirements for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Commercial Quality

E. ASTM A527 Specification for General Requirements for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Lock-Forming Quality

F. NFPA 90A Standard for the Installation of Air Conditioning and Ventilating Systems

G. UL 181 Standard for Safety for Factory-Made Air Ducts and Air Connectors

H. UL 181 B-M Standard for Safety for Duct Sealant for Flexible Ductwork

I. UL 723 Standard for Safety for Surface Burning Characteristics of Building Materials

1.03 SUBMITTALS

A. Submit in accord with Section 01 30 00.

1. Shop drawings and descriptive product data describing all material furnished under Part 2 of this Section.
   a) Schedule of duct systems including material of construction, gauge, pressure class, system class, method of reinforcement, joint construction, fitting construction, and support methods, all with details as appropriate.
   b) Duct sealant and gasket material.
   c) Flexible ductwork.
2. Installation and Maintenance Data: For underground ducts include installation and maintenance manuals.
   a) Instructions for proper backfilling and precautions.

1.04 DESIGN CRITERIA

A. Construct all ductwork to be free from vibration, chatter, objectionable pulsations and leakage under specified operating conditions.

B. Use material, weight, thickness, gauge, construction and installation methods as outlined in the following SMACNA publications, unless noted otherwise:

- HVAC Duct Construction Standards, Metal and Flexible, 3rd Edition, 2005

- HVAC Air Duct Leakage Test Manual, 2nd Edition, 2012
- HVAC Systems - Duct Design, 4th Edition, 2006
- Rectangular Industrial Duct Construction Standard, 2nd Edition, 2004
- Round Industrial Duct Construction Standards, 2nd Edition, 1999
- Thermoplastic Duct (PVC) Construction Manual, 2nd Edition, 1995
- HVAC Phenolic Duct Construction Standards

C. Use products which conform to NFPA 90A, possessing a flame spread rating of not over 25 and a smoke developed rating no higher than 50.

PART 2: PRODUCTS

2.01 GENERAL

A. All sheet metal used for construction of duct shall be 24 gauge or heavier except for round and spiral ductwork and spiral duct take-offs 12” and below may be 26 gauge where allowed in SMACNA HVAC Duct Construction Standards, Metal and Flexible, 3rd Edition, 2005.

B. Duct sizes indicated on plans are net inside dimensions; where duct liner is specified, dimensions are net, inside of liner.

C. All materials for ductwork, securing methods, hangers, etc. shall be of approved materials that are compatible with the ductwork and that will not promote galvanic action.

2.02 LOW PRESSURE SHEETMETAL DUCTWORK

A. 1800 FPM maximum velocity, 2" W.C. maximum duct static pressure.

B. Sheet metal ducts shall be constructed of standard galvanized steel (iron) sheets of sizes indicated on working drawings.

C. Where specified, aluminum "utility sheet" ductwork shall be used.

D. Low velocity ductwork shall be of materials and construction outlined in the latest edition of the SMACNA Duct Manual "Low Pressure Duct Construction Standards" or ASHRAE Guide chapters "Duct Design" and "Duct Construction".

E. Materials

1. Galvanized Steel Sheet:
   a) Use ASTM A525 or ASTM A527 galvanized steel sheet of lock forming quality. Galvanized coating to be 1.25 ounces per square foot, both sides of sheet, G90 in accordance with ASTM A90.
2. Aluminum Sheet:
   a) Use ANSI/ASTM B209 aluminum sheet, alloy 3003H-14, capable of double seaming without fracture.

F. All couplings shall be slip-joint construction with a minimum 2 inches insertion length. Seal all couplings with sealants as specified.

G. Sheet metal used shall not be lighter than the following gauges; unless conforming to above standards for reinforcing and spacing.

Round Ducts	U.S. Std. Gauge	Rectangular Ducts	B.&S. Gauge
-	26	1-12 inches	0.020
1-10 inches	24	13-30 inches	0.025
11-20 inches	22	31-54 inches	0.032
21-40 inches	20	55-84 inches	0.040
41-60 inches	18	85-96 inches	0.051

Kitchen range hood 16 or 18 S.S.

H. Round low velocity ducts may be spiral seam construction as manufactured by Semco or United Sheet Metal. Spirally wound metal ducts shall be constructed to provide structural strength equal to rectangular ducts. The metal may be one standard gauge lighter than required for round ducts.

I. Fabricate and install ductwork in sizes indicated on the drawings and in accordance with SMACNA recommendations.

J. Construct so that all interior surfaces are smooth. Use slip and drive or flanged and bolted construction when fabricating rectangular ductwork. Use riveted construction when fabricating round spiral ductwork. Sheet metal screws may be used on duct hangers, transverse joints and other SMACNA approved locations if the screw does not extend more than 1/2 inch into the duct.

K. Use stamped or welded 5-gore (minimum) elbows and tees with a center line radius to width or diameter ratio of 1.5 wherever space permits. When a shorter radius must be used due to limited space, install single wall sheet metal splitter vanes in accordance with SMACNA publications, Type RE 3. Where space will not allow and the C value of the radius elbow, as given in SMACNA publications, exceeds 0.31, use rectangular mitered elbows with turning vanes as specified in Section 23 33 00. Square throat-radius heel elbows will not be acceptable. Straight taps or bullhead tees are not acceptable. Pleated or adjustable elbows not allowed.

L. Where rectangular mitered elbows are used, provide turning vanes in accordance with Section 23 33 00.

M. Provide flanged high efficiency take-offs (See Section 23 33 00) or flanged conical fittings for round branch duct connections or 45 degree entry fittings. Square edge 90 degree take-off fittings or straight taps will not be accepted.

N. Button punch snaplock construction will not be accepted on aluminum ductwork.

O. Round ducts may be substituted for rectangular ducts if sized in accordance with ASHRAE table of equivalent rectangular and round ducts.

1. Construct ducts in accordance with Section 3 of the 2005 SMACNA Manual, “HVAC Duct Construction Standards, Metal & Flexible” Third Edition.
2. For duct construction pressure 2” w.g. or below and 12” diameter or less:
   a) Round low velocity ductwork shall be self-locking, presealed snaplock pipe which incorporates a factory applied E.P.D.M. gasket on the longitudinal and transverse joints. Snaplock pipe shall be “Greenseam +” as manufactured by Ductmate Industries or approved equal.
   b) All other round duct sizes shall be spiral lock construction.

P. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible. Divergence upstream of equipment shall not exceed 30 degrees; convergence downstream shall not exceed 45 degrees.

2.03 DUCTMATE SYSTEM

A. Based on a product by Ductmate Industries.

1. Nexus or Ward equals are acceptable.

B. Ductmate system conforming to SMACNA Class J traverse joint and SMACNA Class F joint, may be substituted under Articles 2.02 and 2.03 above. Installation shall be as recommended by manufacturer and as per SMACNA Installation Standards. Duct constructed using these systems will refer to the manufacturers guidelines for sheet gauge, intermediate reinforcement size and spacing, and joint reinforcements.

C. Formed on flanges (T.D.C./T.D.F./T-25A/T-25B) shall be accepted. Formed on flanges will be constructed as SMACNA T-25 flanges, whose limits are defined in the SMACNA Manual. No other construction pertaining to formed on flanges, will be accepted. Formed on flanges shall be accepted for use on ductwork 42" wide or less and 2" static positive or less and must include the use of corners, bolts and cleat. (Over 42", the reinforcement/joint deflection criteria no longer conform to the UMC).

2.04 LOW VELOCITY FLEXIBLE DUCT (INSULATED) (LOW TO HIGH PRESS.)

A. Based on a product by Thermaflex.

1. Flexmaster, Genflex, and JPL equals are acceptable.

B. Thermaflex Type M-KE: Flexible duct shall have spring steel helix bonded to a resilient calendered polyethylene film inner liner, wrapped with fiberglass insulation and covered with a low permeability outer vapor barrier of fiberglass scrim reinforced aluminized polyester film outer jacket. Vapor barrier permeance of 0.05 Perm per ASTM. 10 Year Warranty.

C. Insulation thermal conductivity:

1. R=6.0/K=0.24 at 75 degrees F. and 2 inch thick.

D. Maximum velocity 5,000 FPM, maximum temperature 250□F; operating pressure 10.0" W.G. positive, through 12" I.D., and 6.0" W.G. positive, 14" and 16" I.D. Operating pressure 1.0" W.G. negative through 12" I.D. and 0.5" W.G. negative 14" and 16" I.D. Maximum length shall not exceed 4 feet.

E. Product must meet U.L.-181, Class 1 connector and shall comply with NFPA 90A and 90B.

2.05 EXHAUST DUCT (MOISTURE LADEN AIR)

A. Exhaust ducts conveying moisture laden air, other than dishwasher exhaust, to be constructed of sheet aluminum in accordance with SMACNA standards.

B. Seal or weld all joints and seams watertight.

2.06 CORROSION RESISTANT DUCTWORK

A. PVC sheet plastic ducts or PVS coated steel ducts, constructed with PVS coated steel seams, slips and drives. Conform to SMACNA Thermoplastic Duct Manual for PVC ductwork.

B. Ductwork shall be of same gauges as specified above for galvanized steel ducts.

C. Use a waterproof caulking compound, EC-800 joint caulking DuroDyne, Hardcast, Tuff-Bond #12 or 3M high pressure duct sealant, at all joints in ductwork. In addition, provide duct tape to outside of all joints. Ducts to be watertight.

2.07 DUCT SEALANT

A. Manufacturer: 3M 800, 3M 900, H.B. Fuller/Foster, Hardcast, Lockformer cold sealant, Mon-Eco Industries, United Sheet Metal, or approved equal.

B. Install sealants in strict accordance with manufacturer's recommendations, paying special attention to temperature limitations. Allow sealant to fully cure before pressure testing of ductwork, or before startup of air handling systems.

C. **ALL DUCTS** shall be mechanically fastened and sealed with UL Listed Sealants under IECC 503.2.7. Duct tape will not be allowed unless it is UL Listed.

2.08 GASKETS

A. 2 inch Pressure Class and lower: Soft neoprene gaskets in combination with duct sealant for flanged joints.

2.09 EXTERIOR SEALANTS AND GASKETS

A. Same as for interior ducts, but use only products rated from -20 to 200 Degrees F and 2000 hour minimum UV resistance per ASTM G53.

PART 3: EXECUTION

3.01 GENERAL INSTALLATION

A. Duct sizes indicated on Drawings are Inside Free Area Required. Ducts requiring interior insulation liners shall have duct sizes increased the liner thickness.

B. Verify dimensions at the site, making field measurements and drawings necessary for fabrication and erection. Check plans showing work of other trades and consult with Architect in the event of any interference.

C. Make allowances for beams, pipes or other obstructions in building construction and for work of other contractors. Transform, divide or offset ducts as required, in accordance with SMACNA. Where it is necessary to take pipes or similar obstructions through ducts, construct easement as indicated in SMACNA HVAC Duct Construction Standards. In all cases, seal to prevent air leakage. Pipes or similar obstructions may not pass through high pressure or fume exhaust ductwork.

D. Test openings for test and balance work will be provided under Section 23 05 93.

E. Include all supplemental angles, channels, etc. of adequate size and design where supports shall be required between building structural members for hanging ductwork. Ductwork shall be supported from the top chord of joists.

F. Provide frames constructed of angles or channels for coils, filters, dampers or other devices installed in duct systems, and make all connections to such equipment including equipment furnished by others. Secure frames with gaskets and screws or nut, bolts and washers.

G. Hangers must be wrapped around bottom edge of duct and securely fastened to duct with sheet metal screws or pop rivets. Trapeze hangers may be used at contractor's option

H. Install duct to pitch toward outside air intakes and drain to outside of building. Solder or seal seams to form watertight joints.

I. Where two different metal ducts meet, the joint shall be installed in such a manner that metal ducts do not contact each other by using proper seal or compound.

J. Install all motor operated dampers and connect to all equipment furnished by others. Blank off all unused portions of louvers, as indicated on the drawings, with 2 inch board insulation with galvanized sheet metal backing on both sides.

K. Do not install ductwork through dedicated electrical rooms or spaces unless the ductwork is serving this room or space.

L. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.

M. During construction provide temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.

N. Use double nuts and lock washers on threaded rod supports for all ducts.

O. All ducts serving shower exhaust systems shall have soldered joints, pitched to drain. Ductwork may be galvanized steel or aluminum, with watertight joints, caulked and taped.

P. Fill all openings in walls, floors and ceilings, between ductwork and structure with non-combustible insulation packing where ducts pass through same.

Q. Ductwork at connection to reheat coils shall be arranged with flange offset, whenever interior liners are used. Liner shall be flush on inside and not butt against reheat coil heating fins or electric element.

3.02 DUCTWORK

A. Ducts shall be constructed, supported and installed, with duct connections and joints, (slips, seals, locks and angles) in accordance with the latest recommendations of the American Society of Heating, Refrigeration and Air Conditioning Engineer's Guide (ASHRAE), Chapters "Duct Design" and "Duct Construction"; or SMACNA Low and High Pressure Duct Construction Standards, latest edition.

B. Factory fabricated medium pressure ductwork and accessories shall conform to United or Semco recommendations, where in excess of above requirements.

C. Static Pressure Classes

1. Unless otherwise indicated, construct ducts according to the following:
   a) Supply Ducts (downstream of air terminal units): 2-inch wg.
   b) Supply Ducts (upstream of air terminal units): 4-inch wg.
   c) Supply Ducts (in Mechanical Equipment Rooms): 4-inch wg.
   d) Return/Exhaust Ducts (Negative Pressure): 2-inch wg.
   e) Mixed Air Ducts (Negative Pressure): 4-inch wg.
   f) Outdoor Air Ducts (Negative Pressure): 4-inch wg.

D. Low Pressure Ductwork:

1. Seal all duct in accordance with SMACNA seal class "A"; all seams, joints, and penetrations shall be sealed.
2. Rectangular ducts with sheet sizes 14 inches and larger shall be cross-broken except where inside liners are applied.
3. Where changes are made in shape of duct, full free areas shall be maintained, tapering joints reduced gradually.
4. Fittings shall be constructed of the same gauges indicated for duct sizes. Long sweep elbows shall be used with radius of throat at least 1.5x width of the elbow. Where this construction cannot be provided, use square elbows with commercial turning vanes.
5. All round ducts shall be constructed with flat locked longitudinal seams and lateral joints lapped in the direction of the airflow. Each lateral joint shall be fastened every five inches in circumferential girth but in no case less than four times in the girth. Each lapped joint shall be securely sealed against leakage by a UL 723 Classified duct sealant.
6. Large ductwork near floor in equipment rooms may be supported with horizontal angles resting on steel floor standards.

7. Install low pressure flexible duct, where indicated on Drawings. The flexible ductwork installation shall comply with the manufacturer's recommendations. The inner duct surface shall first be wrapped with duct tape and then the banding applied over the duct tape to prevent possible cutting of the inner duct surface during the banding process or by the band. Sheetmetal screws shall not be permitted. Exterior insulation shall then be wrapped with duct tape or banded.
8. Connect grilles, registers, and diffusers to branch ductwork with low pressure duct and low pressure flexible duct.
   a) Maximum installed flexible length - 4 feet.
   b) Do not crimp or crush duct.
   c) Hang duct to provide uniform airflow, using plastic straps, 4 feet on center.

3.03 DUCTWORK SUPPORT

A. Support ductwork in accordance with SMACNA HVAC Duct Construction Standards, Figure 5-5, except supporting ductwork with secure wire method is not allowed.

B. Support with 3/32 inch, 7 x 7, stainless steel air-craft cable, with matching serrated spring loaded wedge mechanism fasteners rated for actual load. Steel cable hanging systems will be allowed on round ductwork under 12 inches diameter if installed utilizing two fasteners with two cable loops. Comply with the manufacturer's installation instructions.

C. Hanger Spacing: Comply with SMACNA's 2005 "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1 (Table 5-1M), "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct," for maximum hanger spacing; install hangers and supports within 24 inches of each elbow and within 48 inches of each branch intersection.

3.04 DUCT CONNECTIONS

A. Ductwork connecting to all fans and blowers shall have at least two (2) fan diameters of straight duct at fan outlets and inlets, before any turns, transitions or duct size changes are made. Duct connection shall be same size as fan outlet or inlet.

B. See Flexible Connections in Section 23 33 00 Duct Accessories.

C. Where more than one outlet is involved, above comments apply and at point 2 fan diameters downstream, the ducts shall be jointed to form "pants". Common discharge shall continue from point of juncture for at least two additional fan diameters before changing size or direction.

D. If greater distances are indicated on drawings, they shall govern.

E. If this method of construction cannot be completed, the A/E shall be contacted before proceeding.

3.05 OUTLETS

A. Make connections to and provide for all grilles, diffusers and other outlets. Install a manual balancing damper in each branch duct for each diffuser or grille. Balancing damper shall be installed just after high-efficiency takeoff and shall include extended operator handle when installed on insulated ductwork. The use of splitter dampers, extractors, or grille face dampers will not be accepted for balancing dampers.

3.06 EXHAUST DUCT (MOISTURE LADEN AIR)

A. Pitch duct to drain back to equipment or exhaust grille.

B. Provide watertight drain pan at low points or at locations where moisture may collect. Pipe drain pan to nearest floor drain.

C. Systems that require Aluminum Ductwork:

1. Shower room PRVs

3.07 CLEANING

A. Interior surfaces shall be free of dust and debris prior to initial startup. Protect equipment which may be harmed by excessive dirt with filters, or bypass during cleaning. Provide adequate access into ductwork for cleaning purposes. Any cleaning of duct systems shall comply with recommendations of NAIMA and NADCA.

B. Protect ductwork against entry of foreign matter during construction.

C. When internally cleaning duct work prior to installation or shipment to the jobsite, all duct ends and openings must be covered prior to transporting with a dual Polyethylene protective film. Film must be securely affixed to protect against dirt and debris and must be translucent to facilitate inspection of interior surfaces without removing film. Film must have a minimum elongation of 600%, contain no VOC and leave no residue on duct after removal. Manufacturer: Ductmate Industries ProGuard or approved equal.

D. Clean external surfaces of foreign substances that might cause corrosion, deterioration of the metal, or where ductwork is to be painted.

E. Remove all dirt and foreign matter from the entire duct system and clean diffusers, registers and grilles before operating fans.

F. Provide temporary capping of ductwork to prevent entry of foreign matter during construction.

G. Clean duct systems with high power vacuum machines. Protect equipment that may be harmed by excessive dirt with filters, or bypass during cleaning. Provide adequate access into ductwork for cleaning purposes.

H. Clean existing ductwork as specified in Section 23 01 30 HVAC Air Duct Cleaning.

3.08 BALANCING/AIR

A. The Sheet Metal Subcontractor shall be responsible to make changes in dampers where necessary to obtain the required air volume as determined by the Balancing Contractor. Refer to Balancing Systems, Section 23 05 93.

B. All ductwork and coils shall be cleaned and left free of loose insulation and construction debris.

C. All filters new and existing shall be cleaned or replaced just prior to final balancing.

D. All fans shall be initially started, lubricated and balanced to eliminate noise and vibration.

E. The Contractor shall supply and install all balancing and adjusting dampers shown and as required to obtain final system balance.

END OF SECTION 23 31 00

SECTION 23 33 00
AIR DUCT ACCESSORIES

PART 1: GENERAL

1.01 RELATED DOCUMENTS

A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

B. The requirements of Section 23 05 00 apply to this Section.

1.02 SUBMITTALS

A. Submit in accord with Section 01 30 00.

1. Shop drawings and descriptive product data describing all material furnished under Part 2 of this Section.
2. Indicate on submittal the specific product intended to be used on project not just a catalog of various products available.

PART 2: PRODUCTS

2.01 TURNING VANES

A. Based on products by Aero Dyne.

1. Agitair, Carnes, Reliable Metal, Titus, or Tuttle and Bailey equals are acceptable.

B. "Air Turns", factory fabricated, designed to give low pressure loss in square corner ducts.

C. Construct turning vanes and runners for square elbows in accordance with SMACNA Fig. 2-3 and Fig. 2-4 except use only airfoil type vanes. Construct turning vanes for short radius elbows and elbows where one dimension changes in the turn in accordance with SMACNA Fig. 2-5 and Fig. 2-6.

2.02 HIGH EFFICIENCY TAKEOFFS

A. Based on product by Sheet Metal Connectors Hi-Efficiency Takeoff Super HETO with 2" Standoff and E-Z Flange or equal.

B. All rectangular to round branch duct takeoffs shall be die stamped designed with a rectangular opening and an approximate 45° slope on the body. A flange is turned out on all four sides with each corner being filled. The flange shall be gasketed at main duct to assure a tight seal meeting SMACNA Leakage Class 3.



C. Takeoffs shall be fabricated from both 26 and 24 gauge galvanized steel and be pressure rated for minimum -1" w.g. to +2" w.g.. The fittings shall come with or without volume dampers and damper stand-off equal to insulation thickness for all insulated ductwork systems.

D. For high efficiency takeoffs installed in medium/high pressure ductwork (over 3" w.c.), fittings shall be pressure rated to the system they are installed in.

2.03 DAMPERS

A. Based on product by Air Balance, Cesco-Advanced, Greenheck, Nailor, Ruskin, Semco, United Sheet Metal or Young Regulator Company.

B. Dampers must be constructed in accordance with SMACNA Fig. 2-12, Fig. 2-13, and notes relating to these figures, except as modified below.

C. Reinforce all blades to prevent vibration, flutter, or other noise. Construct dampers in multiple sections with mullions where width is over 48 inches. Use rivets or tack welds to secure individual components; sheet metal screws will not be accepted. Provide operators with locking devices and damper position indicators for each damper; use an elevated platform on insulated ducts. Provide end bearings or bushings for all volume damper rods penetrating ductwork constructed to a 3" w.c. pressure class or above.

D. Dampers used for balancing shall be opposed blade type.

2.04 ROUND VOLUME DAMPERS

A. Furnish and install volume dampers in branches of supply, return and exhaust ducts and other locations where shown. Volume dampers shall be fitted with **full-length rods** and **manual locking quadrants**. CESCO, Inc., Model C200VCRD or equal.



This Design



NOT THIS

1. Provide 2” insulation stand-off on ductwork to be insulated.

2.05 AUTOMATIC BALANCING DAMPERS / CONSTANT AIRFLOW REGULATORS

A. Based on Greenheck model ABD.

1. Equal products from Ruskin, Aldes, Automatic Airflow balancing, Nailor and RenewAire are acceptable.

B. Dampers shall respond automatically to changes in duct pressure without the need for a power supply. Dampers shall meet be tested, rated, and labeled in accordance with the latest edition of UL Standard 2043 for heat and visible smoke release.

C. Dampers shall incorporate a hand-operated manual set-point adjustment feature that allows for field adjustment without the use of tools. All set points shall operate within +/- 10% of the air flow set point. Individual set points shall be laboratory calibrated and tested in accordance with AMCA 500-D-12, Figure 1.

D. Damper frame and blades shall consist of reinforced UL 94 thermoplastic resins, infused with Steri-BalanceTM anti-microbial agent. Bearings shall be hydraulic blade dampener. Outer damper seal shall be removable rubber gasket-type around circumference of damper. Damper spring shall be stainless steel leaf type.

E. Dampers shall be suitable for pressures up to 2 in. wg (.50 kPa), velocities up to 275 CFM (.130 m3/s), and temperatures ranging from 25° (-4°C) to 150°F (65°C).

2.06 FLEXIBLE CONNECTIONS

A. Duct connections to equipment shall be made with metal-edged coated fabric with a minimum of 3” of fabric, fire retardant, UL 214 listed, and meet the requirements of NFPA 90A. Fabric shall be air-tight and water-tight. Metal edges to match the duct material, 3" wide, 24 gauge metal mounting strips firmly attached to each edge and suitable for the pressure glass of the air handling system.

B. Based on products by Ventfabrics, Inc.

1. For standard applications other than corrosive environments, fume exhaust or kitchen exhaust use a heavy glass fabric double coated with Neoprene®, nominal weight 30 oz./sq. yd. (Ventglas)

2.07 ACCESS DOORS AND PANELS

A. Doors shall be factory fabricated as manufactured by Advance Air, Inc., Air Balancing, Inc., Acudor Products, Inc., Cesco, Ductmate, Nailor or Ventlok.

B. All access doors and panels required on ductwork shall be provided with airtight hinged access doors with cam sash lock, designed and constructed for the pressure class of the duct in which the door is to be installed.

C. Hinges shall be aluminum or steel full length continuous piano type. Doors in concealed spaces shall be secured in place with cam sash latches. For both hinged and non-hinged doors provide sufficient number of camp sash latches to provide air tight seal when door is closed. Do not use hinged doors in concealed spaces if this will restrict access. Use minimum 1” deep 24 gauge galvanized steel double wall access doors with minimum 24 gauge galvanized steel frames. For non-galvanized ductwork, use minimum 1” deep double wall access door with frame that shall use materials of construction identical to adjacent ductwork. Provide double neoprene gasket that shall provide seals from the frame to the door and frame to the duct. When access doors are installed in insulated ductwork or equipment provide insulated doors with insulation equivalent to what is provided for adjacent ductwork or equipment. Access doors constructed with sheet metal screw fasteners will not be accepted.

D. Systems 3” w.g. or less shall utilize a hinged, cam, or hinged & cam square-framed access door.

E. Systems 4” w.g. and above shall utilize a sandwich-type access door. Construct doors in accordance with Figure 7-3 of the 2005 SMACNA Manual, “HVAC Duct Construction Standards, Metal & Flexible” Third Edition. Approved Manufacturer: Ductmate Industries “Sandwich” style door or approved equal

F. Doors shall have safety viewing window and UL Listed when used for access to fire/smoke or smoke dampers.

2.08 GRAVITY BACKDRAFT DAMPERS

A. Based on product by Ruskin.

1. Louvers and Dampers, Air Balance, Semco or United equals are acceptable.

B. Ruskin heavy duty counterbalanced backdraft damper, Type CBD-6.

C. Frame shall be .125" (3.2) wall thickness 6063T5 extruded aluminum with 12 gage (2.8) galvanized steel structural brace at each corner. Blades shall be .070" (1.8) wall thickness 6063T5 extruded aluminum with extruded vinyl blade edge seals mechanically locked into blade edge. Adhesive or clip on type seals are unacceptable. Bearings shall be corrosion resistant, long life synthetic type for quiet operation. Linkage shall be 1/2" (13) wide tiebar connected to stainless steel pivot pins.

D. Dampers shall be designed for maximum 3500 fpm spot velocities and minimum 4 inches w.g. back pressure depending on damper size.

E. Dampers shall not exceed 0.05” static pressure drop @ 1000 FPM through face area of the damper.

F. Include counterbalanced assembly with pressure range of between 0 to 2" pressure; set to open on pressure of .05 inches, adjustable.

G. Include frame, blades, axles, bearings, etc. as required to complete assembly.

2.09 FLEXIBLE DUCT ELBOWS

A. Based on FlexFlow Elbow by Thermaflex.

1. Flexmaster FlexRight is acceptable.

B. Universal-mount, one piece, fully adjustable, radius forming brace to support 6-inch through 16-inch diameter flexible air ducts into efficient 90 degree elbow.

C. UL 2043 listed for use in Return Air Plenum Spaces.

D. Molded from composite material.

PART 3: EXECUTION

3.01 AIR TURNS

A. Install turning vanes in all rectangular, mitered elbows in accordance with SMACNA standards and/or manufacturer's recommendations.

B. Install double wall, airfoil, 2 inch radius vanes in ducts with vane runner length 18" or greater and air velocity less than 2000 fpm. Install double wall, airfoil, 4-1/2 inch radius vanes in ducts with vane runner length 18" or greater and air velocity 2000 fpm or greater.

C. If duct size changes in a mitered elbow, use single wall type vanes with a trailing edge extension. If duct size changes in a radius elbow or if short radius elbows must be used, install sheetmetal turning vanes in accordance with SMACNA Figure 2-5 and Figure 2-6.

3.02 DAMPERS

A. Dampers shall be accessible.

B. Install manual volume dampers in each branch duct and for each grille, register, or diffuser as far away from the outlet as possible while still maintaining accessibility to the damper. Install so there is no flutter or vibration of the damper blade(s).

1. Round Single Blade Volume Control Damper: Provide 2” insulation stand-off on ductwork to be insulated. Do not bend damper adjustment handle or damage insulation.



C. Dampers located in ductwork and furnished under Controls Section 23 09 14, shall be installed under this Section.

3.03 FLEXIBLE CONNECTION

A. Install at all duct connections to rotating or vibrating equipment, including air handling units (unless unit is internally isolated), fans, or other motorized equipment in accordance with SMACNA Figure 2-19. Install thrust restraints to prevent excess strain on duct flexible connections at fan inlets and outlets; see Related Work.

B. For applications in corrosive environments or fume exhaust systems, use a double layer of the Teflon coated fabric when making the connector.

3.04 ACCESS DOORS

A. Lay-In Ceilings: Removable lay-in ceiling tiles in 2 X 2 foot or 2 X 4 foot configuration are sufficient; no additional access provisions are required unless specifically indicated.

B. Drywall Walls and Ceilings: Furnish and install access doors where specified, indicated on the drawings, and in locations where maintenance, service, cleaning or inspection is required.

C. Size and numbers of duct access doors to be sufficient to perform the intended service. Minimum access door size shall be 12 x 12 inch size for hand access, 24 x 24 inch size for shoulder access, or other size as indicated. Install access doors on both inlet and outlet sides of reheat coils as well as other duct mounted coils.

D. Label fire, smoke and combination fire smoke dampers on the exterior surface of ductwork directly adjacent to access doors using a minimum of 0.5 inch height lettering reading, “SMOKE DAMPER” or “FIRE DAMPER”. Smoke and combination fire smoke dampers shall also include a second line listing the individual damper tag. The tags must be coordinated with the mechanical schedules. Utilize stencils or manufactured labels. All other forms of identification are unacceptable. All labels shall be clearly visible from the ceiling access point.

END OF SECTION 23 33 00

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SECTION 23 34 23
CENTRIFUGAL WALL AND ROOF EXHAUSTERS

PART 1: GENERAL

1.01 RELATED DOCUMENTS

A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

B. The requirements of Section 23 05 00 apply to this Section.

1.02 SUBMITTALS

A. Submit in accord with Section 01 30 00.

1. Shop drawings and descriptive product data describing all material furnished under Part 2 of this Section.

PART 2: PRODUCTS

2.01 FAN MOTORS

A. See specifications Section 23 05 13 for fan motor requirements.

B. Fan motors with Variable Frequency Drives (VFD's)

1. All drives on the project shall be from the same manufacturer in a separate submittal. See specification Section 23 05 13 for drive requirements.
2. Shaft Grounding Rings
   a) All motors operated on variable frequency drives shall be equipped with a maintenance-free, conductive microfiber shaft grounding ring to meet NEMA MG-1, 3.4.4.4.3 requirements, with a minimum of two rows of circumferential microfibers to discharge damaging shaft voltages away from the bearings to ground. SGR's Service Life: Designed to last for service life of motor. Product manufactured by AEGIS SGR Conductive MicroFiber Shaft Grounding Ring, Inpro/Seal CDR or approved equal.

2.02 CENTRIFUGAL DOWNBLAST ROOF EXHAUSTERS

A. Based on product by Greenheck.

1. Acme, Bayley, Broan, Chelsea, Cook, Pace, Peerless, PennBarry, S&P or Twin City Fans equals are acceptable

B. Unit to be a Greenheck Model G / GB centrifugal fan. Fans shall be of the model, drive type, size and capacity listed in schedules on Drawings.

C. Fan wheels shall be non-overloading backward inclined and constructed of aluminum. Statically and dynamically balanced in accordance to AMCA Standard 204-05. The wheel cone and fan inlet will be matched and shall have precise running tolerances for maximum performance and operating efficiency.

D. Each fan shall bear a permanently affixed manufacturer's engraved metal nameplate containing the model number and individual serial number.

E. Motors are permanently lubricated, heavy duty ball bearing type to match with the fan load and furnished at the specific voltage and phase. Mounted on vibration isolators, out of the airstream.

1. Belt drive fans shall have adjustable motor pulleys allow for final system balancing.

F. Shafts and Bearings:
   1. Fan shaft shall be ground and polished solid steel with an anti corrosive coating
   2. Permanently sealed bearings or pillow block ball bearings
   3. Bearing shall be selected for a minimum L10 life in excess of 100,000 hours (equivalent to L50 average life of 500,000 hours), at maximum cataloged operating speed.
   4. Bearings are 100 percent factory tested.
   5. Fan Shaft first critical speed is at least 25 percent over maximum operating speed.

G. Housing:
   1. Motor cover, shroud, curb cap, and lower windband shall be constructed of heavy gauge aluminum. Cover shall have a rigid internal support structure and be leak proof. Drive frame assemblies shall be constructed of heavy gauge steel and mounted on vibration isolators.

H. Accessories:
   1. Provide 24” high insulated ATI sound attenuating roof curbs with rubber seals.
   2. Provide roof curb adapter (field verify existing curb dimensions prior to order).
   3. Provide gravity backdraft damper and galvanized bird screens.
   4. Fans shall have on/off control provided by new timeclock to control all bathroom exhaust fans within each building. Initial schedule shall be set to run continuously 24/7.

I. Provide factory installed disconnect switch wired from the fan motor to a junction box within the motor compartment.

J. All fans shall bear the AMCA Certified Ratings Seal for both sound and air performance.

K. BELT DRIVE: Belt drive fan motors shall be heavy-duty ball bearing type. Drive frame assembly shall be constructed of heavy-gauge steel. Precision ground and polished fan shafts shall be mounted in permanently sealed, lubricated pillow block ball bearings. Bearings shall have a minimum L10 life in excess of 100,000 hours (L50 fife of 500,000 hours) at maximum cataloged operating speed. Drives shall be sized for a minimum of 150% of driven horsepower. Pulleys shall be of the cast type, keyed and securely attached to the wheel and motor shafts. Pulleys shall be adjustable for final system balancing.

L. DIRECT DRIVE: Motor to be electronic commutation (EC) designed for fan applications. Based on Greenheck VARI-GREEN. Motors shall be permanently lubricated with heavy-duty ball bearings and prewired to the specific voltage and phase. Internal motor circuitry shall convert AC power supplied to fan to DC power to operate motor. Motor shall be speed controllable down to 20% of full speed (80% turndown). Motor shall be a minimum or 85% efficient at all speeds.
   1. Speed shall be controlled by a potentiometer dial mounted on the motor

PART 3: EXECUTION

3.01 GENERAL INSTALLATION

A. Complete installation as recommended by manufacturer.

B. Install centrifugal fans level and plumb.

C. Disassemble and reassemble units, as required for moving to the final location, according to manufacturer's written instructions.

D. Lift and support units with manufacturer's designated lifting or supporting points.

E. Install units with clearances for service and maintenance.

F. Connect ductwork and insulate per Section 23 07 13.

G. Label fans according to requirements specified in Section 23 05 53.

H. Required wall and roof opening provided by General Contractor.

1. Additional structural supports by General Contractor.

3.02 ROOF FANS

A. Curb Support: Install roof curb on roof structure, level and secure, according to "The NRCA Roofing and Waterproofing Manual," Low-Slope Membrane Roofing Construction Details Section, Illustration "Raised Curb Detail for Rooftop Air Handling Units and Ducts." Install and secure centrifugal fans on curbs, and coordinate roof penetrations and flashing with roof construction.

B. Curb Adapters: Replacement fans called out to utilize curb adapters shall be set on existing roof curbs. Provide curb adapters suitable for proposed fan. Contractor shall field verify existing curb dimensions prior to order.

C. ROOFING: Verify with Owner on preferred Roofing Contractor. Preferred roofing contractor will do all roofing and flashing to avoid warranty issues. Subcontract work with roofing contractor as required.

3.03 ADJUSTING

A. Adjust damper linkages for proper damper operation.

B. Adjust belt tension.

C. Comply with requirements in Section 23 05 93 for testing, adjusting, and balancing procedures.

1. Replace fan and motor pulleys as required to achieve design airflow.

D. Lubricate bearings.

3.04 WIRING

A. Wiring of exhausters under DIVISION 26, Electrical.

B. All low voltage wiring, relays, transformers, etc. for timclock operation shall be provided under this section.

C. Install electrical circuit(s) and outlet(s) in accordance with national and local electric codes. Outlets should generally be mounted vertically unless a “twist/locking” type is being used.

END OF SECTION 23 34 23

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SECTION 23 82 39
FAN POWERED TERMINAL UNITS

PART 1: GENERAL

1.01 RELATED DOCUMENTS

A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

B. The requirements of Section 23 05 00 apply to this Section.

1.02 RELATED SECTIONS

A. Section 23 05 13 Motors & VFDs

B. Section 23 09 93 Sequence of Operation

C. Section 23 21 14 Hot Water Heating System

D. Section 23 21 16 Hydronic Specialties

1.03 SUBMITTALS

A. Submit in accord with Section 01 30 00.

1. Shop drawings and descriptive product data describing all material furnished under Part 2 of this Section.
2. Submit printed color chart to Architect.

B. Product Data: Submit capacities and accessories included with unit. Include dimensions, size and location of pipe connections, electrical characteristics.

1. Manufacturer's Installation Instructions: Submit assembly, support details, connection requirements, and include start-up instructions.

PART 2: PRODUCTS

2.01 UNIT HEATERS

A. Based on products by Trane.

1. Airtherm, Daikin, Dunham-Bush, Modine, Reznor, Rittling, Sigma, Sterling, and Vulcan equals are acceptable.

B. Unit heaters shall be horizontal discharge or projection type of model, size and capacity listed in schedule on Drawings.

C. Casing to be of steel construction; fans to be Model A with aluminum blades.

D. Provide louver fin diffuser with 4-way diffusion (horizontal units) or louver cone diffuser (projection units).

E. Heating coils shall be designed for use with hot water.

F. Motor shall have built-in overload protection; provide electric disconnect.

PART 3: EXECUTION

3.01 GENERAL INSTALLATION

A. All new equipment shall be installed as recommended by manufacturer.

B. Suspend unit heater from ceiling using steel hanger rods and vibration isolators.

3.02 WIRING

A. Wiring of motors under Division 26, Electrical.

END OF SECTION 23 82 39